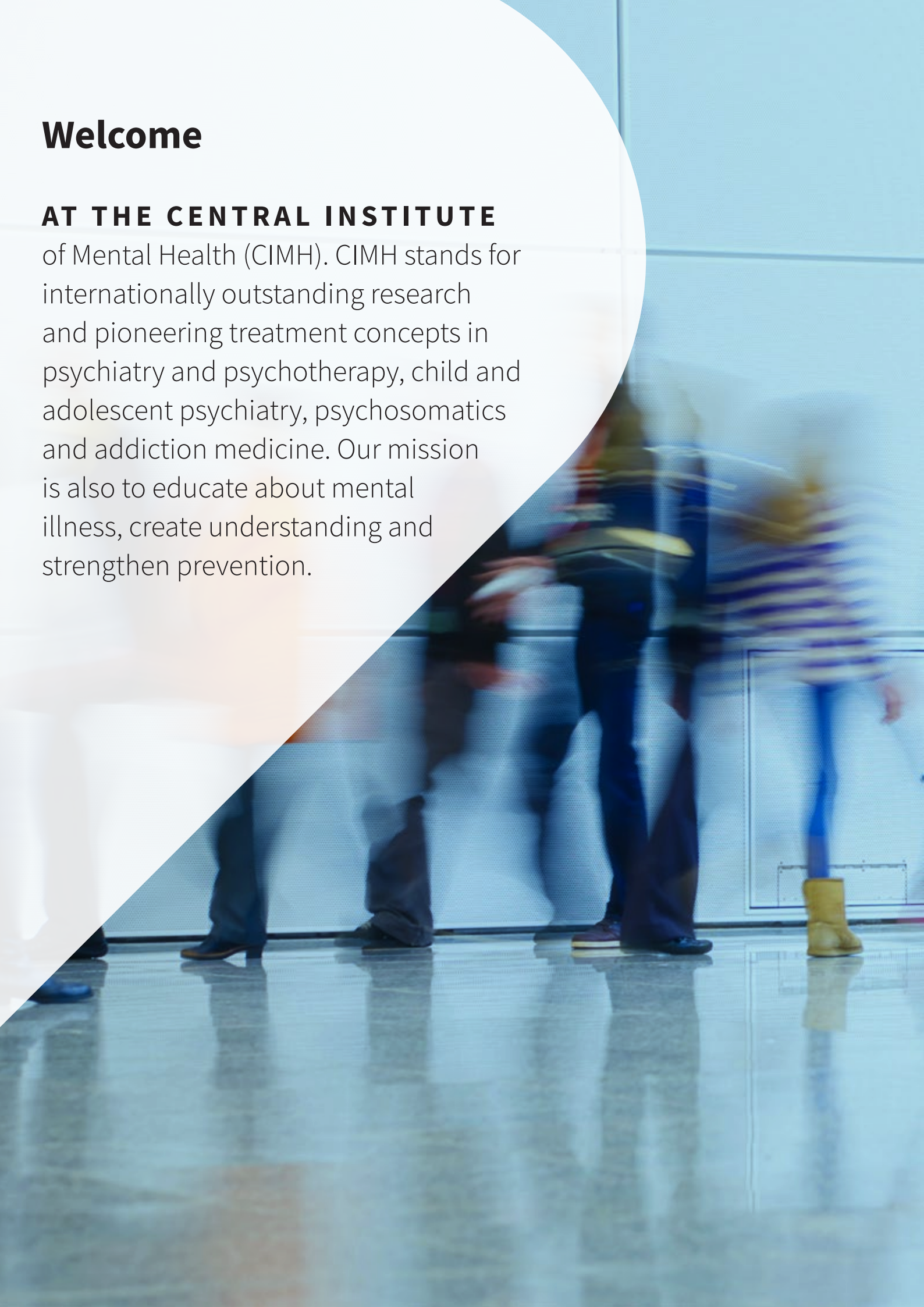
2022 2023

Annual Report

Zentralinstitut
für Seelische
Gesundheit

Welcome

AT THE CENTRAL INSTITUTE of Mental Health (CIMH). CIMH stands for internationally outstanding research and pioneering treatment concepts in psychiatry and psychotherapy, child and adolescent psychiatry, psychosomatics and addiction medicine. Our mission is also to educate about mental illness, create understanding and strengthen prevention.




2023

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Further development and growth characterize CIMH, and skilled employees shape it. When looking back at 2022 and the first half of 2023, what impresses and fascinates us greatly is the diversity and dynamism of the developments that our colleagues, who are soon to number 1,600, at CIMH are driving forwards.

Wherever you look, whether it's health care, research, administration or the service sectors, our colleagues are driving forward ambitious projects in addition to their challenging day-to-day work. The goal is always to improve the services we provide to people with mental illnesses. First of all, we would like to thank them very much for this commitment and express our appreciation.

This annual report once again provides an insight into our diverse and exciting work. The focus part from page 12 shines a light on some selected topics in more detail:

You can find out more about the significance of the **analysis of large quantities of data using artificial intelligence** for psychiatric therapy research from page 14. We are delighted that we are able to elevate our expertise in this area further thanks to funding from the Hector Foundation II. With the new **Hector Institute for Artificial Intelligence in Psychiatry (HITKIP)** — see also page 71 — the developments of modern AI technologies are brought together to form a coherent, translational AI research strategy which will also play an important role within the German Center for Mental Health.

Researching and developing new therapies is at the core of our mission. The research results that have recently been able to

Prof. Dr. Andreas Meyer-Lindenberg, Head of the Executive Board, and Dr. Matthias Janta, Commercial Managing Director

be obtained about psychedelic substances are promising. The EPIsoDE-study on the efficacy of psilocybin in people with chronic, treatment-resistant depression was carried out at CIMH in collaboration with the Charité in Berlin and is a milestone in academic research of this treatment option. Read about what the combination of special psychotherapy with the administration of a mind-expanding substance such as psilocybin can achieve from page 26.

With around 400 colleagues, the nursing and education service is the largest professional group at CIMH. Thanks to their close contact with our patients, the nurses and educators play a special role in our multiprofessional team. In 2022, there was a **change in our Director of Nursing**, which we were fortunately able to implement with continuity. Find out more about our new Director of Nursing, Doris Borgwedel, from page 31 and learn what is particularly important to her in her new position.

Being particularly motivated and successful is one thing, but actually being perceived that way is another. After the lasting success of our nursing campaign **unbedingtWIR** (absolutely us), which was launched in 2021, we have been making the diversity of people and activities at CIMH visible since spring 2023. Colleagues who collaborate across various different professional groups at CIMH introduce themselves and tell us what they most value about CIMH. From page 20 we introduce you to some of the protagonists and our new employer campaign **einzigartigWIR** (uniquely us). As part of this campaign, we used our new corporate design for the first time and designed a new careers website.

Multi-professional and diverse – that is how our work at CIMH can be described. Here are a few more examples of what we have been working on:

We are continuously developing our structures and processes to bring research and treatment even closer together and accelerate translation. With our **diagnosis and admission center**, since 2022 we have been building a new unit that will be the central point of contact for all our patients in the future. In addition to better networking of our treatments and shorter waiting times, this approach enables us to collect data that are relevant to research in a targeted manner and a standardized form.

The recording, processing in line with data protection regulations, and use of these data in the context of our patients is only possible with special, high performance **IT infrastructure**. We also established this a great deal in 2022. It comprises a new, flexible system ›

“Wherever you look, our colleagues are driving forward ambitious projects in addition to their challenging day-to-day work.”

› to provide extended storage and computing power for our research. In the field of medical technology, we are expanding our **research infrastructure**, among other things to include a high-throughput screening platform in the Hector Institute for Translational Brain Research (HITBR), a positron emission tomography–computed tomography (PET-CT) for psychopharmacological animal research, and a highly modern 7-Tesla MRI, which will be added to the infrastructure of our Center for Innovative Psychiatric and Psychotherapeutic Research (ZIPP). This will further strengthen the special meaning of the core facility ZIPP as a contribution of CIMH to the German Center for Mental Health.

We are taking additional steps in **digitizing our health care processes** with support from the Hospital Future Act. We are working in interdisciplinary project groups, among other things on a digital patient portal for the exchange of data and for appointment management, general digital treatment planning, and digitally supported medication management.

Since the **health of our employees** is as important to us as that of our patients, we have rearranged and expanded the internal health services at CIMH. We took into account ideas and suggestions from our employees in the process. The program is called Gemeinsam gesund am ZI (Healthy Together at CIMH) and offers our employees a wide range of support for their health. It includes courses in mental health and stress management, nutrition and addiction prevention, and help in particularly challenging life situations, for example, when a person someone is close to needs care. We all continue to be faced with the war in Ukraine. Immediately after the start of the fighting, medically and therapeutically trained colleagues with appropriate language and cultural skills started looking after the **mental health of refugees** in Mannheim – at first right in their accommodation and soon afterwards at consultation sessions at CIMH. This meant traumatized people were able to be intercepted and sent for the treatments for mental health conditions that they so urgently need. Through several donation campaigns the staff at CIMH have supported refugees in and from Ukraine, showing their willingness to help and their compassion.

All of this is just a brief insight into our work, which is representative of many other projects and initiatives and our important day-to-day business. We document excellent projects and developments in research from page 58. It is our aspiration to continue to develop in an economically stable manner in an environment that is always challenging, and this also speaks for the excellent work of all our colleagues.

We want to end the way we started, by thanking the employees whose successes we have been able to document here and thanking all of the local, regional, and international institutions and associations that have supported us and collaborated with us, and helped us to be successful together. Happy reading! _

Founder and first director of CIMH has passed away at the age of 96

Professor Dr. Dr. Dr. h.c. mult. Heinz Häfner, founder of the Central Institute of Mental Health and its first director from 1975 to 1994, died on May 30, 2022, at the age of 96. With CIMH, his vision of linking innovative community-based psychiatric health care, research and teaching became reality in 1975 after years of political paving the way.

In the 19 years of his leadership, Häfner built up CIMH into a research institute of nationwide relevance, which soon grew into international top ranks and became the center of a model community psychiatric care network in the middle of the city. Under his leadership, the institute successfully attracted two special research areas from the German Research Foundation.

His scientific work included more than 760 papers translated into numerous languages. He devoted a large part of his research life to the study of schizophrenia. Another focus was on research into the epidemiology of mental disorders. After his retirement, Häfner was active as head of a research group at CIMH, editor and contributor to national and international journals, and advised national and international research funding agencies as a reviewer.

With Professor Heinz Häfner, German psychiatry loses a great reformer, clinician and researcher whose merits go far beyond scientific findings. His work and commitment have contributed significantly to modernizing psychiatric care in Germany and bringing it up to international standards. Equally important was his contribution to the destigmatization of mental illness in the public, for which he campaigned in numerous lectures until his last days.

With gratitude, we bid farewell to a great reformer, clinician and researcher. We regard CIMH and the attitude out of which it was founded as the living legacy of Heinz Häfner, which we may continue to develop. ⎯

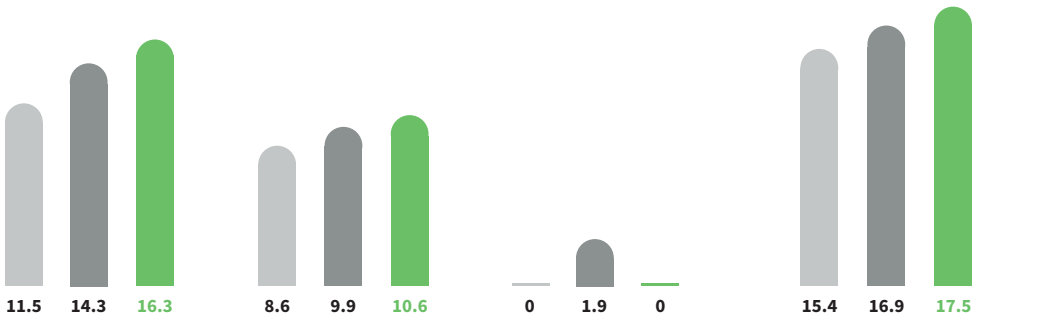
DEVELOPMENT FIGURES

in three-year comparison

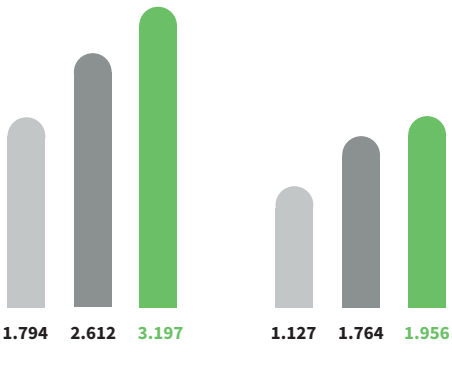
Research

2020 2021 2022

Third party funding and operating funds in million euros (rounded)



Impact factors

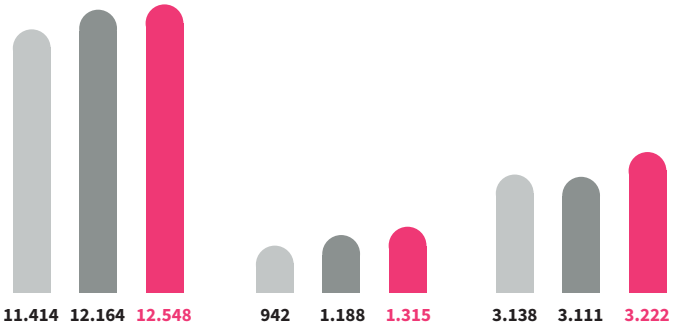


Number of publications

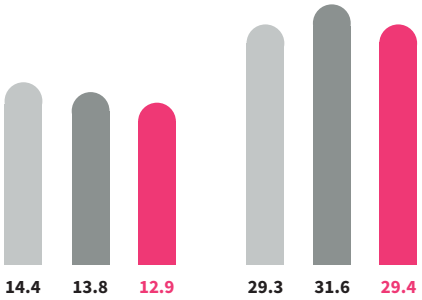
Patient Care

2020 2021 2022

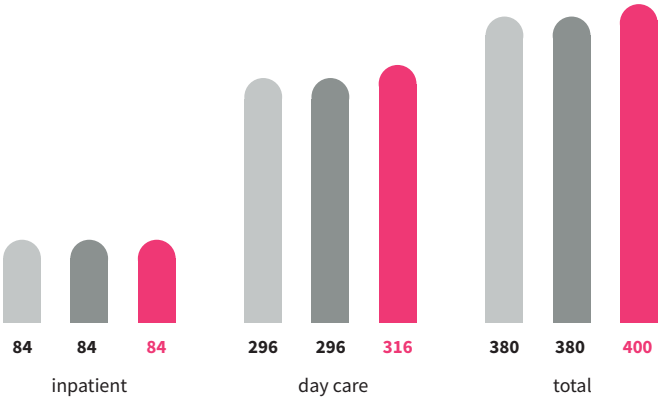
Patient numbers



Average length of stay in days

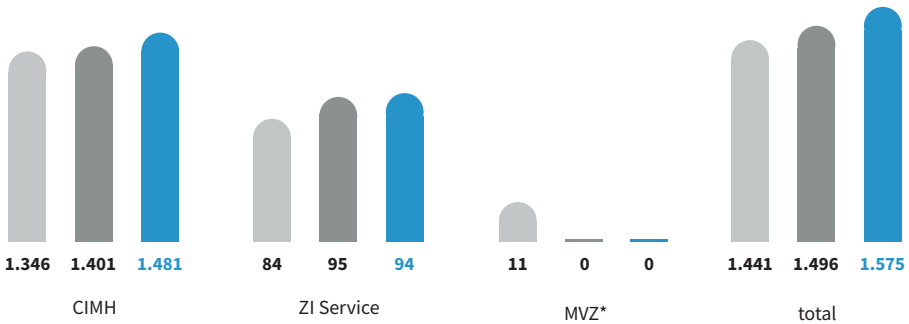


Beds and treatment units



Employees

2020 2021 2022



* Subsidiary of CIMH until 12/31/2020

THE PEOPLE AT CIMH work on exciting topics and advance ambitious projects — a selection.

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Psilocybin
The EPIsoDE-study, led by Prof. Dr. Gerhard Gründer, is investigating the efficacy and safety of psilocybin in the treatment of depression.

Data about patients' health and therapies are collected during treatment at CIMH and if patients participate in studies. Biomaterials such as blood or tissue samples are often also taken. If patients and test subjects consent to this (broad consent), research can be conducted using these data to better identify, treat, and prevent disorders.

Dr. Emanuel Schwarz talks about data and artificial intelligence in psychiatric research.

“Modern psychiatric research needs data”

Dr. Emanuel Schwarz
Head of the Hector Institute for Artificial Intelligence in Psychiatry, Head of the Research Group on Translational Bioinformatics in Psychiatry (Emmy-Noether Group)

Dr. Schwarz, which data are particularly relevant for psychiatric research at CIMH?

SCHWARZ: Most psychiatric disorders are very complex: biographical, biological, and social factors interact with one another. Modern imaging methods enable us to examine the function of patients' brains to better understand how clinical symptoms develop. However, it is evident from the often significant hereditary component of psychiatric disorders that other data are highly relevant for psychiatric research, such as data from the field of genetics. Modern mobile health techniques also open up an insight into the living environments and mental states of our patients, and thus new methods for improved treatment and prevention. Analyzing these types of data together using modern methods of artificial intelligence is the goal of the new Hector Institute for Artificial Intelligence in Psychiatry.

Why should patients give broad consent for the use of their health data?

SCHWARZ: By agreeing to the use of their health data for research, patients are making an important contribution to us being able to better understand, treat, and prevent mental illnesses in the future. In the field of artificial intelligence where new technologies develop rapidly, broad consent is an important requirement, for example for the development of personalized treatment approaches. Of course maintaining data protection and security is always the number one priority. Fortunately, our initial tests have shown that the vast majority of patients are also very willing to give their consent. ›

About Emanuel Schwarz

Emanuel Schwarz studied molecular biotechnology in Munich. In his PhD thesis, which he wrote at the University of Cambridge, he looked at molecular markers in schizophrenia. After his PhD, he headed up the Biostatistics Department at the Cambridge Centre of Neuropsychiatric Research. He has been at CIMH since 2012 and works at the Clinic of Psychiatry and Psychotherapy, where he has been in charge of the Research Group on Translational Bioinformatics in Psychiatry (Emmy-Noether Group) since 2014. In 2023 he took over the Head of the HITKIP. He is interested in developing artificial intelligence to improve the understanding of the biology of mental illnesses.

German Center for Mental Health (DZPG)

The DZPG is researching the development and progression of mental illnesses over a person's lifetime. The center is trying to identify individual risk and protection factors. The goal is to develop personalized therapies that can prevent the development and a chronic progression of mental illnesses.

CIMH is coordinating one of six excellent locations in the DZPG and is providing one of the speakers in the form of the Head of the Executive Board at CIMH, Prof. Dr. Andreas Meyer-Lindenberg. CIMH forms the research network ZIHUb *(zihub.de)*. together with Heidelberg University and Ulm University and the German Cancer Research Center. The DZPG is funded by the Federal Ministry of Education and Research and started work in May 2023.

"AI enables us to analyze features that individually only have a minimal effect on the risk, together, thus identifying patterns in complex data sets."

DR. EMANUEL SCHWARZ

Hyper-converged IT infrastructure (HCI)

An HCI solution combines computing power, memory, storage area networks, and virtualization in a node or several nodes. This replaces traditional infrastructures that are made up of separate servers, storage area networks, and data storage systems. An HCI platform ensures central and secure storage of several petabytes of data, enabling it to perform large-volume data analysis by bringing together clinical, multiomic, and imaging data.

› *What added value does data networking provide, particularly for research at CIMH?*

SCHWARZ: On the one hand digital networking is the basis for being able to analyze various types of data together and thus identify new connections, for example between symptoms of an illness and biological patterns. This networking is also critical to developing a database that is sufficiently large to enable methods from the field of artificial intelligence to be used and to enable research results to be validated. The national data networking in the new German Center for Mental Health, in which CIMH is participating, will play a particularly important role.

How does CIMH implement the collection and processing of health data?

SCHWARZ: At CIMH, we are currently building highly modern infrastructure that enables the harmonized collection and assessment of data using the latest analysis processes. This includes the diagnosis and admission center for patients and test subjects through which health data are collected in standardized processes, the Center for Innovative Psychiatric and Psychotherapeutic Research (ZIPP) with its wide range of technologies, and the biobank. In the past few months, we have also established hyper-converged IT infrastructure through which hardware resources for data analysis can be provided in a flexible manner.

Where are we on the path to personalized treatment in psychiatry and what role does AI play in that?

SCHWARZ: Psychiatric disorders are typically caused by the highly complex interaction of individual risk and protection factors. AI enables us to analyze features that individually only have a minimal effect on the risk, together, thus identifying patterns in complex data sets. These patterns may enable us to better understand the causes of psychiatric disorders and adjust the treatment to individual risk and protection factors, thus making it more effective. This is one of the main goals of the new Hector Institute for Artificial Intelligence in Psychiatry. —

Hector Institute for Artificial Intelligence in Psychiatry (HITKIP)

The goal of the newly-founded institute at CIMH is to use artificial intelligence to identify the causes of mental illnesses and improve treatments in the long term. The research facility is being funded by the Hector Foundation II to the tune of 11.5 million euros. HITKIP is led by Dr. Emanuel Schwarz.

Using artificial intelligence and specially developed algorithms, the scientists want to research the causes of mental illnesses and improve detection and treatment at an individual level. Artificial intelligence measures have led to entirely new options for identify patterns in highly complex data sets. For this approach, scientific data is combined with information from clinical care to provide information about the respective success of treatment. From this, models are developed to adapt the treatment carefully to the individual risk and protection factors.

The HITKIP at CIMH was opened in April 2023. The Minister of Science for Baden-Württemberg, Petra Olschowski, and the sponsors Dr. Hans-Werner and Josephine Hector, attended.

Moritz, doctor
Julia, nurse

Anna-Lisa, occupational therapist
Mathilde, sports therapist

WE

KNOW THAT
we are unique here at CIMH: a place where over 1,500 people work together in an interdisciplinary environment on mental health. That is what our new employer campaign communicates in an impressive way.

C

CIMH is a constantly growing, exceptionally diverse employer in the center of Mannheim. Over 1,500 people work here as doctors, nurses, therapists, scientists, or as specialists in hospital management, construction, IT, facility management, and catering.

“We have grown together.”

We are always looking for new colleagues who want to grow together with us. With our new employer campaign, we are now providing very personal insights into the work at CIMH for the first time. Our core message is “Come as you are. We will value you for it and you will enrich CIMH.” That’s exactly what sets us apart from the crowd and makes us so unique: unique as individuals, diverse together. We call it einzigartigWIR (uniquely us).

“Here you can stay true to yourself.”

A whole range of different people finds the place where they can bring something about at CIMH. We interact with one another in a respectful manner, count on a friendly and familial environment, on personal closeness, trust, and dealing with criticism openly. People know one another and help one another, and they know there is always someone there. We live an unprejudiced, open culture and love diversity. We also reflect that outwardly with pride.

Christine, secretary ZI Service
Martina, HR consultant

Silvia, assistant
Julian, coordinator HR IT

“We just have to look at one another and we know what we mean.”

The best ambassadors for this are of course our employees. Who would be more convincing in talking about who we are than the people who live our values every day? In our campaign, twelve colleagues who represent everyone else who works here give CIMH a face. In a personal exchange, they explain how we understand and live interdisciplinary collaboration, what they value about their colleagues, and why they chose CIMH.

“Not beating around the bush for ages.”

As an employer, if you want to attract new employees you need to be credible. To prepare for our campaign, we therefore talked to employees from several different areas within the Institute in the form of several workshops. They told us openly and honestly how they see CIMH, what they value, and where they think there are still areas of potential improvement. It once again became clear how diverse and engaged we are. You can see for yourself if you look at the statements from our colleagues on *einzigartigwir.de*.

Marcel, head of catering
Jens, head of facility management

Out and about in Mannheim and Ludwigshafen:
the brightly-colored CIMH tram is displaying the einzigartigWIR (uniquely us) employer campaign and the unbedingtWIR (absolutely us) nursing campaign for the public.

“We push ahead with various different perspectives.”

An impressive new careers website for CIMH has been created. Here, you get to know the colleagues, you learn everything important about the advantages of a job at CIMH, and you find out about the career opportunities, from a voluntary social year through to dual study and professional training, and on to perspectives from people with professional experience.

“The people like you are why I like working at CIMH.”

Straight after we published it, we started to receive very positive feedback about our campaign during job interviews. This encouraged us to tell the story of who we are, what we do, and why we do it with great passion in a confident and proud way. Posters and a tram bear our message near to us in Mannheim and Ludwigshafen. We have been valued for a long time as a place that helps people in psychiatric emergencies and as a renowned research institute. Now, though, we are becoming even more visible as an attractive employer. _

Urs, doctor and researcher
Sonja, computer scientist

To access the videos of our colleagues, go to:
einzigartigwir.de

EPISODE-STUDY Conventional anti-depressants are unable to help or are barely able to help third of all people with depression. The EPIsoDE-study team led by Prof. Dr. Gerhard Gründer is therefore researching a new treatment approach at CIMH and at Charité in Berlin. The scientists are investigating the mechanism of action of psilocybin, the active ingredient in hallucinogenic mushrooms, in combination with psychotherapy.

PSILO-CYBIN

Treating depression with psilocybin

When Lia is unwell, she stays in bed and withdraws from the outside world. She doesn't respond to messages or calls. She doesn't have any strength. "Depression is a kind of gray cloud that takes over my brain," says Lia.

Klaus describes his depression as indifference and being separated from his own feelings: "the worst thing was no longer being able to feel life. Just functioning."

Lia and Klaus are test subjects in the EPIsoDE-study. Their depression is considered to be treatment-resistant. This means the conventional psycho-pharmaceuticals barely work on them. They are two of a total of 144 test subjects in the largest study on the efficacy and safety of psilocybin in the treatment of depression in Germany. The study is being conducted by CIMH together with Charité in Berlin and the charitable organization MIND Foundation and is sponsored by the Federal Ministry of Education and Research. The investigation is looking at whether and if so how much the administration of psilocybin in combination with psychotherapy helps in patients with treatment-resistant depression.

"Psilocybin is a substance with a psychedelic mechanism of action that is found in some types of mushrooms. Our investigations aim to show whether psilocybin has a better ›

Psilocybin, the active ingredient in what are known as magic mushrooms, has a special effect in the brain.

› antidepressant effect than a placebo. At the same time, we are also recording the possible risks of the treatment for our patients," explains the head of the study, Prof. Dr. Gerhard Gründer, who heads up the Department of Molecular Neuroimaging at CIMH.

ARE PSYCHEDELICS THE SOLUTION?

Psychedelics or hallucinogens are substances that change consciousness, perception, and the emotional experience. They enable new experiences to be had and set change processes in motion. They have been used for millennia in indigenous healing systems for shamanic rituals: DMT in ayahuasca, mescaline in the peyote cactus, and mushrooms containing psilocybin. Psychedelics can ensure that old patterns of thinking and behaving are broken. This makes them interesting for the treatment of mental illnesses. They don't just change our subjective experience, they also impact our brains. Links between nerve cells that recede in patients with depression can form new structures again as a result of psychedelic substances.

Dr. Andrea Jungaberle, co-founder of MIND Foundation and part of the study team at Charité in Berlin, compares this process to a snow globe that is swirling around: "psychedelics have the ability to shake things up. That's the reason why they work so wonderfully well." The particles that swirl around in the snow globe suddenly land in an entirely different place than they were before. Entirely new thoughts and perspectives open up after an experience with psychedelics. Instead of remedying a defect in the brain like medications, psilocybin aims to change the perspective on what is already there.

Not everyone has a positive experience. Hallucinations can also trigger anxieties or bring things that have long been suppressed by the consciousness back to the surface. "Lots of patients find themselves to be emotionally open, more sensitive, and in contact with their deep emotional wounds before and after a psychedelic experience. It can be very painful," explains Lea Mertens, study coordinator and study therapist at CIMH. Lots of people are scared of having a psychedelic experience as a result. In reality, respect is appropriate, Gründer explains. "But you don't need to worry, if fear occurs during the experience, that might be something that is ultimately very helpful." Mertens adds "like in regular psychotherapy, the key to processing lies in confronting your own fears and dealing with difficult experiences." Gründer and Mertens agree that therapeutic and medical support is important to the efficacy and also the safety of this therapy.

PSYCHEDELICS IN RESEARCH

The fact that psychedelics such as psilocybin or LSD have a special effect in the brain and can alleviate psychological problems is nothing new. Back in the 1950s and 1960s psychedelics were tested on around 40,000 patients around the world, and there were promising results. The studies showed an improvement in the symptoms of depression in the majority of those affected. They were also already being used in alcoholics and those with end-stage cancer.

TREATMENT-RESISTANT DEPRESSION

280

million people

in the world suffer from depression. Therapies and medications are effective for many of them. Though, in around a third of those affected – so more than

90

million people

symptoms do not improve. These patients could not and cannot be helped with established treatment methods.

HEALING DRUGS

A film crew accompanied the test subjects, doctors, and therapists on the EPISODE-study for a documentary on arte in January 2023. In the documentary, Klaus and Lia talk about their experiences.

“Our investigations aim to show whether psilocybin has a better antidepressant effect than a placebo. At the same time, we are also recording the possible risks of the treatment for our patients.”

PROF. DR. GERHARD GRÜNDER
Study leader

Psychedelics, though, were also becoming ever more popular as a party drug at the time. The hippie movement discovered them for themselves to leave the bourgeois world and its conventions behind them. Negative headlines about the downsides of psychedelics pushed them further into focus. In the late 1960s, this development was suddenly stopped: all classic psychedelics, from psilocybin to LSD, were banned, initially in the US and then around the world. Their consumption moved underground, and research in this field ground to a halt. Promising approaches were put on ice, and psychedelics were banned from the teaching materials as far as possible. Only since the 2000s have they been the focus of psychopharmacological research once again. The renaissance of the psychedelics is in full swing. The safety and efficacy of the substances are being tested for the first time in modern clinical studies.

Previous pilot studies on psilocybin indicate that the substance is safe and well tolerated if personal risk factors are excluded and they are administered in a controlled, therapeutic setting. The EPIsoDE-study is now investigating this potential in greater detail and is therefore one of the largest studies of this type.

THE EPISODE-STUDY

A total of 144 test subjects with treatment-resistant depression between the ages of 25 and 65 are taking part in the EPIsoDE-study (Efficacy and safety of psilocybin in treatment-resistant major depression), which launched in 2021. They are all receiving two six-hour to eight-hour substance sessions at an interval of six weeks. Under therapeutic supervision, they either receive a high dose of the active substance psilocybin, a low dose, or a placebo preparation. The study is designed in such a way that all test subjects are guaranteed to receive a high dose in one of the two sessions. The participants will receive therapeutic support for three months to process the experiences. This includes preparatory sessions and integration sessions in which the experiences are embedded in a personal framework. There are then follow-up tests to determine the long-term effect.

The intensive moments that test subjects experience in a session of this type are also a special experience for the therapist supporting them. Study leader and therapist Gründer says “it’s not just the most important study I’ve ever done, it’s also the most moving. What we ›

› experience in the treatment room with the patient are the most moving experiences of my professional career for me as a therapist."

The study will likely be completed in late 2023, with the final results expected in early 2024. "There's still a while to go before possible approval of this therapy in Germany and the rest of Europe. We still need more, even larger, multicenter, phase 3 studies with positive results. We are also working intensively on the issue of the reimbursement of costs by the statutory health insurance providers, and this is being included in the planning of additional studies," explains Gründer.

A MYSTIC EXPERIENCE?

The sessions changed something in test subject Lia. "Before the sessions I didn't have the same access to myself that I experienced yesterday. It was as if there were no more blockages between me and myself," she said after her first experience with psilocybin. For Klaus, it goes even further: "it's the most life-changing experience I've ever had."

After a psychedelic experience, lots of people report a feeling of connection to everything or encounters with other creatures. These people feel like they cannot hold on to their experience or express it in words. People also talk about a mystical experience, an experience that exceeds everything previously experienced. Some participants in the EPIsoDE-study also describe experiences of this type and are overwhelmed, but this is by far not everyone. While some seemed to gain an entirely new perspective on their existence, almost nothing happened to others.

The duration of effect afterwards also varies significantly between individuals, from no change at all up to half a year or longer of freedom from symptoms. One difficulty that the test subjects experience is integrating what they have experienced into everyday life. The factors that ultimately dictate how long-lasting psychedelic treatment is in individual cases are still entirely unclear. This can only be addressed in greater detail through further studies. One thing is for sure, though, all of the problems don't just simply disappear overnight with a psychedelic experience. The experience opens a door and may be the start of a change.

VIEW OF THE FUTURE

How will the reintroduction of psilocybin change research into and the treatment of depression? Gründer thinks it will be huge: "I think that it's the start of a paradigm shift in psychiatry." In the past, mental illnesses have often been linked to a malfunction of the brain that can only be treated by long-term treatment with medication, but studies with psilocybin show that a long-lasting improvement in symptoms of the disease can occur after just a single session. The EPIsoDE-study could therefore not just contribute to the development of a new treatment method, but also to our understanding of mental illnesses and psychological experiences.

There are still many unanswered questions that need to be addressed in other studies. What will change if the substance is administered more frequently? How does psilocybin work over a longer period? How can the substance sessions best be linked with psychotherapy? This is the only way to ensure reliable and safe therapy.

Although social interest is constantly increasing and the expectations are huge, further patience is needed along with clarification about the possibilities and limits of the substance. Yes, psilocybin has the potential to help a lot of people, but psilocybin is not a universal remedy and comes with risks. The EPIsoDE-study team is aiming to create a perspective of psychedelics beyond the fear and the hype. —

“We are a sought-after mentor and co-creator”

INTERVIEW WITH THE DIRECTOR OF NURSING
DORIS BORGWEDEL

Doris Borgwedel became Director of Nursing at CIMH in early 2023. The experienced expert in psychiatric nursing has been working at CIMH for over 16 years. In the interview, she explains what is particularly important to her in her new role, how she is continuing to develop nursing with her team, the value she places on diversity, and why psychiatric nursing is something she thinks is hugely valuable.

Ms. Borgwedel, you have been Director of Nursing at CIMH since early 2023. Is it your dream job?

BORGWEDEL: My dream was always to become a nurse. I have grown into my role of Director of Nursing and I really like it. I value the many opportunities I have to shape working conditions together with my colleagues and to develop new concepts that focus on both employees and patients. I like working with my great team and other professional groups and departments. I'm curious to work on transferring scientific findings into our day-to-day practice and I love implementing ideas, even if they don't initially seem feasible. I believe you can only make progress if you're willing to fail.

What do you think is particularly important in your new role?

BORGWEDEL: Having ideas. Ideas that both patients and employees benefit from. The opinions of my colleagues also play a critical role. We have around 400 employees in nursing. I am open to any suggestions they have and I take them into account if I can. Handling diversity is also a daily challenge for me.

What does diversity mean in your area of work?

BORGWEDEL: Psychiatric nursing needs diversity. Ultimately the relationship between the patient and their nurse is a critical part of the healing process. It's about finding a way to get through to every patient, and for that we need a corresponding range of contact people.

What is special about nursing at CIMH?

BORGWEDEL: We're multi-colored, we're diverse, we're tolerant, we're "absolutely us"! And because that's the way things are there's a great amount of team spirit. This diversity inspires many colleagues and helps them to mature as individuals. If you ask psychiatric nurses, you often hear that they themselves really benefit from this work. I can only confirm that.

The working conditions in psychiatric nursing are in flux. How are you responding to that?

BORGWEDEL: Psychiatric nursing is exposed to significant changes at many different levels. The increased introduction of partial inpatient and outpatient care concepts and digitization can be mentioned here as particular examples. We face these changes by actively bringing our expertise and experience into our nursing. We work on diverse projects, for example on the Hospital Future Act, and make our contribution to the Agile Coaches change projects. We develop or revise concepts that provide answers to the change, such as ward-equivalent treatment and the track concept. We act as professionals and as equals and are now sought-after mentors and co-creators across various areas. This is closely linked to the fact that nursing at CIMH doesn't just react to changes, but instead develops in a proactive way.

Can you please explain that a little more.

BORGWEDEL: For example we have embarked upon new paths in further training. The management training program "Professional Leadership in Nursing" has been introduced. Measures like this lead to greater levels of skill, responsibility, and commitment in the team. Overall, the nursing sector has developed significance that does justice to its importance. We have also aligned ourselves with general nursing training. The change you mention, though, also includes the change in needs of employees in terms of working hours.

About Doris Borgwedel

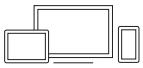
Doris Borgwedel has been working in nursing since 1979. After studying as a nurse at a vocational school in the GDR for 14 years, she started working in somatic nursing. In 1993 she switched to psychiatric nursing and helped to build the Clinic for Psychiatry and Psychotherapy at the Dietrich Bonhoeffer Clinic in Neubrandenburg. In 2007 she moved from Mecklenburg-Vorpommern to Hesse for family reasons. She has been working at CIMH ever since. She has held different nursing management roles and helped to build case management, among other things. In 2016 she took on the role of Deputy Director of Nursing alongside Claus Staudter. She has been Director of Nursing since 2023.

You're talking about a balance between professional and private life?
BORGWEDEL: Exactly. It's important to me to address the needs of my employees, which is why we do everything to find solutions that contribute to a balance between a person's professional life and their private life. Specifically, this means that we look at options for individual working hours where needed.

To reduce the strain on our colleagues, we have also launched the KNAPP (Emergency Nursing Staff Shortage Concept). The nurses in the KNAPP team compensate for acute staff shortages. During the pandemic the KNAPP rules really helped us.

Are staff shortages a problem in psychiatric nursing at CIMH?
BORGWEDEL: It would be overconfident of me to say that we're not affected by staff shortages. Colleagues with a great deal of training have retired. We need to strive to ensure that this practical knowledge is not lost. Further training plays an important role in this. We are now specifically asked about further training opportunities during interviews – that makes for an attractive employer too.

How do you convince people who aren't sure whether a job in psychiatric nursing is right for them?
BORGWEDEL: Anyone who wants to work very closely with other people, who wants to and who can have a relationship with the patient that is only for a fixed period of time, who is interested in people in entirely different life situations, who is tolerant, reflective, team-minded, and willing to learn can find a fulfilling job in psychiatric nursing. For me personally, psychiatric nursing is a hugely valuable job because it really is varied and I have matured as a person. _



The campaign unbedingtWIR provides personal insights into the work of our nurses and their motivation.
unbedingtwir.de

OUR TREATMENT CONCEPTS
for people with mental illnesses are based on the international state of knowledge and are tailored to the individual needs of patients.

PATIENT CARE

CLINIC OF PSYCHIATRY AND PSYCHOTHERAPY

Together with the Clinic of Addictive Behavior and Addiction Medicine, the Clinic of Psychiatry and Psychotherapy at CIMH provides care for the full spectrum of mental illnesses for the adult population of Mannheim. In addition to the care work, the clinic also trains students at the Mannheim Medical Faculty of the University of Heidelberg in the field of psychiatry and psychotherapy.

TREATMENT IN WARDS, TRACK UNITS, AND AT HOME

The individually tailored treatments are based on the patient's age, clinical picture, and everyday life skills. The treatment can be provided in a fully inpatient, partially inpatient, or outpatient environment. The treatment is predominantly organized into tracks. This means a track unit specializes in one or more mental illnesses and brings together outpatient, partial inpatient, and inpatient treatment options. A multi-professional team supports the patient from admission through all stages of their treatment journey. Special outpatient clinics for the targeted diagnosis and treatment of specific clinical pictures are also available.

The various treatment concepts include psychotherapeutic and psychopharmacological approaches, clarification of the disease, and other diagnosis-specific components of treatment. Complementary non-invasive brain stimulation procedures are offered for specific psychiatric disorders: electroconvulsive therapy (ECT); repetitive transcranial magnetic stimulation (rTMS). The purpose of practicing social skills and occupational therapy and rehabilitation measures is to integrate patients back into everyday life. A trained nursing team, social workers, physiotherapists, and occupational therapists are involved in the individually tailored treatment.

CONCEPTS OF TRACK UNITS AND WARDS

The Clinic of Psychiatry and Psychotherapy includes the track units crisis and diagnosis, schizophrenia and psychosis, and affective disorders. In addition to this, there is also a psychiatric intensive care ward, a protective acute ward, two geriatric psychiatric wards, and the offer of ward-equivalent treatment at home.

The **crisis and diagnosis track unit (KD-A)** supports people going through a life crisis, for example those with borderline personality disorder, disorders as a result of trauma, or those with an unclear psychiatric diagnosis. The treatment groups have a behavioral therapy focus and aim to provide assistance for patients in crisis situations and promote "help to help themselves". Some of the other disorder-specific treatment is provided in collaboration with the Clinic of Psychosomatic Medicine and Psychotherapy.

The **schizophrenia and psychosis track unit (SP-A)** provides specific services for people with genuine and substance-induced psychotic syndromes in any stage of the disease. Patients with ›

Prof. Dr. Andreas Meyer-Lindenberg
Medical Director

Associate Prof. Dr. Michael Deuschle
Deputy Medical Director

Associate Prof. Dr. Dusan Hirjak
Managing Assistant Medical Director

› psychosis risk syndrome and patients with early manifestations of a psychotic disorder are diagnosed and treated in coordination with the Early Detection Outpatient Clinic for Mental Disorders, the Adolescent Center for Psychotic Disorders (AZP, Soteria) and the crisis and diagnosis track unit.

Affective disorders such as bipolar disorders, depression, and anxiety are some of the most common mental illnesses. Their progression is often chronic and they therefore mostly require long-term treatment. The **affective disorders track unit (BD1-A and BD2-A)** therefore offer special continuity. After inpatient treatment, a significant proportion of the care can be provided in a partial inpatient and an outpatient environment.

The protective acute psychiatry ward (AK-A) offers specific diagnosis and treatment services for groups of patients who require a protective setting due to the severity of their psychiatric illness. Patients with schizophreniform psychoses and manic or severely depressed patients in particular are admitted to this ward, as are those with organic and physical diseases, addictions, and personality disorders. In terms of becoming a track unit, part of the station is optionally protective.

In patients with age-related diseases, the intertwining of biological causes of the disease and age-related physical, psychological, and social changes requires a special medical approach. Treatment that is appropriately tailored to elderly patients is available on two geriatric psychiatric wards. The **neuropsychiatry ward (NP-G)** is a protective ward for patients with severe clinical pictures in the fields of dementia and depressive disorders. The **geriatric psychiatry track unit (GE-G)** specializes in the treatment of mood disorders in elderly patients and mild dementia.

The **intensive care and admission ward (IN-A)** treats patients who require acute inpatient treatment in an emergency in a protective environment until they are able to receive further treatment in the relevant track unit or ward. Psychiatric patients who have pronounced physical comorbidities are also treated here.

The schizophrenia and psychosis track unit and the geriatric psychiatry track unit both offer **ward-equivalent treatment** in a familiar domestic environment. The individual treatment replaces full inpatient treatment and is provided by specially trained, multi-professional teams. Patients are visited at their house each day to get to know them in their entirety and process their problems in the social environment and everyday life in a more targeted manner. The service is available to all Mannheim residents over the age of 18 who are unsuitable for full inpatient treatment. Psychotic or affective disorders, psychoses in later life, and dementia are all treated.

A multiprofessional team of specialist physicians and specialist nurses regularly visits elderly people with mental illness who live in a nursing home. The team conducts regular medical and nursing rounds, prescribes the necessary pharmacotherapy as well as remedies and aids. The gerontological psychiatry track unit provides **nursing home care for elderly people** in the Mannheim urban area. It acts as a link between general practitioner care and specialist psychiatric clinic.

PARTIAL INPATIENT TREATMENT AND DAY CARE TREATMENT

Partial inpatient treatment for patients in the Clinic of Psychiatry and Psychotherapy is directly integrated into the respective track units. Treatment can also be provided in the day clinic, where it is predominantly patients with schizophrenic psychoses and affective disorders who are treated. A multi-professional team offers various modules: pharmacotherapy, individual and group psychotherapy, psychoeducation, computer-assisted cognition training, metacognitive training, and occupational therapy services for restarting work.

RELATIVE SERVICES

It is important to explain mental illnesses to patients' relatives and to advise them. This is achieved in special groups for the relatives of schizophrenic patients and Alzheimer's patients. Doctors, social workers, and psychologists at CIMH run the relative groups. —

OUTPATIENT CLINICS AND SPECIAL CONSULTATION HOURS AT THE CLINIC

In addition to the outpatient services of our track units, the Psychiatric Clinic offers a wide range of services in four specialist outpatient clinics, from general brief counseling to specific diagnostics and therapy tailored to individual clinical pictures, life phases or patient groups. In the outpatient clinics, medical assistants, health and nursing staff, occupational therapists, social workers, psychologists and physicians jointly ensure a spectrum of structured clinical diagnostics, functional diagnostics, neuropsychological testing, psychoeducation, individual and group therapy, social counseling, and drug treatment.

SPECIALIST OUTPATIENT CLINICS

— General psychiatric outpatient clinic
— Geriatric psychiatric outpatient clinic
— Sleep outpatient clinic
— Occupational therapy outpatient clinic

SPECIAL CONSULTATION HOURS

— Anxiety disorders
— Attention deficit/hyperactivity disorder (ADHD) in adulthood
— High-functioning autism in adults
— Bipolar disorders
— Obsessive-compulsive disorders
— Schizophrenic psychoses
— Early detection of mental illnesses
— Mental illnesses in the time around giving birth
— Premenstrual dysphoric disorder (PMDD)
— Sports psychiatry
— Turkish-speaking adults
— Refugees (with interpreter, Ukrainian also native speaker)
— Memory disorders
— Treatment of affective disorders in later life
— Sleep disorders
— Post-Covid syndrome
— Outpatient clinic for community psychiatry

CLINIC OF CHILD AND ADOLESCENT PSYCHIATRY AND PSYCHOTHERAPY

The Clinic of Child and Adolescent Psychiatry and Psychotherapy provides outpatient and inpatient care for all mental illnesses in childhood and adolescence in the region of Mannheim and the northern Rhine-Neckar district. Sometimes cross-regional care can also be provided for patients with rare disorders that are difficult to treat. The treatment concept is primarily based on behavioral and systematic family therapy principles. Curative education, physiotherapy, and occupational therapy methods are also used.

The inpatient treatment of children and adolescents is a special situation. The clinic therefore works very closely with parents, teachers, and institutions in the young patient's environment on the diagnosis, advice, and treatment. The multi-professional teams on the wards are also tailored to this approach and consist of doctors, psychologists, physiotherapists, social workers, educators, and nurses.

The clinic is also involved in training students at the Medical Faculty Mannheim of Heidelberg University. The clinic offers its doctors additional specialist medical and psychotherapeutic training.

INPATIENT TREATMENT

There are four wards in the clinic. Two open psychotherapy wards treat children and adolescents of different age groups. An open psychotherapy ward with a partially protective intensive care unit treats adolescents with primarily internalizing disorders as well as adolescents experiencing suicidal crises. A protective ward treats adolescents in particular during acute phases of danger to themselves and others, and adolescents with permission to stay. The Adolescent Center for Disorders of Emotional Regulation and the Adolescent Center for Psychotic Disorders (Soteria) round off the list of services provided and are aimed at adolescents and young adults aged between 16 and 24.

Within the wards, group care is an ideal way to carry out therapeutic work with the young patients. Two nursing teams each support two groups of patients on each ward. The other therapeutic services include occupational therapy, social skill training, sports groups, strength training, an anorexia group, enjoyment training, and a cooking group, among others. The open-air area offers numerous playing and exercise options and there is a fitness room and a bee-friendly vegetable and herb garden that is tended by the young patients. A barbecue area is also available for use.

Prof. Dr. Dr. Tobias Banaschewski
Medical Director

PD Dr. Alexander Häge
Deputy Medical Director

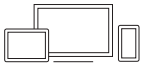
PARTIAL INPATIENT TREATMENT

The clinic offers partial inpatient treatment options for all pediatric and adolescent psychiatric ages. The pediatric day clinic specializes in behavioral and family therapy, and supports children with mental disorders up to the age of twelve. The treatment team really values collaborating closely with the parents and with families. The treatment of adolescents between the ages of twelve and 18 in a day clinic is integrated into a ward in the clinic. The Adolescent Center for Disorders of Emotional Regulation has partial inpatient treatment spaces for adolescents and young adults between the ages of 16 and 24.

THE CLINIC SCHOOL: "SCHULE IM QUADRAT[J5]"

The "Schule im Quadrat[J5]" is a state school in Mannheim in CIMH premises. Here, children and adolescents receiving inpatient and day clinic treatment in pediatric and adolescent psychiatry and the adolescence centers are taught. An advice center is attached for any questions about mental health and school. ›

› The school has ten classrooms with modern blackboard systems, IT equipment, and variable furniture. Teaching is in small groups of six to eight pupils. The lessons are based on the individual ability, personal level of performance and the curriculum provided by their main school. The teachers are able to teach elementary school and secondary school, vocational schools and high school and the various special educational and advice center facilities.



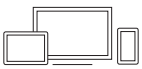
More at **schule-quadratj5.de**

COMMUNITY PSYCHIATRY ACTIVITIES

The clinic team works continuously with the youth welfare offices of the city of Mannheim, the Rhine-Neckar district, other young welfare offices in the region, and youth support facilities. The doctors and psychologists provide specialist advice for various youth welfare facilities. Depending on the needs, this includes specialist supervision, the teaching of pediatric and adolescent psychiatric content to employees, therapeutic services for children and adolescents, and support for children and adolescents through the institute's outpatient clinic. The facilities to be supported include several residential groups for children, adolescents, and unaccompanied minor foreign nationals, and an education center for the professional rehabilitation of adolescents and young adults.

SUPPORTING ASSOCIATION

The network supports patients in the clinic and their families by funding important measures that are implemented alongside the treatment. This includes new materials and devices for learning and play and for sporting and artistic activities. Excursions to cultural and sports events are also supported, and design ideas for the clinic's facilities are implemented. —



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OUTPATIENT CLINICS AND SPECIAL CONSULTATION HOURS AT THE CLINIC

OUTPATIENT CLINICS

— University outpatient clinic of the child and adolescent psychiatric clinic
— Child and adolescent psychiatric institute outpatient clinic
— University outpatient clinic of the adolescent center

SPECIAL CONSULTATION HOURS

— For minor children
— Addictive disorders in adolescence
— Attention deficit/hyperactivity disorder (ADHD)
— Autism spectrum disorders
— Early detection of psychoses

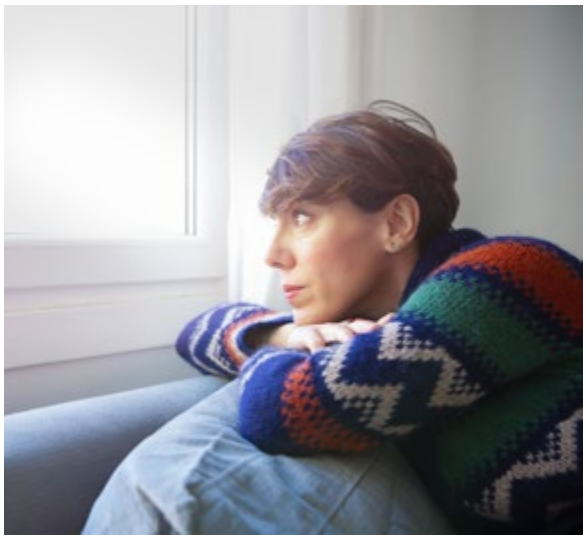
CLINIC OF PSYCHOSOMATIC MEDICINE AND PSYCHOTHERAPY

The Clinic of Psychosomatic Medicine and Psychotherapy has inpatient treatment places on one ward with two teams. Treatments are carried out using a multimodal approach. Individual therapies are combined with specific group therapies, for example, skills and attention groups, creative, movement, and physical therapy groups as well as relaxation methods. The holistic therapeutic concept also includes medical treatment of somatic diseases. In addition, if necessary, psycho-pharmacological treatment is provided, which is individually tailored to psychotherapy.

BORDERLINE AND GENERAL PSYCHOSOMATIC TEAM
This unit treats patients with emotion regulation disorder, as well as patients with personality disorders, affective disorders, anxiety and panic disorders, and somatoform disorders. The treatment is based on Dialectic Behavioral Therapy (DBT) and Acceptance and Commitment Therapy (ACT). In addition, mindfulness-based methods are used. Thus, an individually tailored therapy is designed for each person.

Inpatient treatment usually lasts three months. During the first three weeks, the individual therapy goals are determined together. Subsequently, group and individual therapies are used to work on achieving these goals. The last two weeks are used to prepare for discharge.

POST-TRAUMATIC STRESS DISORDER TEAM
The treatment offer is aimed in particular at people who have experienced severe violence. The three-month inpatient trauma therapy is based on the Dialectical Behavioral Therapy for Post-traumatic Stress Disorder (DBT-PTSD). In individual and group therapies, the modular program combines emotion regulation training, nightmare treatment, and strategies for helping patients cope with negative feelings about their own bodies and distressing memories of the trauma.



Prof. Dr. Christian Schmahl
Medical Director

Dr. Frank Enning
Deputy Medical Director

OUTPATIENT CLINICS
— University outpatient clinic
— Psycho-oncological outpatient clinic

CLINIC OF ADDICTIVE BEHAVIOR AND ADDICTION MEDICINE

The Clinic of Addictive Behavior and Addiction Medicine helps people with abuse of or addiction to alcohol, medication, illicit drugs, as well as gambling, internet and shopping addictions. It offers inpatient and day care treatment as well as outpatient diagnostics and therapy. The outpatient substitution clinic treats opioid-dependent patients with substitute substances. The general addiction outpatient clinic treats addictions and their comorbidities. Specific outpatient psychotherapeutic care is also offered for addicted parents and for people who have an addiction disorder and a borderline personality disorder.

Prof. Dr. Falk Kiefer
Medical Director

Prof. Dr. Bernd Lenz
Deputy Medical Director

INPATIENT TREATMENT

The three-week withdrawal treatment helps patients to live addiction-free in the future. The holistic program begins with medically supervised physical detoxification and treatment of any physical and psychological withdrawal syndrome that may occur. Patients then participate in individual and group psychotherapeutic sessions, skills training, relaxation exercises, sports, occupational therapy, sociotherapy, and information sessions on the addiction support system. Finally, the individual addiction therapy rehabilitation is planned together with the patients.

The clinic also offers the diagnosis of other mental diseases, for example, personality disorders, post-traumatic stress disorder, ADHD in adulthood, depression and anxiety disorders. People who have a borderline personality disorder in conjunction with an addictive disorder are treated with the modular therapy program based on the concept of Dialectical Behavioral Therapy Addiction (DBT-A).

DAY CLINIC TREATMENT

The day clinic offers an acute program with withdrawal treatment and psychotherapeutic measures for patients with alcohol problems, drug or medication addiction, gambling and internet addiction. In addition, alcohol-related diseases, psychiatric comorbidities (especially depression and anxiety disorders) and any physical withdrawal syndrome that may occur are treated. Patients are supported and motivated with regard to insight into their disease, abstinence goals, further treatment options, and the ability to rehabilitate. A wide range of therapy methods are used, from addiction skills training and stress management training to mindfulness-based relapse prevention. The day-clinic approach enables patients to remain in their familiar environment and directly apply the strategies they have learned for dealing with their addiction.

REGIONAL NETWORK FOR ADDICTION SUPPORT

The clinic is part of a network of various facilities offering addiction support (addiction counseling centers, self-help groups, specialized clinics for long-term therapy, among others), which also provide further treatment for severely addicted patients. The focus is on the long-standing cooperation with the Clinic of Addiction Therapy and Withdrawal at Nordbaden Psychiatric Center (PZN) in Wiesloch. The joint **Feuerlein Center for Translational Addiction Medicine** *(feuerlein-cts.de)* ensures the care of people with addiction disorders in the Rhine-Neckar region. Innovative therapy methods are to be made available to patients as quickly as possible in order to further improve treatment. Research is also being conducted into how well the existing therapy services are being used and how access to them can be optimized. The Feuerlein Symposium on Health Services Research in Addiction Therapy 2022 was dedicated to the possibilities of digitization in addiction help. —

OUTPATIENT CLINICS

— Outpatient clinic for addiction medicine
— Opioid substitution outpatient clinic

ADOLESCENT CENTER FOR DISORDERS OF EMOTIONAL REGULATION

The Adolescent Center treats adolescents and young adults aged from 16 to 24 who cannot control their emotions or struggle to do so. This is expressed as diseases such as borderline personality disorder, attention deficit hyperactivity disorder, and post-traumatic stress disorder.

The young people are supported by a constant team throughout their entire development phase: from the end of school through their training or studies and on to finding a partner and leaving home. To do this, the Clinic of Child and Adolescent Psychiatry and Psychotherapy and the Clinic of Psychiatry and Psychotherapy work together. This helps to avoid gaps in treatment. The various outpatient, partial inpatient, and inpatient components in this treatment unit (track concept) make it possible to tailor the treatment to the patient's individual life situation in a flexible manner. The therapists work in line with the standards of Dialectical Behavioral Therapy (DBT).

INPATIENT THERAPY

The inpatient or partial inpatient treatment lasts twelve weeks. Patients initially learn how they can improve their tolerance of stress and more confidently cope with their emotions. They are then helped to transfer these skills into everyday life. Individual needs and challenges are taken into account, and relatives are included in the treatment. In addition to one-on-one therapy discussions, the adolescents can also attend group services, for example on mindfulness or relaxation techniques. The program also includes sports services and experiential education. Ideally, inpatient treatment is part of continuous outpatient psychotherapy, which is important both before and after the patient's stay in the clinic.

OUTPATIENT THERAPY

In many cases, outpatient one-on-one and group therapy can be used to avoid the need for inpatient treatment from the start. Even after an inpatient stay, though, challenges still need to be faced, for example, development in school or in a career. Patients are therefore able to make use of regular outpatient treatment services so what they have learned is consolidated in their everyday lives. For example, this can be in the form of short-term psychotherapy. Lots of patients, though, are supported on a continuous basis for several years throughout their entire period of adolescence. The treatment team tailors the frequency to the individual's needs, and in acute psychosocial crises, the most intensive outpatient support with several one-on-one appointments each week can be selected.

ADOLESCENT CENTER FOR PSYCHOTIC DISORDERS — SOTERIA

Soteria treats adolescents and young adults between 16 and 24 years of age with psychotic disorders or psychosis risk syndrome. Any additional addiction and dependency disorders are also treated here. The patients live in a kind of residential community and learn to better cope with day-to-day life. The interdisciplinary teams support the young people throughout the entire phase of adolescence, so gaps in treatment between pediatric and adolescent psychiatry and adult psychiatry are avoided. The Clinic of Child and Adolescent Psychiatry and Psychotherapy and the Clinic of Psychiatry and Psychotherapy collaborate on the treatment unit.

The open dining and living area is the meeting point in the Soteria.

The scientifically tested concept of Soteria (Greek for salvation, wellbeing, preservation) is a treatment approach for people in psychotic crisis. They are supported through psychosis in a comfortable, anxiety-reducing, and non-clinical environment. The atmosphere conveys safety and ensures that the perception and emotions are able to relax in the long term. The therapists set limits on the psychotic experiences and provide familiarity and normality in interactions. The patients receive intensive individual support during acute psychotic crises.

PHASES OF TREATMENT

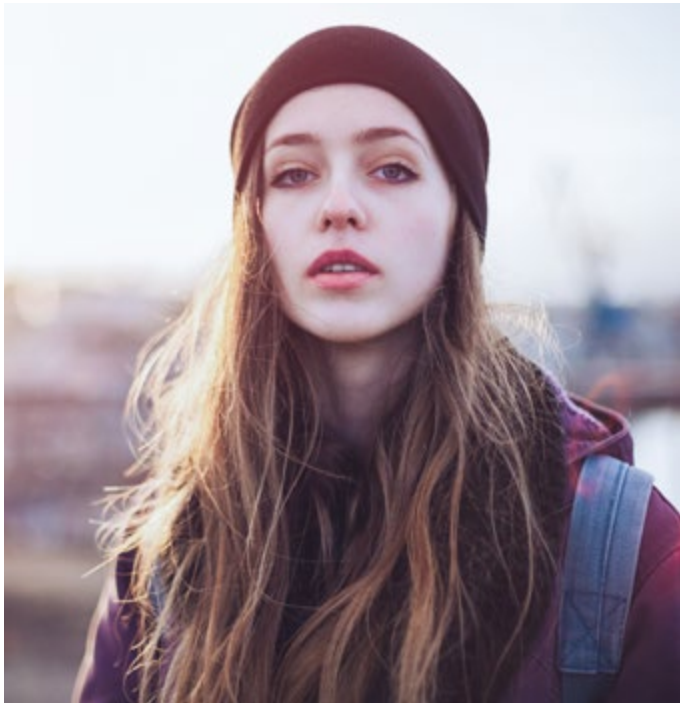
The treatment generally lasts for 12 weeks and can be fully or partially residential, and since spring 2022 it can continue in an outpatient environment after discharge. The treatment generally is broken down into the phases of diagnosis, problem-solving, and the transfer of knowledge gained into everyday practice. A constant treatment team of doctors, therapists, nurses, milieu therapists, and recovery assistants ensures close, personal care that is relevant to everyday life. Patients work on improving their perception, cognitive skills, and tolerance for stress.

The components of treatment include psychotherapeutic and milieu therapeutic treatment elements, experiential education, bibliotherapy and transdiagnostic group therapies: for example, for cannabis-induced psychotic disorders (CANDID), compassion-focused therapy to improve compassion for the patients themselves and others, and cognitive behavioral therapy for psychosis. The recovery approach helps those affected to enjoy a contented and fulfilled life with the mental illness.

OUTPATIENT CLINICS AT THE INSTITUTE OF NEUROPSYCHOLOGY AND CLINICAL PSYCHOLOGY

CPP OUTPATIENT TEACHING CLINICS

At the Center of Psychological Psychotherapy (CPP), children, adolescents and adults with a wide variety of mental disorders receive psychotherapeutic treatment. The large outpatient teaching clinics of the state-approved training institute has three locations in downtown Mannheim. Diagnosis and treatments based on the latest scientific knowledge are offered there. The around 100 therapists are in advanced postgraduate psychotherapy training in the guideline procedure behavioral therapy and carry out all treatments under supervision and guidance.



UNIVERSITY OUTPATIENT CLINIC OF PSYCHOLOGICAL PSYCHOTHERAPY

In the university outpatient clinic, patients are diagnosed with, advised on and treated for the most varied of mental illnesses. The main areas of focus are tinnitus, chronic pain and post-traumatic stress disorder (partial outpatient clinic 1), and phobias, ADHD in adulthood and depression (partial outpatient clinic 2). Work is carried out based on behavioral therapy principles. The therapy that is offered is often accompanied by an academic study in which patients can voluntarily participate. This close connection between treatment and research contributes to an understanding of how mental illnesses develop and change. Treatment approaches are also further improved and the efficacy of new treatment methods is reviewed.

CENTRAL OUTPATIENT CLINIC

The Central Outpatient Clinic brings together the outpatient services of advice, diagnosis, and treatment at an organizational level.

This ensures smooth processes for patients and those providing treatment. A total of 28 employees and up to three trainees work in the central outpatient organization: medical assistants, healthcare assistants and nurses, office clerks, student aids, and one physician. They organize the outpatient operation into six areas from making appointments through to diagnostic procedures, and on to invoicing for around 20,000 cases per quarter and around 100 treatment providers in eleven specialist outpatient clinics. They also organize ECG recordings and the internal consultation service and the company doctor. There are a total of 51 treatment rooms used across the clinic at the main site and two external sites.

The telephone team arranges appointments and informs callers about all of the outpatient, partial inpatient and inpatient treatments available at CIMH. Around 1,200 telephone calls a week were received on the central service number in 2022.

The video and telephone consultation hours, which were introduced in 2020 during the corona pandemic, were offered again to save on journeys, facilitate the integration of the treatment into patients' everyday lives, and also continue to reach high-risk groups. At the same time, personal on-site contacts have been constantly increasing too.

The central outpatient team collaborates with all of the clinics, institutes, and divisions within CIMH to develop processes and services together and to constantly improve them. After the corona years, greater focus was once again placed on the improvement and standardization of processes to be steeled for the coming challenges that will be brought by the Hospital Future Act and telematics.

The organization of treatments into track units also results in tasks that relate to the inpatient sector. Employees in the central outpatient team provide the wards with current treatment plans for patients, and take on responsibility for the administrative admission, the provision of prescriptions, and the invoicing for patients treated as outpatients in the track.

The expansion of the Diagnosis and Admission Center in the Central Outpatient Clinic has also made more progress. In close collaboration with the structures of the Central Outpatient Clinic, it increasingly offers a cross-sector and cross-clinic point of contact for patients and test subjects at CIMH. Following an extensive clinical and scientific initial diagnosis, it will coordinate the further outpatient or inpatient treatment and diagnosis steps at CIMH and provide information on participation in suitable studies at an early stage. As an interface between clinical work and research, the Diagnosis and Admission Center forms the basis of better data-supported treatment and research that is closer to patients.

Cross-Clinic Information

CASE MANAGEMENT

In collaboration with the admissions team, case management coordinates the admission management for patients who present for inpatient or partial inpatient treatment. This includes bed planning and management to avoid insufficient, excessive or incorrect care.

The team also ensures a transparent, optimal treatment process and provides individual support to patients. For example, individual support is provided for complex cases and patients are proposed for ward-equivalent psychiatric treatment at home. The case managers also advise patients and relatives on how to arrange support services and they are a first point of contact for physicians in private practice with regard to planned treatments. The service-oriented work done by case management aims to achieve a high level of satisfaction of patients and external referring physicians. —

DISCHARGE MANAGEMENT

The discharge management supports patients in returning to their everyday lives from inpatient and day-care facilities. They receive individual advice and information on topics such as outpatient treatment and psychotherapy, accommodation and occupation, and self-help groups. To ensure seamless care, the next steps regarding further treatment, rehabilitation, therapy or nursing are planned together.

Discharge management at CIMH is a multi-professional task carried out by doctors, social workers, psychologists, physiotherapists, occupational therapists and nursing staff. They coordinate closely with the patients and involve relatives or caregivers if desired. —

EMERGENCY MANAGEMENT

A defined emergency care team makes the first contact with the patient following emergency admission. The colleagues clarify the concern, record the patient data and prepare the discussion with the on-call physician in each case. The medical service uses clear criteria and supportive guidelines to decide on the patient's further care. Cases of acute danger to self or others are immediately admitted as emergency patients. All other individuals receive a specific plan for prompt further treatment. This could be a planned admission to CIMH as an inpatient, the arrangement of appropriate outpatient or partial inpatient services, or referral to physicians in private practice. The case management team and the central outpatient clinic team are involved in this process. Patients benefit from shorter waiting times and guaranteed further treatment. —

NURSING AND EDUCATION SERVICE DEPARTMENT

Head: Claus Staudter (until 12/31/2022)
Deputy: Doris Borgwedel (Head from 01/01/2023)

Nursing in psychiatry is something special. At CIMH, patients of almost every age are cared for: children and adolescents, adults and people of advanced age. The more than 400 employees of the nursing and education service assume a responsible role in the multi-professional teams of physicians, psychotherapists, sports therapists, occupational therapists, physiotherapists, pedagogues and social workers. Employees from health care and nursing, geriatric and pediatric nursing, and social pedagogy and education are used for the various tasks in the outpatient, partial inpatient, full inpatient and ward-equivalent treatment units. Around 21 percent of the employees in the nursing team have completed psychiatric specialist training.

With an attentive and supportive attitude, nurses create the basis for sustainable therapeutic relationships. They work according to the concept of primary nursing; they support patients individually, deal with their personal concerns, and encourage independence. They use various treatment approaches to take responsibility and actively shape the success of treatment.

The nursing process is specifically planned for patients' respective situations and is based on scientifically sound treatment standards. This evidence-based nursing is effective in numerous areas, for example, the avoidance of falls and bedsores, and de-escalation management.

The nursing and education service also helps to work on research projects and new treatment concepts. As practice managers, nurses pass their knowledge and experience on to trainees.

The working conditions in psychiatric nursing will change in the future. Increasing partial inpatient and outpatient care concepts present new challenges for nursing. Work processes, therapeutic concepts, and nursing concepts need to be reviewed and some of them will need to be adapted. To prepare colleagues for these tasks, CIMH joined the Further Training Association of the Psychiatric Clinics of Weinsberg, Wiesloch, and Winnenden in 2021. Four CIMH nurses take part in the jointly designed, further training course for psychiatric nurses that takes place every two years.

To ensure patient care in the event of unplanned staff shortages and reduce the strain on the ward team, the KNAPP Team (Emergency Nursing Staff Shortage Concept) is available at CIMH. The experienced nurses provide cover for absences of colleagues based on a reliable duty roster and ensure that the emergency service always has nursing cover.

PATIENT FEEDBACK AND COMPLAINT MANAGEMENT

The opinion of patients and relatives about a stay at CIMH is important to improve quality further. The central patient feedback management is part of the quality and risk management. With the help of a questionnaire, services can be evaluated and praise, criticism and concrete suggestions for improvement can be made. Feedback can also be provided via an online form, by telephone, by e-mail, by letter or in a personal conversation. The feedback provides valuable indications of where there is a need for optimization and where satisfaction can be increased further. The results are communicated to the departments concerned and, if possible, improvement measures are derived.

Specific complaints are dealt with promptly and systematically in order to de-escalate at an early stage and identify potential risks and deficits. The situation is clarified individually together with the employees of the departments concerned. The complainants are informed of the results and supported with a solution. In the event of clustered complaints on individual topics or processes, the respective processes are systemically reviewed and measures are taken to improve them.

External and independent patient advocacy and counseling is provided by the Information, Counseling and Complaints Office (IBB) Mannheim. Patients can view the contact details of the IBB on the CIMH website and decide for themselves whether they wish to take advantage of this additional service. There is close cooperation between the IBB and the quality management of CIMH. In regular meetings, specific inquiries from patients are dealt with as needed.

COMMUNITY PSYCHIATRY DEPARTMENT
Head: Dr. Jens Bullenkamp

The Community Psychiatry Department supports and accompanies people with mental diseases through various social-psychiatric care services outside of inpatient treatment at CIMH. The main tasks include providing patients with individual treatment and counseling and ensuring their participation in society.

With the help of a wide range of low-threshold measures, mentally ill people can acquire or retain the skills they need to lead largely independent lives. These include suitable housing options, joint leisure activities, the promotion of social contacts and steps to return to working life. These offers can be supplemented by specialist treatment in the community psychiatry outpatient clinic. Patients with long-standing mental diseases are primarily cared for there, as well as people with mental health problems who need help with their integration into the profession.

The Community Psychiatry Department also cooperates with all external facilities and services for people with mental health conditions in Mannheim. This primarily involves providing specialist medical and psychiatric advice to the care teams in the numerous medical, vocational and social rehabilitation facilities. Community Psychiatry is represented in many working groups and committees and has a comprehensive overview of the psychiatric care situation in the city. The department's employees make a significant contribution to maintaining and further developing the closely-knit network of help. —

OCCUPATIONAL THERAPY
Head: Antje Breisacher

The Occupational Therapy team supports patients in all four clinics and clients in the occupational therapy outpatient clinic. The modern psychiatric occupational therapy at CIMH is client-centered. On the basis of the collection of occupational therapy results and a functional analysis, individual treatment and advice are provided to help the patient achieve the greatest possible level of independence, participation, and quality of life.

The occupational therapists help patients to rediscover their own resources and to recover skills they lost as a result of the disease. Value is placed on holistic treatment and the inclusion of the patient's environment. The aim is for the patient to learn and implement new ways of thinking and coping strategies.

Psychiatric occupational therapy works on developing, maintaining, and improving basic mental skills. These include independence, flexibility, behavior appropriate to a given situation, and participation in both working life and social life. Patients are helped to cope with crises in their lives and to come out of them stronger.

Patients practice identifying and expressing their own needs and desires, along with a realistic perception of themselves. Over the course of their treatment, patients learn to allow closeness and to define boundaries. Another focus of treatment is the appropriate expression of emotions.

Established occupational therapy treatments such as manual/creative techniques are used in the treatments, as are behavioral therapy methods such as dialectical behavioral therapy, social skills training, and interaction and mindfulness groups. —

PHYSIOTHERAPY AND MOVEMENT THERAPY

Head: Antje Breisacher

The staff of the physiotherapy and movement therapy department works in the adult as well as in the child and adolescent psychiatry and are an important part of the multi-professional team. Movement, sports, body therapy and physiotherapy help to regenerate psychological, social and physical functions. The positive movement experiences strengthen self-efficacy and independence. This motivates health-conscious behavior in everyday life – beyond the stay at CIMH.

An individual training program is put together for patients from the wide range of the treatment portfolio. The therapies are mostly provided in groups and as individual treatment when needed. The employees of the department work according to the reference therapist system, so that patients have constant contact persons.

The treatment portfolio rests on three pillars: Sports therapy strengthens physical resilience, increases fitness and relieves tension. The goal is to enjoy being active and to promote social learning. Body and movement therapy promotes body awareness, subjective experience, mindfulness, self-esteem, confidence and emotionality. Patients should get in touch with their own body through perception, movement and expression. Improvisation with movement, music and material open the door to creative experience. Physiotherapy is prescribed for orthopedic, neurological or internal comorbidities. Coordinated therapies improve the body's ability to move and its functionality. Pain is alleviated and health, performance and well-being improve. —

STARK IM STURM INITIATIVE

In families with mentally ill or addicted parents, the situation is often stressful, especially for children. The initiative founded at CIMH in 2019 helps to find the right support for the affected parents and their children. To establish contact with parents, children's commissioners work directly on the wards of all clinics, for example in nursing or social services, as well as in the outpatient clinics.

Together with the parents, they shine a light on situations where the parent is overloaded and encourage them to accept offers of help and advice. They help the children to understand and cope with their parents' situation. In this way, they create the basis for a stable family life.

At CIMH, the Clinic of Psychiatry at Heidelberg University Hospital and the Clinic for Addiction Therapy and Withdrawal at the Nordbaden Psychiatric Center in Wiesloch, a total of almost 100 children's commissioners were active in 2022. Together, they help to further expand networking with youth welfare offices, youth welfare institutions and counseling centers for adults in the region. Stark im Sturm (Strong during a storm) receives financial support by Dietmar Hopp Foundation. —

More at **starkimsturm.de**

CONSULTATION SERVICE AT MANNHEIM UNIVERSITY HOSPITAL (UMM)

Senior Physician: Dr. med. Maria Gilles

The joint consultation service of CIMH (headed by Prof. Dr. Andreas Meyer-Lindenberg) and the Neurological Clinic at the UMM (headed by Prof. Dr. Michael Platten) provides patients of the central emergency department and the inpatient area of the UMM with consultative services in the field of psychiatry and psychotherapy, including addiction medicine and psychosomatics, as well as neurology.

The tasks include the diagnosis of mental and neurological disorders, psychotherapeutic and psychopharmacological co-treatment and the consultation of ward teams in dealing with mentally ill patients.

The advisory work in the central emergency department of the University Hospital ensures psychiatric emergency care in the Mannheim urban area for patients with concomitant somatic conditions or somatic sequelae of mental illness (poisoning, suicide attempts). Psychiatric emergencies without relevant concomitant somatic diseases are treated by the psychiatric emergency outpatient clinic at CIMH.

The University Hospital has 1,352 beds and covers all of the medical disciplines of the Mannheim Medical Faculty of the University of Heidelberg. In 2022, the psychiatric colleagues of the consultation service processed 1,969 consultation requests at Mannheim University Hospital. —

INTERNAL MEDICINE CONSULTATION SERVICE

Head: Dr. Johannes Zimmermann

The Internal Medicine Consultation Service at CIMH is provided by two physicians of internal medicine. Internal medicine care for inpatients is necessary, since a large proportion of them have concomitant diseases in the field of general medicine/internal medicine. Often they can only be treated in external clinics to a limited extent.

The specific situation of the mentally ill patient is taken into account in the internal medicine consultation and treatment of concomitant physical diseases. In many cases, the usual diagnostic and therapeutic strategies have to be modified. ECG, sonography of the abdominal organs and thyroid gland, echocardiography, long-term ECG, and long-term blood pressure measurement are performed. In addition, a clinical chemistry laboratory is available. Thus, the essential elements of internal medicine diagnostics are available at CIMH. Endoscopic or other further examinations are performed in the specialist departments of the Mannheim University Hospital.

Approximately 300 to 350 internal medicine consultations and about 1,100 function tests are conducted annually. In addition, more than 3,000 ECG leads are performed each year. —

SELF-HELP AT CIMH

Responsible for self-help: Dr. Jens Bullenkamp

CIMH has been working closely with Gesundheitstreffpunkt Mannheim, the regional center for self-help and independent advice of patients, since 2010. This collaboration supports the work of self-help groups and encourages meetings between self-help groups and patients. Various projects are implemented and events organized together, such as a regular self-help day.

All patients and relatives are regularly informed about the self-help services in psychiatry. Some self-help groups give presentations directly in the wards or use CIMH facilities for group meetings. At information events in the foyer of CIMH, various groups present their work for patients and relatives.

In 2012, CIMH was the first and as yet only psychiatric hospital in Baden-Württemberg to receive a “self-help-friendly hospital” award for lived self-help from the national network Self-Help-Friendliness and Patient-Focus in the Health Care Sector. Since then, recertification has taken place every three years, most recently in 2021. —

SOCIAL WORK DEPARTMENT

Head: Jürgen Martus

The Social Work Department offers all inpatients, day care patients and outpatients in the four clinics and the outpatient clinics comprehensive support and advice on social legislation issues, personal difficulties and questions on further outpatient and inpatient support services. Social work is closely networked with numerous working groups and committees of complementary psychiatric care in the city of Mannheim. In particular, the focus is on the following topics:

— Social security
— Debts
— Education and work
— Residence
— Forms of assisted living
— Medical and professional rehabilitation
— Daily structure and leisure activities
— Care of minors and relatives who require care
— Counselling centers and support services
— Discharge management in cooperation with other professional groups

PASTORAL CARE

Catholic pastoral care: Bernhard Boudgoust
Evangelical pastoral care: Imke Diepen

The priest and the pastoral counselor work together in ecumenical solidarity to offer pastoral care at CIMH. Both are available to all patients, their relatives and friends as well as employees for personal conversations. These are subject to the pastoral confidentiality. Church services are celebrated every Sunday in joint ecumenical responsibility and are open to external visitors. Furthermore, the pastoral care invites to singing and discussion rounds and, on request, participates in ward events. —

IN PSYCHIATRIC research, CIMH is one of the leading institutions in Europe. We aim to understand psychotherapeutic and pharmacological mechanisms of action in order to develop tailored treatments for patients.

RESEARCH

RESEARCH PROJECTS WITH HIGH FUNDING VOLUME

PSILOCYBIN DEPRESSION STUDY BY CIMH AND CHARITÉ EXPANDED

The EPIsoDE-study on the efficacy and safety of psilocybin in the treatment of depression is receiving additional funding of just under 2.6 million euros from the Federal Ministry of Education and Research. CIMH wants to use that to drive psychedelic-supported psychotherapy forwards together with its Berlin partners Charité and MIND Foundation.

Psilocybin, the active ingredient in what are known as magic mushrooms, is a psychedelic. These substances can change perception, the emotional experience, and consciousness deeply. This makes them interesting for the treatment of mental illnesses. Pilot studies have shown that psilocybin can have a rapid-onset and long-lasting effect in depression, anxiety disorders, and substance use disorders. The active substance is therefore promising to help patients with depression in whom other treatment options have been exhausted without success. To date, though, there has been a lack of comprehensive evidence for the efficacy of psilocybin in treatment-resistant depression. To change this and research the potential of psilocybin in greater detail, one of the largest studies in the world in this field was launched in Mannheim and Berlin in 2021 (see page 26). CIMH is coordinating the study, which is being conducted together with the partners Charité – Universitätsmedizin Berlin and the MIND Foundation in Berlin.

ADDITIONAL SCIENTIFIC QUESTIONS PLANNED

The additional funding from the Federal Ministry of Education and Research of just under 2.6 million euros (just under 2.3 million euros is going to Mannheim with around 300,000 euros going to Berlin) will make it possible to address additional scientific questions. For example, the biological markers (biomarkers) of participants will be measured in the blood or tissue samples. The researchers hope to gain additional information about who can benefit from psychedelic treatment and to what extent. Studies on the cost-effectiveness of psychedelic-supported psychotherapy and on the acceptance of this type of therapy among therapists, cost payers, and the population are also planned. _

Prof. Dr. Gerhard Gründer
Head of the Department of Molecular Neuroimaging

» *Federal Ministry of Education and Research (Bundesministerium für Bildung und Forschung, BMBF), 01EN2006A: EPIsoDE — A clinical phase II study examining the efficacy and safety of psilocybin in treatment-refractory, unipolar depression — partial project study management. 2021 – 2024*

RESEARCHING THE EFFICACY OF OXYTOCIN IN SCHIZOPHRENIA

Oxytocin is a messenger substance produced by the body, the effect of which in the brain means it is involved in many social processes. In the study, the researchers combine oxytocin with various methods to treat diseases under the umbrella of schizophrenia.

Associate Prof. Dr. Dusan Hirjak
Managing Assistant Medical Director in the Clinic of Psychiatry and Psychotherapy

Head of the Research Group on Clinical Neurosciences of Motor Behavior

Dr. Urs Braun
Head of the Diagnosis and Admission Center

Head of the Research Group Complex Systems in Psychiatry

The project uses the propsychotherapeutic psychopharmacology approach and is researching the efficacy of combination therapies. The patients receive oxytocin twice a week, either in combination with intensive cognitive behavioral therapy in a domestic environment or treatment in the Soteria.

In the Soteria at CIMH, patients live in an environment similar to a residential community for their multi-week stays. They spend most of their time in the community, thus experiencing intensive social contacts. In the intensive cognitive behavioral therapy in a domestic environment, the patients are treated by medical or psychological psychotherapists at home. With both forms of treatment, the patients learn to cope with their day-to-day lives better and handle crises. Cognitive behavioral therapy also teaches them skills that help them to handle the symptoms of schizophrenia and difficult everyday situations.

HOPE FOR OXYTOCIN TO INCREASE THE EFFECT

Oxytocin is also being used to find out whether the effects of a positive social environment during treatment lead to an improvement in symptoms. Through a combination of the prosocial oxytocin and treatment methods that are predominantly based on social interaction, the researchers hope to be able to increase the effect of both therapeutic measures significantly. —

» *International Foundation (IF): Oxytocin-assisted psychosocial interventions for improving psychopathology and social skills in schizophrenia spectrum disorders. 2022 – 2026*

EFFICACY AND SAFETY OF CANNABIDIOL IN MAINTENANCE THERAPY FOR SCHIZOPHRENIA

The current antipsychotic treatments for schizophrenia are only partially effective and are often associated with severe side effects. Many patients experience a further episode after treatment. Cannabidiol as an additional treatment can reduce the relapse rate.

Cannabidiol is a component of the cannabis plant that does not have any narcotic or addictive effect. The substance increases the effect of the body's own cannabinoid, anandamide, in the brain, and can alleviate psychosis as a result. An early controlled clinical study by a team led by Prof. Dr. F. Markus Leweke has already shown that cannabidiol showed an improvement in all symptom groups in schizophrenia compared to the psychiatric medication amisulpride in patients with acute paranoid schizophrenia. Cannabidiol also showed a significantly better side effect profile, particularly in terms of weight gain, disorders of automatic movement patterns (extrapyramidal symptoms), and an increase in prolactin in the blood.

These results mark cannabidiol out as a potential antipsychotic, but there is a lack of data on the long-term safety and efficacy. The current study is therefore investigating the efficacy and safety of the active substance cannabidiol in maintenance therapy for schizophrenia following acute therapy with an established psychiatric medication. The participants in clinical trials additionally received cannabidiol or a placebo over a period of twelve months. The goal was to obtain relevant data about the antipsychotic effect of cannabidiol.

Prof. Dr. F. Markus Leweke
Head of the Research Group on Translational Research in Psychosis

» *Endosane Pharmaceuticals GmbH: Enhancing recovery in early schizophrenia – a multi-center, two-arm, double-blind, randomized phase II trial investigating cannabidiol vs. placebo as an add-on to an individualized antipsychotic treatment. 2022 – 2026*

IMPACT OF ENVIRONMENTAL FACTORS ON MENTAL HEALTH

Climate change, urbanization, and the Covid-19 pandemic – in the past few decades environmental changes have massively changed living conditions. This also impacts the mental health of the population. The European research consortium environMENTAL is investigating how environmental factors act on the brain to estimate risks and be able to develop prevention measures.

Prof. Dr. Dr. Tobias Banaschewski
Medical Director of the Clinic of Child and Adolescent Psychiatry and Psychotherapy

The research project aims to cover the biological mechanisms that are linked to environmental pollution and lead to symptoms such as depression, anxiety, stress, and drug abuse. The researchers are linking cohort data from more than a million European citizens and patients about their location with environmental data from satellite measurements, climate models, and digital health applications.

Complex computer models based on artificial intelligence are used to analyze the effects of environmental impacts on the structure and function of the brain. Finally, 3D brain organoids, virtual brain simulations, and molecular biological methods (-omics analyses) are used that can identify the underlying molecular mechanisms.

The goal of a better understanding of how environmental impacts act on the brain is to contribute to estimating the individual risk, developing prevention measures, and facilitating early treatment of environment-related mental illnesses.

DATA HARMONIZATION AND VALIDATION AT CIMH

As a member of the research consortium, scientists at CIMH perform the data replication and validation in clinical cohorts. They are using previously created normative models on clinical cohorts to develop environment-related risk and resilience biomarkers for psychopathological symptoms of depression, anxiety, stress, and substance abuse. These are assessed in terms of their clinical benefit and then validated in large, international data sets for additional mental illnesses. —

» EU: environMENTAL — Reducing the impact of major environmental challenges to mental health. 2022 – 2027

WHY PEOPLE LOSE CONTROL OVER DRUG CONSUMPTION

The main risk factors for mortality and morbidity around the world are alcohol and tobacco consumption. Knowledge about the individual factors that lead to starting and continuing substance consumption is increasing.

Prof. Dr. Rainer Spanagel
Scientific Director of the Institute for Psychopharmacology

At the same time, there is still a lack of detailed knowledge about modulating factors and mechanisms that lead to the loss and recovery of control over drug consumption. A better understanding of these factors and mechanisms will be critical to improving the treatment of substance use disorders.

The work of the Collaborative Research Center/Transregio: losing and regaining control over drug intake (SFB/TRR 265) aims to achieve a better understanding of the mechanisms that are responsible for people losing control over their consumption of drugs. At a behavioral, cognition, and neuroscientific level, researchers are working on identifying the triggers and influencing factors for a loss of control of this type. They are investigating the underlying neurobiological mechanisms and learning mechanisms to develop therapies on the basis of these.

The partners in the project are Charité Berlin, the Technical University of Dresden, the University of Potsdam, the University of Würzburg, the Karlsruhe Institute of Technology, and the Health & Medical University (Potsdam). The new spokesperson for the second funding period is Prof. Dr. Rainer Spanagel, Scientific Director of the Institute for Psychopharmacology at CIMH.

» *German Research Foundation (Deutsche Forschungsgemeinschaft, DFG): Collaborative Research Project/ Transregio 265: losing and regaining control over drug intake — from trajectories to mechanisms to interventions, second funding period.*
2023 – 2027

HOW ACUTE PAIN BECOMES CHRONIC PAIN

Prof. Dr. Dr. h.c. Dr. h.c. Herta Flor
Scientific Director of the Institute of Neuropsychology and Clinical Psychology

Pain is the body's warning signal. It is important to be able to allow acute injuries to heal or to protect the body, for example. Pain normally passes in time. But what happens when it stays even though the wound has healed?

The question of how acute pain becomes chronic pain is being addressed by the Collaborative research center "From nociception to chronic pain: structure-function characteristics of neural pathways and their reorganization" (SFB 1158).

The focus is on changes to nerve cells and nerve pathways. Important molecular and cellular mechanisms have already been able to be clarified. In the third and final round of funding, the scientists are working in particular on how this chronification can be prevented or reversed. The treatment and prevention of chronic pain is not just about medications, it is also about opportunities for neuromodulatory and cognitive intervention, among other things.

The spokesperson for the special research project is still Prof. Dr. Rohini Kuner, Managing Director of the Institute of Pharmacology at the Heidelberg Medical Faculty. The deputy spokesperson for SFB 1158 is still Prof. Dr. Dr. h.c. Dr. h.c. Herta Flor, Scientific Director of the Institute of Neuropsychology and Clinical Psychology at CIMH.

» *German Research Foundation (Deutsche Forschungsgemeinschaft, DFG): Collaborative Research Center 1158: From nociception to chronic pain: structure-function characteristics of neural pathways and their reorganization, third round of funding. 2023 – 2027*

NEW TREATMENT AND PREVENTION APPROACHES IN THE LIVING ENVIRONMENTS OF THE CITY, WORK, AND FAMILIY

The causes of mental illnesses are still insufficiently well understood. At the same time, medications and non-drug treatments only have a limited effect.

Prof. Dr. Andreas Meyer-Lindenberg
Director of the Central Institute of Mental Health

New knowledge and technological developments are therefore needed to develop more effective prevention, diagnosis, and treatment methods. This is the goal of the six selected locations of the German Center for Mental Health (DZPG): Berlin, Bochum, Jena, Mannheim, Munich, and Tübingen. The goal is to enable faster translation through close cross-linking of fundamental research, clinical research, and care research. The spokespersons of the DZPG are Prof. Dr. Andreas Meyer-Lindenberg and Prof. Dr. Andreas Heinz (Charité – Universitätsmedizin Berlin).

Together with Heidelberg University and Ulm University and the German Cancer Research Center, CIMH is coordinating the requested ZIHUb location. The two-year development phase comprises the starting up of research projects, the development of infrastructure, and the involvement of patients and relatives. The goal is also to actively support the next generation of scientists and establish a network of junior researchers.

Scientists at CIMH are researching risk and protection mechanisms of mental illnesses that occur for the first time in adolescents and young adults. These are transferred to new treatment and prevention approaches and used in living environments such as the city, work, and family. Machine learning methods are being used in the research work, among others. The researchers are also evaluating preventative intervention in terms of social interaction and green spaces in the city.

» *Federal Ministry of Education and Research (Bundesministerium für Bildung und Forschung, BMBF): DZPG launch phase — Mannheim location. 2023 – 2025*

PHYSIOLOGICAL AND PATHOLOGICAL PROCESSES IN SUBSTANCE USE DISORDERS

Addictions caused by the dependence on substances are referred to as substance use disorders (or SUDs for short). Those affected identify a compulsive consumption of drugs – there can be cravings and relapses even after many years of abstinence. Alcohol, nicotine, cannabis, opioids, and stimulants are the most common triggers.

Prof. Dr. Rainer Spanagel
Scientific Director of the Institute for Psychopharmacology

SUDs are serious, chronic diseases. They have a negative impact on the health of those affected and lead to major social and economic challenges. While some research has already been conducted on the commonalities of behaviors across the various dependencies, the fundamental pathophysiological commonalities in the SUD pathologies are still broadly unknown.

The systematic medicine research association SysMedSUDs is investigating which genetic, epigenetic, transcriptomic, and neurochemical commonalities and differences characterize the SUDs caused by alcohol, nicotine, heroin, cannabis, and cocaine. The various system levels are being investigated in humans and in rats. The researchers want to use this to better understand the resilience mechanisms and pathomechanisms of the diseases.

Large cohorts of SUDs patients will provide comparative insights into the different and overlapping genetic, epigenetic, and transcriptomic signatures of SUDs from a global network level down to a cellular level. A new in silico approach and spectroscopy on patients will show changes in neurochemical connectomes in patients with SUDs. Rat models for addiction are used to investigate the functional relevance of the multi-stage analyses of human biomaterial and in silico-driven predictions.

The research results may have effects on diagnosis, precision medicine, comorbidities, addiction theories, and sociopolitical decisions. The goal is also for them to help to improve prevention and treatment approaches and to develop new approaches. —

» *Federal Ministry of Education and Research (Bundesministerium für Bildung und Forschung, BMBF): SysMedSUDs — a systems medicine approach to the study of common features and differences in the resilience and pathological mechanisms of substance misuse – subproject on coordination, signature analyses, neuronal networks, MR spectroscopy, and validation. 2023 – 2025*

HOW THE SENSE OF SPACE, SOCIAL HIERARCHIES, AND TERRITORIAL BORDERS IS ANCHORED IN THE BRAIN

Humans began to spread across the entire world starting from Africa more than 70,000 years ago. This was probably triggered by sophisticated brain mechanisms for spatial navigation combined with a genetic tendency for social collaboration.

Much later, with the invention of agriculture and animal husbandry, the geographical settlement of humans laid the foundations for what would become the territories of today: land that we claim and defend as property. Territorial behavior still shapes our perception of space, which is divided into private, public, or neutral.

An international team of researchers wants to understand the neuronal basis of humans' ability to process spatial geometry in the sense of ownership of space, utility, and social hierarchies, leading to the perception of territoriality. The team is being coordinated by Prof. Dr. Valery Grinevich and is made up of a research group at CIMH and three additional groups from France and Israel.

Prof. Dr. Valery Grinevich
Head of the Department of Neuropeptide Research in Psychiatry

The brain has a central system in the hippocampus that is full of specific neurons that react to spatial metrics such as distance, points of reference, and borders. When it comes to finding our way in an environment, though, the brain orders the space into socially significant territories. The research team assumes that this process is controlled by the oxytocin system. Oxytocin is a neurohormone that is known to increase social activity in the brains of mammals. It has recently been determined that oxytocin modulates the neuronal activity in the hippocampus too. Its potential role in territorial representation, though, has yet to be examined.

In this project, experts from the fields of social behavior, spatial navigation, neurophysiology, anatomy, and cell signaling will investigate the similarities and differences of socioterritorial strategies in five species of mammal: bats, mice, rats, marmosets, and macaques. They are researching how neurons that code for spatial geometry also react to socially-dependent, territorial parameters such as ownership, uses, and hierarchies. This cross-species perspective will provide an insight into the neural circuit that controls the territoriality behavior of mammals for the first time.

This paper will also provide the background for new oxytocin treatments for patients with autism spectrum disorders, borderline personality disorders, severe depression, and other psychiatric disorders.

» *EU – European Research Council (ERC): ERC Synergy Grant: OxytocINspace — oxytocin-driven territorial mapping in the mammalian hippocampal formation. 2023 – 2029*

NEW INSTITUTES, DEPARTMENTS, AND RESEARCH GROUPS

HECTOR INSTITUTE FOR ARTIFICIAL INTELLIGENCE IN PSYCHIATRY

Head: Dr. Emanuel Schwarz

The aim of the Hector Institute for Artificial Intelligence in Psychiatry (HITKIP), which was founded in 2023, is to develop and apply advanced computational methods from the area of artificial intelligence (AI) to uncover the causes of mental illness and thus contribute to the prevention and the improved clinical management of these disorders.

Through the integrative analysis of diverse, high-dimensional data, the HITKIP will characterize biological and environmental factors affecting illness risk along the lifespan, identify the associated mechanisms, and derive predictive signatures. These can help in personalizing prevention strategies and clinical care to the individual subject.

The HITKIP amalgamates the development of innovative AI technology, such as biologically informed and geo-distributed machine learning, interpretable machine learning models of dynamic neural systems, and advanced approaches for multi-modal data integration, into a coherent AI strategy geared towards the identification of illness and treatment-relevant effects. This research strategy is decidedly translational with the aim of implementing algorithms into tools that have a substantial positive impact on clinical care.

The HITKIP is made possible by a generous grant from the Hector Foundation II. _

Dr. Emanuel Schwarz
Head of the Hector Institute for Artificial Intelligence in Psychiatry

Projects

Publications

DEPARTMENT OF MOLECULAR AND CELLULAR COGNITION RESEARCH

Head: Dr. Ana M. M. Oliveira

The department, founded in 2023, investigates the molecular and cellular mechanisms that underlie cognitive processes as well as neuroplasticity changes associated with psychiatric conditions.

Neuroplasticity allows the brain to continuously adapt its functional and structural organization to changing environments. This ability is essential for the individual's survival, as it allows the adaptation to the surroundings and underlies key functions such as learning and memory. However, the same mechanism can turn into maladaptive changes that give rise to pathological conditions. Despite the progress in the field, the molecular mechanisms of neuroplasticity in health and disease are still poorly understood. The overall goal of the department is to fill this gap in knowledge.

The scientists focus on the investigation of the mechanisms that govern neuroplasticity in the context of memory formation and persistence and their dysfunction in psychiatric conditions. Namely, we are interested in investigating the molecular and cellular basis of the protracted functional and morphological changes triggered by aversive environmental factors (for example, trauma, substance use, noxious stimuli) that contribute to mental health disorders. The targeting of neuroplasticity processes promises to achieve therapeutic strategies. Particular attention is dedicated to transcriptional and epigenetic regulation given the key function in regulating long-lasting adaptions.

Dr. Ana M. M. Oliveira
Head of the Department of Molecular and Cellular Cognition Research

We take an interdisciplinary approach that leverages behavioral testing, engram tools, chemogenetics, epigenetic and transcriptional analysis, as well as morphological and electrophysiological approaches. —

Projects

Publications

RG PERSONALITY PATHOLOGY AND INTERPERSONAL PROCESSES

Head: Dr. Johanna Hepp-Kieslich

The Research Group in the Department of Psychosomatics and Psychotherapeutic Medicine is dedicating itself to the investigation of interpersonal processes in various groups of patients, for example people with personality disorders, non-suicidal self-harm, childhood trauma, and substance abuse disorders.

In a project funded by the German Research Foundation, the scientists are currently investigating interpersonal problems as part of the diagnosis of a personality disorder. The principles for this are the classification system ICD-11 and the alternative DSM-5 model for the classification of personality disorders. The team is researching whether people with a higher severity of personality disorder actually experience more interpersonal problems in day-to-day life. They are also looking at whether the problematic personality traits defined in the diagnosis systems are associated with different types of problems. The five traits are negative affect, detachment, dissociation, disinhibition, and compulsiveness. Finally, they are analyzing the contexts in which interpersonal problems occur particularly frequently or rather more rarely.

The methods of the Ecological Momentary Assessment (EMA) are being used in the project. The test subjects use an app to record self-reports of their social interactions in day-to-day life, for example how frequent they are and the quality of them, their emotional responses to them, and the context. A sensor also records their heart rate. Work is also being done in the laboratory to determine how people with more or less pronounced personality disorder react to interpersonal stimuli. With the help of these data, the researchers are determining how strongly the test participants respond physiologically to different social situations.

The research can help to adapt existing treatment approaches to different severities and trait combinations of personality disorders and to identify high-risk contexts for interpersonal problems.

Projects

Publications

HIGH IMPACT PAPER

HIGH-LEVEL PUBLISHED RESEARCH RESULTS

New diagnosis: complex post-traumatic stress disorder

Complex post-traumatic stress disorder can occur in response to repeated traumatic life events. This serious mental disorder is described as an independent diagnosis in the ICD-11.

People who are exposed to longer-lasting or repeated traumatic experiences such as sexual abuse, domestic violence, or war have an increased tendency to develop serious mental consequences. These go beyond the picture of classic post-traumatic stress disorder (PTSD). To diagnose complex post-traumatic stress disorder (cPTSD), the three symptoms groups of PTSD – (1) experiencing the events again in the present, (2) avoidance of traumatic memories, (3) feeling of current threat – are supplemented by three additional groups: (4) disorder of emotional regulation, (5) negative concept of the self, (6) difficulties with interpersonal relationships.
The quantity of data is as yet insufficient to assess treat-

ment approaches, as complex post-traumatic stress disorder is a new disorder. Multi-component therapies such as DBT-PTSD focusing on safety, psychoeducation, and starting to build relationships have been proposed by professional associations, with the focus placed on treating disorders of the memory of the trauma and trauma-related ideas of the self.
In their overview paper, the authors describe the progress in diagnosis, particularly in terms of the differentiation between PTSD and borderline personality disorder. They also provide a report on progression in the assessment and treatment of children and adolescents. —

» *Maercker A, Cloitre M, Bachem R, Schlumpf YR, Khoury B, Hitchcock C,* ***Bohus M****. Complex post-traumatic stress disorder. Lancet. 2022.*

Functional MRI for mice and men

Researchers have managed to identify a network in the brain of mice that plays an important role in the learning of expectations and is astonishingly similar to the network in the human brain.

The learning of expectations and the correction of this through experience is a central mechanism for depression, psychosis, and addiction that can be made visible using functional magnetic resonance imaging (fMRI). However, this imaging was not previously available during learning for the most important animal model, the mouse. The research team has now developed an animal model that enables a guaranteed transfer of knowledge.
The scientists were able to show that the learning of expectations and the prediction errors of these in mice happens in a branched functional network that is astonishingly similar to that of humans in the MRI. Within this network, a subunit was able to be identified in mice in which expectations that are triggered by environmental stimuli are dynamically updated by recent experiences. The researchers showed for the first time that two cellular expectation signals exist in parallel in this region of the brain. One is a coded expectation learned over the long term that is robust against short-term fluctuations. The other signal regulates changes in expectation in the short term, depending on what most recently happened.
The new research approach enables the systematic investigation of neuronal mechanisms that generate behavior to be performed: from behavioral modeling through to fMRI, which enables the functionally relevant areas of the brain to be identified, and on to the activity of individual clusters of nerve cells. This represents a method that can be used more broadly for translational psychiatric research and fundamental research. —

» ***Winkelmeier L****, Filosa C, Hartig R, Scheller M,* ***Sack M****,* ***Reinwald JR****,* ***Becker R****,* ***Wolf D****,* ***Gerchen MF****,* ***Sartorius A****,* ***Meyer-Lindenberg A****,* ***Weber-Fahr W****,* ***Clemm von Hohenberg C****,* ***Russo E****,* ***Kelsch W****. Striatal hub of dynamic and stabilized prediction coding in forebrain networks for olfactory reinforcement learning. Nature Communications. 2022.*

Development of chronic back pain

The treatment and prevention of chronic pain are key challenges for the health care system. Knowing the causes of the transition from acute to chronic pain is critical. Reward learning processes play a critical role here.

Connectivity between frontal areas and deeper areas of the striatum and reward learning predict the transition from acute to chronic back pain independently of one another. What is not clear, though, is how these predictors are linked. The research team is investigating whether neural changes in reward learning at the level of the nucleus accumbens (NAc) and ventromedial prefrontal cortex (vmPFC) predict the development and maintenance of chronic back pain. Fifty patients with subacute back pain were observed over a period of six months. In addition to this, 29 patients with chronic back pain and 29 pain-free control subjects were compared to characterize the mechanisms of reward learning in the chronic stage. The researchers determined that frontostriatal signals of reward learning predict the transition from subacute to chronic back pain and characterize the chronic stage of back pain. Different processes of reward learning in the vmPFC and NAc mark the development and maintenance of chronic back pain. On the basis of the current results, treatment can be improved through surgical procedures and the development of new preventative procedures, such as dopaminergic interventions. —

» ***Löffler M, Levine SM, Usai K, Desch S, Kandić M, Nees F, Flor H.*** *Corticostriatal circuits in the transition to chronic back pain: The predictive role of reward learning. Cell Reports Medicine. 2022.*

Transformative potential in biomarker research

Despite intensive research, no biomarkers have yet been able to be identified that are useful and valid enough to change the clinical practice of psychiatry, with the exception of the field of dementia. In his paper, Prof. Dr. Andreas Meyer-Lindenberg sets out the fact that taking into account the specific temporal nature of mental illnesses is necessary for more effective biomarkers.

In the past few decades, biomarker research in psychiatry has yet to produce the desired breakthroughs. Since biomarker research is mostly based on large data collections in cross-section (for example in genetics and imaging), it is implicitly based on what is known as the assumption of ergodicity. This means that the mean of many individuals recorded at a specific time is the best estimator of what can be expected in an individual over time, for example after treatment.
Prof. Dr. Meyer-Lindenberg shows that the assumption of ergodicity generally does not apply for mental processes. Ultimately, mental health is not

a static condition, it is a dynamic process that is far from balanced. Prof. Dr. Meyer-Lindenberg therefore feels that there is transformative potential in biomarker research in methods that take into account the lack of a stationary nature, in other words the progression of symptoms and mental states over time. Smartphones, new analysis methods, and machine learning, for example, make it possible to leave the laboratory and record and model the progression of psychiatrically relevant parameters in individuals over time more extensively and in more detail than ever before. Methodologies of this type have the potential to improve the predictability and clinical applicability of biomarkers significantly. —

» ***Meyer-Lindenberg A****. The non-ergodic nature of mental health and psychiatric disorders: implications for biomarker and diagnostic research. World Psychiatry. 2023.*

New findings on the analgesic effect of oxytocin

The scientists describe a circuit between oxytocin, periaqueductal gray, and the spinal cord that is critical to the alleviation of pain in patients with inflammation and acute pain.

The neuropeptide oxytocin, which is formed in the hypothalamus, has a positive effect on mood and social behavior. It also exerts significant analgesic effects on the central and peripheral effects. The precise pathways by which oxytocin is transported, however, are broadly not known. The researchers have identified a subgroup of small-cell oxytocin neurons, the projections of which preferably end in special oxytocin receptors in the periaqueductal gray of the cerebrum. The periaqueductal gray plays an important role in the perception and modulation of pain.

A specially developed rat model was used to determine that most of the oxytocin receptors in the periaqueductal gray to which the oxytocin projections are aligned are GABAergic neurons. These neurotransmitters have an inhibitory effect on nerve cells. The simulation of small-cell oxytocin axons in the periaqueductal gray performed ex vivo showed a local release of oxytocin. In vivo, the optogenetically triggered axonal oxytocin excretion and the chemogenetic activation of oxytocin receptors in the periaqueductal gray led to a long-lasting rise in neuronal activity in this region of the brain. This resulted in an indirect suppression of the activity of sensory neurons in the spinal cord and a significant alleviation of pain in both female and male rats.

The study results support the role of oxytocin as an analgesic and indicate the relevance of oxytocin receptors in pain therapy. —

» *Iwasaki M, Lefevre A, Althammer F, Clauss Creusot E, Łapieś O, Petitjean H, Hilfiger L, Kerspern D, Melchior M, Küppers S, Krabichler Q, Patwell R, Kania A, Gruber T, Kirchner MK, Wimmer M, Fröhlich H, Dötsch L, Schimmer J, Herpertz SC, Ditzen B, Schaaf CP, Schönig K, Bartsch D, Gugula A, Trenk A, Blasiak A, Stern JE, Darbon P,* ***Grinevich V*****, Charlet A*. An analgesic pathway from parvocellular oxytocin neurons to the periaqueductal gray in rats. Nature Communications. 2023.*

Anti-amyloid antibody therapies in patients with Alzheimer's

Due to the ageing global population, the number of people with dementia and therefore also the number of Alzheimer's patients is increasing rapidly. A research team is debating the challenges in the development of disease-modifying therapies and provides consistent evidence of the clinical efficacy of monoclonal antibodies that target amyloid beta. The scientists have made a breakthrough in their paper.

New disease-modifying therapies (DMT) promise a change in dementia care and prevention. Monoclonal antibodies (mAbs) that target amyloid beta (Aβ) are currently the most widely used medications in phase III studies. To obtain new findings for the further development of DMTs for Alzheimer's disease, the researchers are analyzing the three latest anti-Aß mAbs medications with completed phase III studies.

In their paper, the scientists show that the reduction of amyloid beta leads to clinical advantages, and not just in terms of changes in the biomarkers. This is a breakthrough in research. It was also determined that the current generation of anti-Aß mAbs probably just delays the progression of the disease but will not stop neurodegeneration. This necessitates further research into the most important pathomechanisms of Alzheimer's disease.
The authors assume that a combination of medications targeting various biological mechanisms (for example, Aß, tau protein, inflammation) with medications with a symptomatic effect is the most promising. Only the routine use of the new generation of medications will show whether the statistical efficacy is reflected in clinically significant changes. —

» *Perneczky R, Jessen F, Grimmer T, Levin J, Flöel A, Peters O,* ***Froelich L****. Anti-amyloid antibody therapies in Alzheimer's disease. Brain. 2023.*

Alcohol consumption for self-management

Despite its danger, alcohol is used to cope with challenges and overcome problems. A team of researchers has developed a systematic overview of the instrumentalization of alcohol over a lifetime for the first time. The positive effects and the risks of using alcohol for self-management are shown. Finally, a new perspective is proposed.

The authors researched in MEDLINE, Google Scholar, PsycINFO, CINAHL in the search period from January 1990 to December 2022 for a systematic overview and analyzed patterns of consumption, targets, and potential neurobiological mechanisms.
The scientists determined that there is increasing evidence of a regular, non-addictive consumption of alcohol to overcome challenges and problems in adolescence, in adulthood, and in later life. In adulthood in particular, a large number of psychiatric symptoms lead to alcohol being consumed for self-treatment.
The team identified corresponding neuropharmacological effects of alcohol that can have positive effects on various behaviors and cognition at low to medium doses. This is supported by its selective neuropharmacological effect, which can reverse disordered brain mechanisms at least in part. The risks of alcohol consumption are also discussed, as even well controlled alcohol consumption has a negative effect on health.
On the basis of these findings, the researchers propose a new perspective: health policy measures could take into account both sides of the

Spatio-temporal psycho-pathology in patients with psychiatric disorders

Historical authors (including Ludwig Binswanger and Eugène Minkowski) postulated that the experience of patients with psychiatric disorders is characterized by "time fragmentation".

From clinical practice we know that patients with psychiatric disorders also experience difficulty with spatial perception (for example anomalies in their experience of interpersonal distance and spatial orientation). Although these changes can lead to a kind of decoupling from reality, significant psychological strain on the person affected, and difficulties in the therapeutic process, the abnormal experience of space and time in people with psychiatric disorders has yet to be sufficiently investigated.

Spatiotemporal psychopathology could contribute to answering two essential questions: firstly, how can the subjective experience of patients be better integrated with neuronal networks? Secondly, can the subjective experience be linked to the neuronal activity in patients with mental disorders and thus contribute to improvements in differential diagnostic processes? The authors propose different conceptional, methodical, and clinical ways to answer these questions on the basis of various neuroscientific studies. —

» *Northoff G,* ***Hirjak D****. Integrating subjective and objective-spatiotemporal approach to psychiatric disorders. Molecular Psychiatry. 2023.*

phenomenon through personalized, informed consumption that enables damage-controlled self-management with alcohol. —

» ***Müller CP****, Schumann G, Rehm J, Kornhuber J,* ***Lenz B****. Self-management with alcohol over lifespan: psychological mechanisms, neurobiological underpinnings, and risk assessment. Molecular Psychiatry. 2023.*

RESEARCH PRIZES

DGPPN PRIZE FOR MENTAL ILLNESS RESEARCH

Associate Prof. Dr. Dusan Hirjak, *Managing Assistant Medical Director in the Clinic of Psychiatry and Psychotherapy,* received the German Association for Psychiatry, Psychotherapy and Psychosomatics (DGPPN) prize for mental illness research. The prize is awarded to scientists who contribute to significant developments in the field of mental illnesses and the treatment of these with their research work and models. Among other things, Dusan Hirjak is researching the role of neural mechanisms in the development of genuine and medication-induced sensorimotor abnormalities and is investigating whether the modulation of these mechanisms can contribute to the development of new strategies for the early detection and treatment of mental illnesses. The prize is worth 5,000 euros and was awarded at the DGPPN Conference in 2022 in the category of Science.

DGPPN PRIZE FOR NURSING

Doris Borgwedel *(Director of Nursing),* ***Simone Schmidt*** *(Responsible for Quality in the Nursing Department), and* ***Sven Mengel*** *(Head Nurse in three wards)* won an award at the German Association for Psychiatry, Psychotherapy and Psychosomatics (DGPPN) Conference in 2022 for their lecture on “Practice trainers in de-escalation – practical test passed”. In psychiatry, all professional groups that treat patients directly are faced with violence and aggression. Handling this professionally is a key part of daily work. This is why the “Practice trainers in de-escalation (PTD)” project was implemented. Among other things, the goals are to prevent injuries to patients and employees, reduce the psychological stress on the employees, reduce the number of police call-outs, and practice the safe handling of psychiatric emergencies. The DGPPN awarded the best abstracts for free lectures submitted.

BRAIN ACTIVITY IN RESPONSE TO ALCOHOL STIMULI AS A NEW MARKER

PD Dr. Patrick Bach, *Head of the Research Group Neuroenhancement,* received the research prize from the Norddeutscher Suchtforschungsverbund e. V. for an fMRI replication study. The prize is worth 1,000 euros and was shared by two academic papers. The study by Patrick Bach that won the award is entitled “fMRI-based prediction of naltrexone response in alcohol use disorder: a replication study”. The research team led by Bach were able to show that the brain activity in response to alcohol stimuli, measured using functional magnetic resonance imaging, predicts the likelihood of success of treatment with the medication naltrexone, which is used to prevent relapses. Patients with strong brain activity in response to alcohol stimuli were those who responded more to treatment and relapsed significantly later. The results show that in the future the brain activity in response to alcohol stimuli could be used as a marker that would enable better predictions to be made about which patients would benefit from a certain therapy.

PROF. DR. ANDREAS MEYER-LINDENBERG RECEIVES THE ROBERT SOMMER MEDAL

Leading global representatives of schizophrenia research meet every two years at the "Giessen International Schizophrenia Symposium" to discuss the current state of research. As part of the symposium run by the Clinic of Psychiatry and Psychotherapy at the University Hospital of Giessen, the internationally renowned Robert Sommer Prize is awarded. It is awarded in memory of the German psychiatrist Karl Robert Sommer (1864 to 1937), who shaped the first psychiatric clinic founded in Giessen in 1895.

Prof. Dr. Andreas Meyer-Lindenberg received the award in April 2023 for his research on imaging techniques and the fundamental principles of genetics. He previously worked at the University Hospital of Giessen himself, and graduated from the Faculty of Medicine at the University of Giessen. Renowned psychiatrist Daniel Weinberger, who is a researcher at Johns Hopkins University and the Lieber Institute, gave the award speech.

MACK PRIZE FOR THE "PSYCHOTHERAPY IN AGE-RELATED DEPRESSION" STUDY GROUP

The Mack prize is 10,000 euros, and in 2022 it was awarded to the ***"Psychotherapy in Age-Related Depression" study group*** funded by the Federal Ministry of Education and Research. CIMH in Mannheim, Charité in Berlin, and the university hospitals in Bonn, Freiburg, Cologne, Leipzig, and Tübingen are involved in the group. The study group wants to improve the treatment options for age-related depression by setting up outpatient counselling centers. The Foundation awarded the study group in particular for its "excellent work and projects in the field of the research and treatment of age-related depression".

The goal of the Elisabeth Mack-Usselmann and Dr. Michael Mack Memorial Foundation is to retain and maintain the artistic work of the benefactor, Elisabeth Mack-Usselmann, along with the scientific legacy of her son Michael. Elisabeth Mack-Usselmann was the last master pupil of the "Bridge" painter Erich Heckel. Dr. Michael Mack taught at the Department for English Studies at the Durham University in Great Britain. The focus areas for funding from the Mack Foundation are research into and treatment of depression, visual art, philosophy, and literature theory.

CHICA AND HEINZ SCHALLER RESEARCH PRIZE

Dr. Emanuel Schwarz, *Head of the Research Group Translational Bioinformatics in Psychiatry,* received the Chica and Heinz Schaller research prize in 2021. The Chica and Heinz Schaller Foundation supports fundamental research in biomedicine. The prize comes with research funding totaling 90,000 euros. The Research Group Translational Bioinformatics in Psychiatry is working on the development and use of methods to analyze high-dimensional data. The aim is to discover the mechanisms of mental illnesses and create the basis for the development of new, more clinically beneficial applications. The focus is on the development of methods that integrate systems biological information into approaches from the field of artificial intelligence to decipher the biological and clinical heterogeneity of mental illnesses. The goal is to characterize disease processes and the development of these over the lifetime. In this way, the Research Group is hoping to better understand the functional consequences of biological and environmental risk constellations. An improved understanding of the effects on the disease risk in relevant age periods and the identification of the predictive markers associated with these mechanisms could contribute to the development of new preventative measures.

RESEARCH UNITS

CORE FACILITIES

CLINICS

INSTITUTES

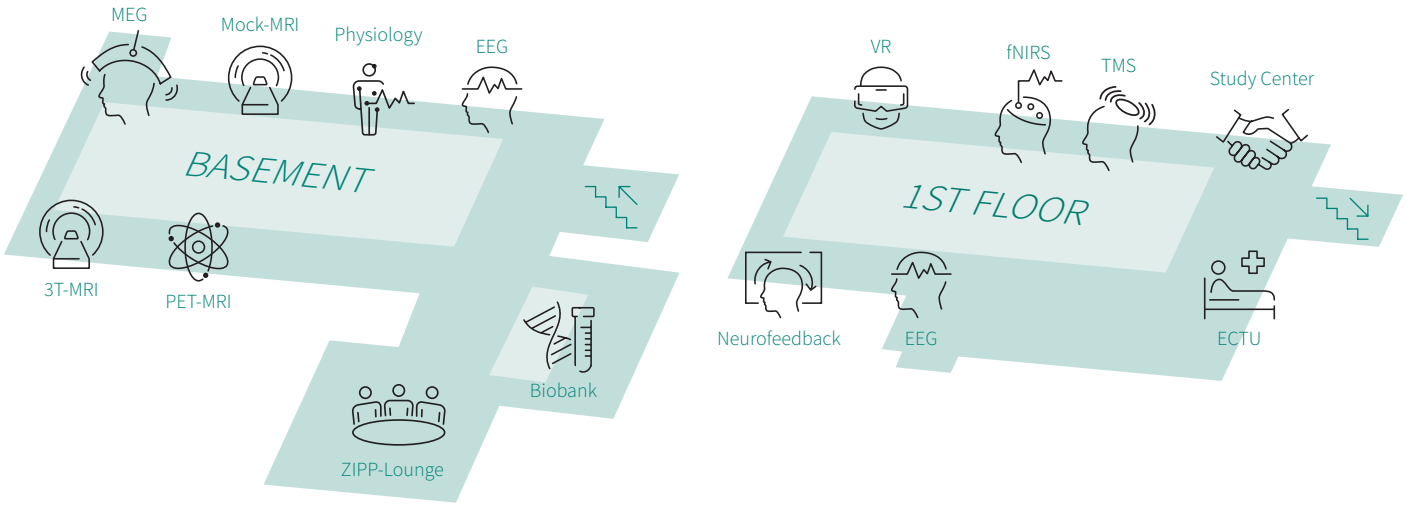
DEPARTMENTS

CENTER FOR INNOVATIVE PSYCHIATRIC AND PSYCHOTHERAPEUTIC RESEARCH

Head: Associate Prof. Dr. Gabriele Ende

The translational ZIPP offers researchers a comprehensive technology infrastructure to pursue varied research issues and develop customized treatments. ZIPP is available as a Core Facility to scientists at the German Center for Mental Health.

THE ZIPP RESEARCH TECHNOLOGIES



HITBR

9.4-T-MRI

Digital Technologies

EEG — Electroencephalography
fNIRS — Functional Near-Infrared Spectroscopy
PET — Positron Emission Tomography
TMS — Transcranial Magnetic Stimulation
VR — Virtual Reality
MEG — Magnetoencephalography
MRI — Magnetic Resonance Imaging
ECTU — Early Clinical Trials Unit

The research infrastructure at ZIPP is based on four pillars: psychopharmaceutical research, the investigation of new psychotherapies, the investigation of the effects of these therapies on the brain using the latest imaging technology, and the investigation of the effects of treatments on genes, tissues, and cells. The combination of these elements makes it possible to transfer knowledge from basic research into effective treatments for people with mental illnesses more quickly. The translational approach means that specific challenges in the treatment can be addressed by the researchers to develop new and better approaches to treatment in a targeted manner.

The possibilities of functional, structural, and biochemical **magnetic resonance imaging (MRI)** on two 3 Tesla PRISMA whole-body tomography machines tailored to one another and on the biographs (combination of positron emission tomography, PET, and MRI) are constantly in use in a large number of studies across all areas within CIMH and by external cooperation partners. Standardized data format and evaluation strategy concepts are becoming increasingly important and are tested and established in the unit.

The **study center** has eleven study rooms that are used by researchers for data collection. The rooms can be broken down into eight test rooms, for example for interviews, and three functional rooms, for example for taking blood samples or doing infusions.

The **biobank** integrated into ZIPP collects and stores biomaterials using the latest methods. It is needed to investigate the biological causes of mental illnesses. The team works in accordance with the latest findings in terms of data protection, ethics, and quality standards.

The **EEG and peripheral physiology laboratories** have the latest technologies, and these are used for research projects. The equipment includes a laboratory for sensory testing (Sensory Lab), a state-of-the-art eye tracking system, and two EEG cabins for adults for parallel operation, among other things. The family-friendly pediatric and adolescent area is established for electrophysiological measurements and for biofeedback and neurofeedback training sessions. All of the laboratories also offer mobile options for the translation of investigations and training sessions into everyday life.

The laboratory for **non-invasive brain stimulation (NIBS)** uses different methods: transcranial magnetic stimulation (TMS), transcranial direct current stimulation (tDCS), and transcranial alternating current stimulation (tACS), the mechanisms of action of which differ. NIBS can also be combined with other neurophysiological techniques such as electroencephalogram (EEG), magnetoencephalography (MEG), functional near-infrared spectroscopy (fNIRS), or magnetic resonance imaging (MRI). Combinations of this type make it possible to provide valuable information about causal interactions between areas of the brain.

Various technologies used to design and present virtual worlds are used in the **virtual reality laboratory**, from optical motion capture through to the CAVE screen projection system and on to virtual reality goggles, data gloves, and other accessories. In the laboratory, virtual reality (VR) is being researched as an interventional tool in psychotherapy and to investigate various behavioral patterns and modes of perception, for example in addiction and those who have difficulty with social interactions.

The intensity of use of the **magnetoencephalography** unit (MEG) continues to increase. In addition to ongoing research, further studies are planned that would look at network-based biomarkers for mental illnesses in adults and children. The technical equipment in the MEG laboratory for example in the fields of advances in eye tracking, simultaneous brain stimulation, and sensory stimulation is at the highest level and enables a wide range of tests to be carried out.

The **PET-MRI scanner** (Biograph mMR) is currently being used to examine the effects of treatment with antipsychotics on the neuronal systems that manage the neurotransmitter dopamine as part of a pilot study. The radioligand used for this is provided by the University of Mainz, as is a ligand that aims to examine the role of dopamine in stress management in patients with an alcohol dependency. A multicenter study funded by the Federal Joint Committee (G-BA) will also start: this will evaluate the role of the early detection of dementias using radioligands that radioactively mark the amyloid plaques that are typical of Alzheimer's.

In the **Early Clinical Trials Unit** (ECTU), patients have been treated as part of the EPIsoDE-study funded by the Federal Ministry of Education and Research since 2021. The project is examining the efficacy and safety of psilocybin in the treatment of treatment-resistant depression. In another study funded by the Federal Ministry of Education and Research (NeuroMarKet), biomarkers that can show the success of ketamine treatment in people with treatment-resistant depression are being investigated. Two additional studies with psychedelics (dimethyltryptamine, DMT, and 5-MeO-DMT) in patients with depression are in preparation and will likely start in 2023.

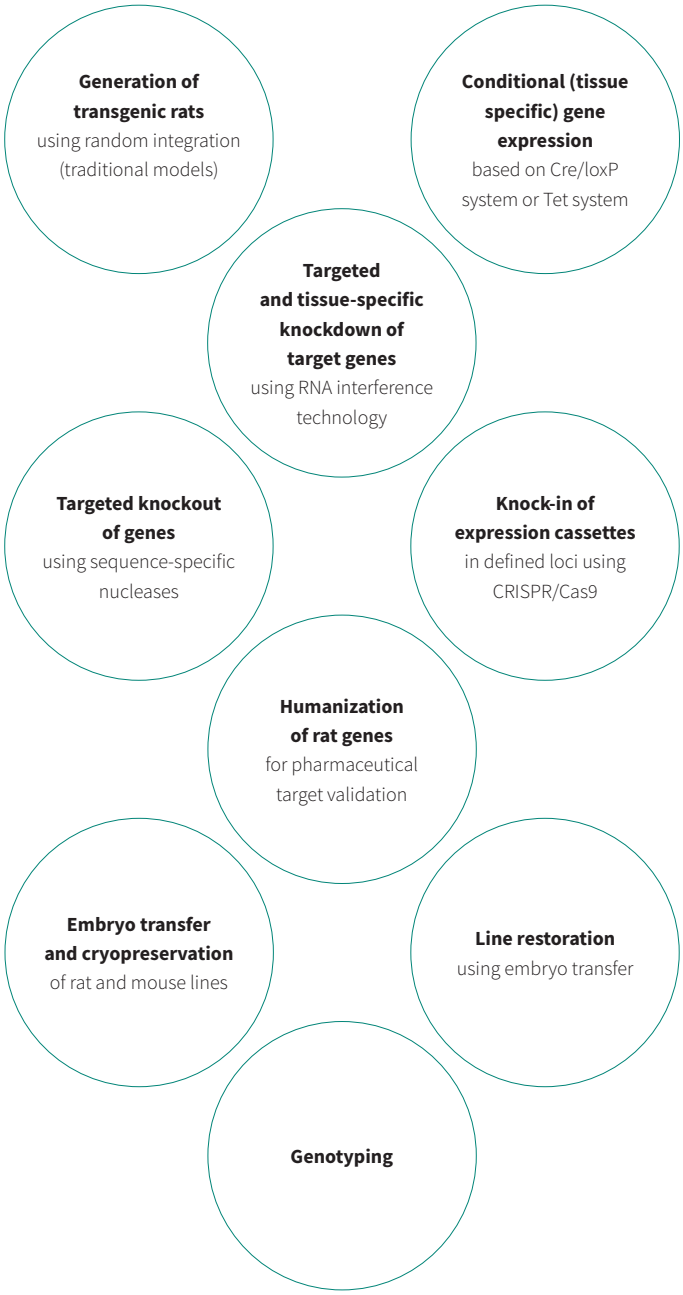
CORE FACILITY TRANSGENIC MODELS

Head: Prof. Dr. Dusan Bartsch

Transgenic models are animals modified by the use of genetic engineering techniques. They are of central importance in basic research.

The Core Facility focuses on the development, production, characterization, and care of genetically modified rodents. They are used in preclinical studies to identify new target molecules that play a role in disorders such as schizophrenia, depression, Parkinson's disease, and dementia as well as in addictive disorders. The focus is on rat models which offer better reliability and predictive relevance for complex human disorders compared to mice. —

TECHNOLOGIES APPLIED



CORE FACILITY ANIMAL LABORATORY

Head: Dr. Anne Stephanie Mallien

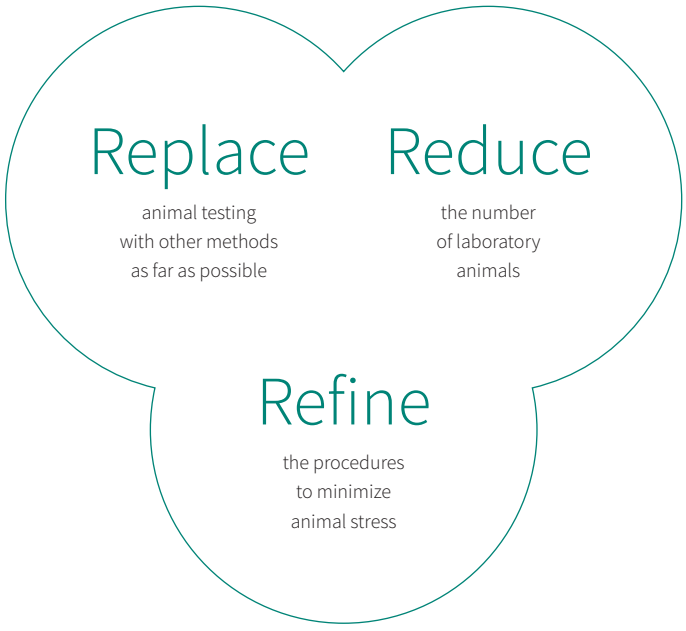
The animal laboratory is a core facility for animal research at CIMH. Rats and mice are bred and cared for here. Great importance is attached to animal welfare and careful handling of the animals.

Animal research is an essential basis of identifying neurobiological mechanisms to better understand mental health problems and develop new drug therapies. The biology and the development of a neurological disorder in humans, mice, and rats are similar. Many psychotropic drugs that are used clinically today for various mental disorders were developed with the help of animal experiments. According to the present expertise, it is not possible to completely replace animal experiments in the field of biological psychiatry by alternative methods.

The animal research projects at CIMH serve basic research as well as translational research and contribute to the prevention, detection, and treatment of mental health problems. Primarily, learning and behavioral investigations are conducted to understand how the brain works and how diseases affect it. Some of the insights gained lead directly to clinical studies or new forms of treatment, for example, in the therapy of severe depressive episodes. Other mental disorders the researchers are working on include anxiety disorders, schizophrenia, dementia, and addictive disorders.

The animal laboratory and the animal research projects are subject to permanent control by the licensing and supervisory authorities (Regional Council of Karlsruhe, City of Mannheim). National and international guidelines, laws, and husbandry standards are strictly observed and implemented. CIMH strives to keep the number of experiments on animals and the stress within the framework of the experiments as low as possible. All animal research projects are thoroughly reviewed with regard to ethical and scientific justifiability as well as in terms of the recognized 3Rs principle.

THE 3RS-PRINCIPLE



DEPARTMENT OF PSYCHIATRY AND PSYCHOTHERAPY

Head: Prof. Dr. Andreas Meyer-Lindenberg

The research activities are grouped into three overlapping theme clusters:

— Etiology and progression of mental disorders over the course of life – from childhood to old age.
— The inherent ability of individual nerve cells or entire brain regions to change their characteristics depending on their use (neuronal plasticity).
— The development and evaluation of treatment methods – molecular level, animal models, studies in humans.

The goal is to connect these three research clusters with clinical practice to better understand and treat mental disorders. The model is being further developed together with the other medical and research departments of CIMH as well as with renowned research institutions in the region and a wide range of national and international cooperation partners. —

Prof. Dr. Andreas Meyer-Lindenberg
Medical Director of the Department of Psychiatry and Psychotherapy

RESEARCH GROUPS OF THE DEPARTMENT

— Emmy-Noether Group Translational Bioinformatics in Psychiatry
Head: Dr. Emanuel Schwarz
— ADHD in Adulthood
Head: Associate Prof. Dr. Esther Sobanski
— Developmental Biology of Psychiatric Disorders
Head: PD Dr. Wolfgang Kelsch
— Clinical Neurosciences of Motor Behavior
Head: Associate Prof. Dr. Dusan Hirjak
— Complex Systems in Psychiatry
Head: Dr. Urs Braun
— mHealth-Methods in Psychiatry
Head: Prof. Dr. Ulrich Ebner-Priemer
— Molecular Schizophrenia Research
Head: Associate Prof. Dr. Mathias Zink
— Neuropsychiatric Sleep Disorders
Head: Dr. Claudia Schilling, Associate Prof. Dr. Michael Schredl
— Physiology of Neuronal Networks
Head: PD Dr. Georg Köhr
— Psychiatric Epidemiology and Demographic Change
Head: Associate Prof. Dr. Siegfried Weyerer
— Animal Models in Psychiatry
Head: Associate Prof. Dr. Peter Gass
— Stress-Related Disorders
Head: Associate Prof. Dr. Michael Deuschle
— Systems Neuroscience in Psychiatry (SNiP)
Head: Prof. Dr. Dr. Heike Tost, PD Dr. Jamila Andoh, Mirjam Melzer
— Translational Research in Psychosis
Head: Prof. Dr. F. Markus Leweke
— Translational Imaging
Head: Associate Prof. Dr. Alexander Sartorius, Dr. Wolfgang Weber-Fahr
— Behavioral Physiology in Psychiatry
Head: Dr. Florian Bähner
— Longitudinal and Intervention Research
Head: Associate Prof. Dr. Christine Kühner
— Mental Health Services Research
Head: Associate Prof. Dr. Hans-Joachim Salize
— Forensic Psychiatry
Head: Associate Prof. Dr. Harald Dreßing
— Sleep Research / Sleep Laboratory
Head: Associate Prof. Dr. Michael Schredl, Dr. Claudia Schilling

Projects

Publications

DEPARTMENT OF CHILD AND ADOLESCENT PSYCHIATRY AND PSYCHOTHERAPY

Head: Prof. Dr. Dr. Tobias Banaschewski

The researchers' goal is to understand mechanisms associated with psychopathology, develop appropriate (explanatory) models, and ultimately translate these findings into age-appropriate, innovative, and personalized therapies. These therapies will include both non-pharmacological and pharmacological approaches and will be designed to meet the individual needs of the patient in an effective and safe manner. To this end, the long-term efficacy and safety of psychotropic drugs in children and adolescents is being investigated.

A special focus is also placed on the investigation of specific and cross-disorder (early) environmental risk and resilience factors for mental health, the understanding of which is important for the development of prevention measures. Their effects on brain functioning and structure are being examined in more detail by the department's research groups. Ecologically valid data from everyday life such as electronic diaries or sensor data are combined with biological and questionnaire data from epidemiological and risk cohorts and clinical cohorts using modern methods. A special focus is on common psychiatric disorders in childhood and adolescence such as attention deficit/hyperactivity disorder (ADHD) and autism spectrum disorders (ASD).

Furthermore, the team is involved in developing evidence- and consensus-based S3 guidelines on ADHD in children, adolescents and adults.

The department has a strong national and international network, with collaboration partners from the European Network for Hyperkinetic Disorders (Eunethydis), the Donders Institute for Brain, Cognition and Behaviour, the Institute of Psychiatry, Psychology & Neuroscience at King's College London as well as with numerous other European research institutes within the framework of various research projects funded by the European Union. —

Prof. Dr. Dr. Tobias Banaschewski
Medical Director of the Department of Child and Adolescent Psychiatry and Psychotherapy

RESEARCH GROUPS OF THE DEPARTMENT

— Attention Deficit/Hyperactivity Disorder (ADHD) in Childhood and Adolescence
Head: PD Dr. Alexander Häge, Dr. Anna Kaiser, Prof. Dr. Sarah Hohmann
— Autism
Head: Dr. Sarah Baumeister
— Clinical Neuroscience of Mood Disorders
Head: Prof. Dr. Argyris Stringaris, Prof. Dr. Dr. Tobias Banaschewski
— Developmental Neuroscience in Psychiatry
Head: Dr. Nathalie E. Holz (from 06/15/2023), Dr. Pascal-Maurice Aggensteiner (interim until 06/15/2023)
— Developmental Clinical Neurophysiology
Head: Prof. Dr. Daniel Brandeis, Dr. Sarah Baumeister
— Pediatric Psychopharmacology
Head: PD Dr. Alexander Häge, Dr. Konstantin Mechler
— Psychobiology of Emotional Learning
Head: Prof. Dr. Frauke Nees

Projects

Publications

DEPARTMENT OF PSYCHOSOMATIC MEDICINE AND PSYCHOTHERAPY

Head: Prof. Dr. Christian Schmahl

Research focusses on the psychopathology of stress- and trauma-related disorders — in particular Borderline Personality Disorder and Post-traumatic Stress Disorder — as well as psychotherapeutic interventions derived from it.

Prof. Dr. Christian Schmahl
Medical Director of the Department of Psychosomatic Medicine and Psychotherapy

The goal is a better understanding of pathomechanisms of emotion regulation and social interaction as well as the influence of stress on cognitive processes.

For this, methods of experimental psychopathology are used, for example, modelling psychopathology in behavioral experiments and investigate them with neuroimaging, peripheral physiology and neurochemical methods. One example is the study of the mechanism behind non-suicidal self-injury, which combines pain research with investigations of emotion regulation in conjunction with tissue injury. This better understanding of disturbed mechanisms helps to develop new psychotherapeutic interventions such as neurofeedback based on real-time fMRI.
A further focus of the research is the investigation of the effect of psychotherapy with neurobiological methods, for example, by examining neural correlates of emotion regulation before and after psychotherapy. —

RESEARCH GROUPS OF THE DEPARTMENT

— Emotion Regulation and Social Cognition
Head: Associate Prof. Dr. Inga Niedtfeld
— Experimental Psychopathology
Head: Prof. Dr. Christian Schmahl
— Body Plasticity and Memory Processes
Head: Dr. sc. hum. Robin Bekrater-Bodmann
— Personality Pathology and Interpersonal Processes
Head: Dr. Johanna Hepp-Kieslich
— Psychobiology of Selfregulation
Head: Dr. sc. hum. Christian Paret
— Psychotherapy research for trauma-associated disorders
Head: PD Dr. Nikolaus Kleindienst
— Social Learning and Person Perception (SLP)
Head: PD Dr. rer. nat. Florian Bublatzky

Projects

Publications

DEPARTMENT OF ADDICTIVE BEHAVIOR AND ADDICTION MEDICINE

Head: Prof. Dr. Falk Kiefer

The research activities focus on neurobiological and psychosocial factors that are significant to the development of dependence diseases (alcohol, nicotine, pharmaceuticals, illegal drugs, pathological gambling, and internet gambling) and to coping with these.

Prof. Dr. Falk Kiefer
Medical Director of the Department of Addictive Behavior and Addiction Medicine

This also includes the significance of trauma. Modern methods such as functional imaging, eye tracking, virtual reality and confrontation techniques (pharmacological and psychotherapeutic), and innovative strategies from care research are used. Pharmaceutical and psychotherapeutic options to prevent relapses are investigated. Another focus is on issues of prevalence and frequency of substance-related dependencies, especially in high-risk groups.

Within care research, the focus is on the development and evaluation of treatment and support services for parents with addictions and their children. Furthermore, perspectives for quality assurance and further training as well as cost aspects and the use of support services are presented.

The focus is in particular on further optimizing and networking the areas of research, care, and further training. The contacts include physicians and therapists in private practice, counselling centers and self-help groups, other inpatient facilities and local initiatives, for example, in primary prevention.

RESEARCH GROUPS OF THE DEPARTMENT

- Integrative Neuroscience of Addictive Behaviors
  Head: Prof. Dr. Bernd Lenz
- Neuroenhancement
  Head: PD Dr. Patrick Bach
- Neuroimaging of Addictive Behavior
  Head: Associate Prof. Dr. Sabine Vollstädt-Klein
- Therapy and Care Research for Addiction Disorders
  Head: PD Dr. Anne Koopmann
- Translational Addiction Research
  Head: Prof. Dr. Karen Ersche, Prof. Dr. Christian P. Müller
- Behavioral Addiction
  Head: PD Dr. Patrick Bach

Projects

Publications

INSTITUTE OF COGNITIVE AND CLINICAL NEUROSCIENCE

Head: Prof. Dr. Dr. h. c. Dr. h. c. Herta Flor

Prof. Dr. Dr. h. c. Dr. h. c. Herta Flor
Scientific Director of the Institute of Cognitive and Clinical Neuroscience

The research focus of the institute is the interaction between the brain and behavior.

In particular, the issue of the extent to which behavior and experiences affect neural processes and how neural processes change behavior and experience is addressed. There is a particular focus on investigating the role of learning and memory processes and associated neuroplastic changes in the brain: What is their role in the development and maintenance of mental disorders such as chronic pain, anxiety disorders, and pathological aging? The scientific work includes experimental psychological approaches, neuropsychological tests, peripheral physiological records, and structural and functional imaging and stimulation methods.

Treatment approaches are also developed and investigated, in particular in light of behavioral therapy, including in combination with pharmacological intervention. These include extinction training, sensory discrimination training, virtual reality applications, neurofeedback, and brain/computer interfaces. —

RESEARCH GROUPS OF THE INSTITUTE

- Brain Stimulation, Neuroplasticity and Learning
  Head: PD Dr. Jamila Andoh
- Psychobiology of Risk Behavior
  Head: PD Dr. Angela Heinrich
- Psychobiology of Pain
  Head: PD Dr. Susanne Becker
- Psychobiology of Emotional Learning
  Head: Prof. Dr. Frauke Nees

Projects

Publications

INSTITUTE FOR PSYCHOPHARMACOLOGY

Head: Prof. Dr. Rainer Spanagel

The institute focuses on addiction research. Animal-experimental and translational research of alcohol and drug addiction are the focus of interest.

Prof. Dr. Rainer Spanagel
Scientific Director
of the Institute for
Psychopharmacology

Since addictive behavior is often associated with other psychiatric disorder pictures (particularly anxiety, depression, and ADHD), these comorbidities are also investigated. The team also researches social exclusion and borderline personality disorders.

Based on preclinical results, there are three objectives:

— *The development of behavioral therapies, pharmacological interventions (for example, the use of psychedelics).*
— *The clarification of long-term neurobiological consequences of drug abuse and binge drinking in adolescents.*
— *The identification of risk factors for addiction and the development of preventative strategies.*

The research work includes all key system levels – starting with epigenetic changes, molecular and cellular changes through to functionality changes of large neuronal networks in the context of behavior. The close collaboration with the Clinic of Addictive Behavior and Addiction Medicine at CIMH, among other things through the Research Group on Translational Addiction Research, enables the preclinical findings to be rapidly checked in a human environment and the fast implementation of the objectives in practice. —

RESEARCH GROUPS OF THE INSTITUTE

— In Silico Psychopharmacology
Head: PD Dr. Dr. Hamid R Noori
— Molecular Psychopharmacology
Head: Associate Prof. Dr. Wolfgang H Sommer
— Neuroanatomy
Head: Dr. Anita C Hansson
— Physiology of Neuronal Networks
Head: PD Dr. Georg Köhr
— Translational Psychopharmacology
Head: Dr. rer. nat. Marcus Meinhardt
— Translational Addiction Research
Head: Prof. Dr. Karen Ersche, Prof. Dr. Christian P. Müller
— Behavioral Genetics
Head: Dr. Ainhoa Bilbao

Projects

Publications

ABTEILUNG BIOSTATISTIK

Head: Prof. Dr. Stefan Wellek

The department advises researchers from all clinical and experimental disciplines at CIMH on trial planning, statistical modelling, and the analysis of the data collected.

Prof. Dr. Stefan Wellek
Acting Head of the Department of Biostatistics

Externally funded projects on epidemiology, clinical therapy research, and fundamental research involving animal experiments are also provided with statistical and methodological support. Through its own statistical research, the team is further developing the spectrum of biometric methods.

In collaboration with Heinrich Lanz Foundation, the foundation professorship in “Biostatistics and Methods of Translational Research” was set up in 2021, and an appointment process to fill the post was started. In 2022, the candidates in the appointment process gave their test lectures and at the end of the year, the appointment committee decided on the ranking of the candidates. The goal is to expand the department in the future and to strengthen its involvement in translational research. A focus should be the statistical and methodological support of studies to optimize therapies and to enable biomarker-based personalized treatment strategies. —

Projects

Publications

DEPARTMENT OF GENETIC EPIDEMIOLOGY IN PSYCHIATRY

Head: Prof. Dr. Marcella Rietschel

The biological and environmental principles of psychiatric disorders and their interactions and the genetic principles of the treatment response (pharmacogenetics) are researched.

Investigations are carried out in the form of individual studies with intensively characterized patients, in large cohort studies (for example, NAKO health study) and in national and international collaboration, including in the leading consortia (for example, PGC, PACE, ENIGMA). Since there are many ethically sensitive points in psychiatric and genetic research, the department works intensively on the ethical questions raised by this research. The research work is based on four cornerstones:

PHENOTYPE CHARACTERIZATION

The department has one of the largest phenotype databases with extensively characterized samples from patients with mental illnesses, their relatives, and control samples from the general population. In recent years, phenotype characterization has been expanded intensively to include the collection of objective phenotypes, with devices such as smartphones, ECGs, and actigraphy devices used. These devices enable psychologically relevant parameters to be recorded closely during the course of the disease, even outside of the clinic, such as daily mood, heart rate, breathing, facial expressions, speech, and exercise.

BIOBANKING

An extensive collection of biomaterials is a requirement for psychiatric and genetic research. The biomaterials are used to research biomarker panels. Since they contain a large amount of information, they are able to show complex biochemical networks and are therefore of potentially greater benefit for diagnosis, prognosis and treatment. The biomaterials include blood, saliva, brain tissue, plasma, serum, hair, stools, and urine, among others.

GENETIC ANALYSES

Research in the department focuses on the search for links between genetic risk factors for mental illnesses and clinical symptoms and disease progression. Genome-wide approaches are used with the inclusion of other molecular biological data (-omics data such as epigenomics, proteomics, microbiomics).

BIOSTATISTICAL ANALYSES

A wide range of latest methods in statistics and bioinformatics are used to evaluate the -omics and phenotypical data. This includes single and multi-marker analyses and processes that enable a genome-wide profile to be created and therefore the wealth of information from the full human genome to be used.

Prof. Dr. Marcella Rietschel
Scientific Director of the Department of Genetic Epidemiology in Psychiatry

Projects

Publications

DEPARTMENT OF GERIATRIC PSYCHIATRY

Head: Prof. Dr. Lutz Frölich

The focus is on translational therapy research in neurodegenerative dementia (primarily Alzheimer's disease) and other geriatric psychiatric diseases (for example, depression and delirium in elderly patients).

Prof. Dr. Lutz Frölich
Head of the Department of Geriatric Psychiatry

This includes the development of non-drug treatment options. Part of the research work is also the validation and use of imaging-based biomarkers for neurodegenerative diseases and cerebrospinal fluid-based biomarkers in dementia.

A further focus is the development of new designs and new outcome tools for clinical studies on patients with dementia diseases. This research content is primarily monitored by national and international multicenter research projects. The team is working on developing diagnostic and treatment guidelines for dementia as part of the implementation of scientific knowledge into medical practice. Treatment studies with innovative Alzheimer's drugs are carried out in collaboration with pharmaceutical companies. In addition to this, a biomarker platform (clinical data, blood, DNA samples, and cerebrospinal fluid) is being used to develop new biomarkers for neurodegenerative diseases.

Projects

Publications

DEPARTMENT OF CLINICAL PSYCHOLOGY

Head: Prof. Dr. Peter Kirsch

The scientists dedicate themselves to researching the causes, different characteristics and the effective psychotherapeutic treatment of mental disorders using empirical methods.

Prof. Dr. Peter Kirsch
Head of the Department of Clinical Psychology

The basis for this task is an understanding of mental disorders and their underlying biological and in particular neurobiological processes that is as comprehensive as possible. Since psychotherapeutic treatment approaches always aim to change pathological brain conditions, the department primarily conducts neuroscientific research. The focuses are social, affective and cognitive information processing and the modulation of these by risk and resilience factors for mental illnesses.

The department also runs a psychotherapeutic university outpatient clinic for research and teaching and is part of the leadership of the Center for Psychological Psychotherapy (CPP) in Mannheim. —

RESEARCH GROUPS OF THE DEPARTMENT

- Biological Psychology
  Head: PD Dr. Martin Fungisai Gerchen
- Experimental Psychology
  Head: Associate Prof. Dr. Stefanie Lis
- Psychology and Neurobiology of Sleep and Memory
  Head: PD Dr. rer. nat. Gordon Feld

Projects

Publications

DEPARTMENT OF MOLECULAR NEUROIMAGING

Head: Prof. Dr. Gerhard Gründer

The department investigates the neurobiological principles of mental illnesses and the mechanisms of action of psychotropic substances.

Prof. Dr. Gerhard Gründer
Head of the Department of Molecular Neuroimaging

Modern imaging procedures are used for this, in particular Positron Emission Tomography (PET) and functional Magnetic Resonance Imaging (fMRI), which can be carried out simultaneously on a modern PET/MR tomography machine.

Another focus of the department is translational and clinical psychopharmacology. The aim is to characterize psychotropic medicinal products on healthy test subjects and on patients with mental illnesses and to evaluate the short-term and long-term effects.

The study of propsychotherapeutic and psychedelic pharmaceuticals such as MDMA and psilocybin in various mental illnesses is very important. A clinical study on 144 patients with treatment-resistant depression started in 2021, aims to provide reliable findings on the efficacy and safety of psilocybin in the treatment of depression. The first randomized, double-blind study with psilocybin in patients with depression in Germany is being carried out with CIMH taking the lead and Charité in Berlin as the second site (see also page 26).

The work also focuses on medicinal product safety and Therapeutic Drug Monitoring (TDM). The aim is to improve the response to treatment with medications in routine clinical care through real personalization. TDM and pharmacogenetic testing are making this possible even today. —

Projects

Publications

DEPARTMENT OF NEUROIMAGING

Head: Associate Prof. Dr. Gabriele Ende

Magnetic Resonance Imaging (MRI) is an important method when it comes to driving forward the development of effective treatments for mental illnesses.

Associate Prof. Dr. Gabriele Ende
Head of the Department of Neuroimaging

Special techniques enable, for example, brain activity to be made visible, metabolic processes in the brain to be examined, and changes in the brain structure to be identified. The scientists in the Department of Neuroimaging are carrying out their own and collaborative projects to acquire data using two 3 Tesla human MRI machines and one 9.4 Tesla small animal scanner. To be able to perform simultaneous measurements on both 3T MRIs at the same time, new hardware for hyperscanning experiments has been developed and implemented. This enables communication between the two people in the tomographs.

In humans, there are three projects. A study was launched in collaboration with the long COVID outpatient clinic at CIMH to investigate the effects of long COVID on brain metabolism. Whole-brain protons, phosphorous MRI spectroscopy, and a cognitive fMRI test are being used for this. Graduate college 2350 is examining brain changes to check the extent to which there are deviations in the volume and functioning of the brain following traumatic experiences during childhood. As part of the SysMedSUDs consortium, an MR imaging project is being carried out to achieve a better understanding of common and different pathomechanisms in people with Substance Use Disorders (SUDs). As the study site and MRI location of the NAKO health study, the department received 2,400 structural data sets and information on physical activity that were collected across the country. This can be used to research the link between sport and brain structure further using a very large sample.

At the start of 2022, entirely new hardware and software for the 9.4 Tesla small animal scanner was launched by the Research Group Translational Imaging and previous measurement protocols and assessment software were tailored to the new options and challenges. The modern equipment of the 9.4T small animal scanner means imaging procedures can be carried out on the brains of conscious mice, thereby providing insights into biochemical processes using spectroscopic imaging. This is used, for example, in the determination of metabolic rates in those with an alcohol dependency (13C magnetic resonance spectroscopy with a prototype cryogenic coil). For the Collaborative Research Center 1158 “From nociception to chronic pain: structure-function properties of neural pathways and their reorganization”, the structural changes in the brain caused by chronic pain and the cellular principles of this are being examined.

In addition to the structural, functional, and metabolic measurements on anesthetized animals, a new focus in collaboration with the Research Group Developmental Biology of Psychiatric Disorders is on the use of complicated functional paradigms to achieve enhanced learning and social hierarchy in conscious, trained animals.

The further development and establishment of innovative evaluation concepts for multimodal imaging is also a cross-species focus within the department.

RESEARCH GROUP OF THE DEPARTMENT

— Translational Imaging
Heads: apl. Prof. Dr. Alexander Sartorius, Dr. Wolfgang Weber-Fahr

Projects **Publications**

DEPARTMENT OF NEUROPEPTIDE RESEARCH IN PSYCHIATRY

Head: Prof. Dr. Valery Grinevich

In its research work, the department focuses on the analysis of the mechanisms of neuropeptide action in the brain.

Prof. Dr. Valery Grinevich
Head of the Department of Neuropeptide Research in Psychiatry

The effects of various neuropeptides within the distinct brain regions controlling stress and fear responses, maternal and social behavior are being studied. The scientists focus primarily on oxytocin, also known as the cuddle or love hormone.

The studies aim to better understand the contribution of the oxytocin system to the pathophysiology of psychiatric diseases and thus optimize treatment. Two directions are followed. In animal models of autism spectrum disorders (ASD), researchers investigate endogenous activity of the oxytocin system in brain regions during actual social behavior. This is to answer the question to what extent the endogenous oxytocin system is altered in ASD patients. Second, appropriate ways to enhance central oxytocin signaling via pharmacological means or sensory stimulation are being sought.

Currently, the focus is on two new research projects, each of which is being carried out by transnational teams with the participation of CIMH. Researchers from Germany, France and Israel are investigating how the sense of space, social hierarchy, and ownership is hardwired in the brain. The researchers assume that this process is regulated by the oxytocin system. The European Research Council (ERC) with the ERC synergy grant funds the research project OxytocINspace (see also page 69).

In a research project of the German-Israeli Project Cooperation (DIP), funded by the German Research Foundation (DFG), scientists are investigating neuronal and molecular changes as a result of social isolation or loneliness. At the interface between social isolation and social connectedness, the neuropeptide oxytocin is central. The researchers expect that the oxytocin system in the brain underlies the positive effects of social touch. This would suggest that touch is particularly important in the endogenous release of oxytocin to alleviate the effects of loneliness and social isolation. The findings could help to develop new therapeutic approaches. _

Projects

Publications

DEPARTMENT OF PUBLIC MENTAL HEALTH

Head: Prof. Dr. Ulrich Reininghaus

The researchers work on the foundations and the transfer of knowledge from social epidemiology to mental health care.

Prof. Dr. Ulrich Reininghaus
Head of the Department of Public Mental Health

The primary objective is to promote resilience and public mental health. The aim is to follow a translational, transdiagnostic, interdisciplinary research strategy in this respect.

The focus of the work is the development and evaluation of new, digital interventions (mHealth) geared to the everyday needs and social contexts of patients. Digital technologies are to be used to integrate psychiatric and psychotherapeutic treatments into everyday life in an individual manner. Examples of this are the projects IMMERSE – Implementing Mobile MEntal Health Recording Strategy for Europe and Real Laboratory Artificial Intelligence for Digital Personalized Mental Health Promotion (AI4U).

IMMERSE is developing digital mobile methods to tailor psychiatric care individually to patients and to include them in decision-making and treatment processes. The real laboratory AI4U is developing and testing an app that adolescents and young adults can use to get personalized digital training to improve their emotional resilience.

The department is also researching the possible causes of mental illnesses (etiology model) and transdiagnostic dimensions of psychopathology in high-risk populations and those with serious mental illnesses. —

RESEARCH GROUPS OF THE DEPARTMENT

- Ecological Translation in Public Mental Health Provision
  Head: Prof. Dr. Ulrich Reininghaus
- Outcome Assessment and Health Economics
  Head: Dr. Jan Böhnke
- Psychiatric and Mental Health Nursing
  Head: Dr. rer. medic. Stefan Scheydt

Projects

Publications

DEPARTMENT OF THEORETICAL NEUROSCIENCE

Head: Prof. Dr. Daniel Durstewitz

The department has three main approaches to research:

STATISTICAL MACHINE LEARNING AND NEURONAL NETWORKS

New machine learning methods for data analysis are developed from a theoretical and statistical point of view. The focus is on the analysis of highly complex and multimodal time series such as brain signals or data from mobile applications. The aim is to identify the dynamic system on which the measurement series observed is based. The main methodological approach to modelling and predicting time series of this type and to integrating this with other information is deep, generative recurrent neural networks (RNN).

COMPUTATIONAL PSYCHIATRY AND BIOMEDICAL APPLICATIONS

The innovative method developed is used both for diagnostic and prognostic purposes in psychiatry and neurology to gain insight into the underlying disease mechanisms. Based on generative RNN, dynamic models of individual brains can, for example, be deduced from functional imaging data (fMRI) or EEG measurements. These system models form the basis for further research work, which can for example predict future behavioral developments and examine the effect of treatment from a prognostic perspective. A current project within a research consortium deals with the reconstruction of neuro-dynamic mechanisms of cognitive flexibility.

BIOLOGICAL ARTIFICIAL INTELLIGENCE

The team is also developing mathematical models of brain functions at a biophysical level and statistical approaches to deduce models of this type directly from experimental observations such as neuroimaging data. These models can be used to gain an insight into the neurodynamic and neurocomputational processes that underlie cognitive functions and their changes in mental illnesses. —

Prof. Dr. Daniel Durstewitz
Head of the Department of Theoretical Neuroscience

RESEARCH GROUPS OF THE DEPARTMENT

— Systems Neurophysiology Group
Head: Dr. Thomas T. G. Hahn
— Computational Psychiatry
Head: Dr. Georgia Koppe

Projects

Publications

HECTOR INSTITUTE FOR TRANSLATIONAL BRAIN RESEARCH

Head: Prof. Dr. Philipp Koch

The institute focuses on using stem cell technology to decipher molecular processes underlying psychiatric disorders.

Prof. Dr. Philipp Koch
Head of the Hector Institute for Translational Brain Research

Human neurons and glial cells generated by induced pluripotent stem cells (iPS cells) serve as models. These iPS cells are collected in advance from blood cells and carry the complex genetic information of each individual patient.

The researchers are investigating how in vitro generated neurons, 3-dimensional brain organoids, and neuronal networks display changes that can be placed in a causal context with psychiatric disorders. To this end, detailed morphological studies of neurons and glial cells and synaptic connections are carried out at different stages of the formation of such networks. In addition, the team is investigating functional and molecular parameters to gain insights into possible neural network dysfunction in patients. The aim is to identify new molecular targets suitable for the drug therapy of psychiatric disorders.

The Hector Institute of Translational Brain Research (HITBR) was established as a partnership between CIMH, German Cancer Research Center (DKFZ) und Hector Foundation II. —

RESEARCH GROUP OF THE INSTITUTE

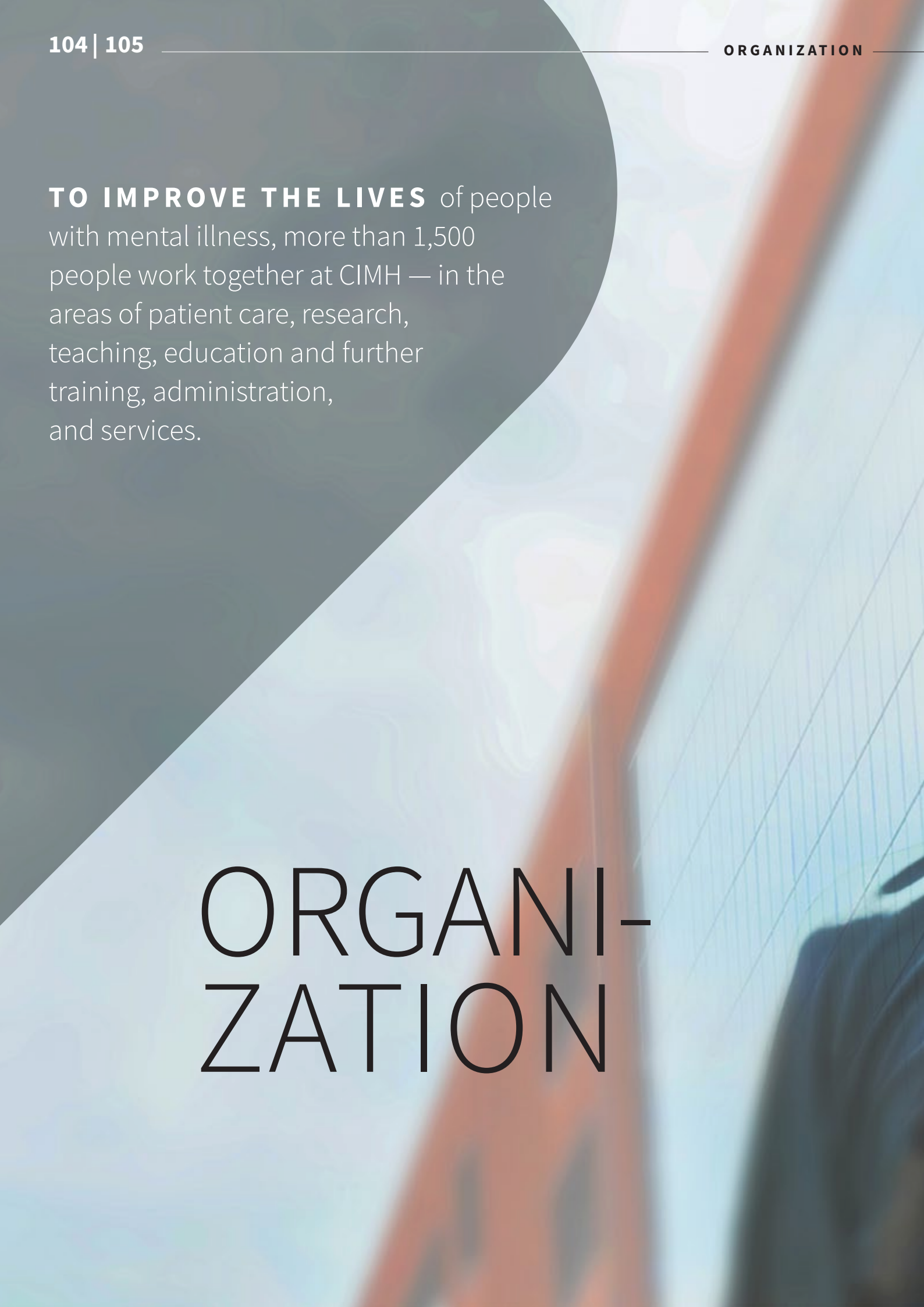
— Developmental Brain Pathologies
Head: Dr. Julia Ladewig

Projects

Publications

TO IMPROVE THE LIVES of people with mental illness, more than 1,500 people work together at CIMH — in the areas of patient care, research, teaching, education and further training, administration, and services.

ORGANI-ZATION



CIMH AS AN EMPLOYER

WORKING TOGETHER IN THE SERVICE OF MENTAL HEALTH

CIMH is a renowned psychiatric and psychotherapeutic clinic and Germany's largest neuropsychiatric research center. This makes us an exceptionally diverse, attractive, and constantly growing employer.

More than 1,500 colleagues in different fields work together in a trusting environment. Our joint mission is to perform excellent research and medicine in the service of people affected by mental illness and society.

Due to the excellent research that is being carried out and the rising need in health care, CIMH has been growing for years and changes dynamically. We develop internal processes with agile methods. We convert and rebuild to create space for more employees and new treatment options.

GROWTH AND GOALS

Around 1,500 colleagues work at CIMH in the fields of health care, research, teaching, administration, and services for mental health – and more keep joining us. With our personal growth, we pursue ambitious goals. This includes the service of providing full near-home care for everyone in Mannheim and expanding our top international position in research. We also want to contribute to establishing a new type of precision medicine in psychiatry and to making new treatment approaches available in everyday treatment environments more quickly.

To help us achieve our goals, we are continuously working on making CIMH even better known as an attractive employer. For example, in 2021 we improved our profile in the field of nursing with our recruitment campaign unbedingtWIR (absolutely us). Through this, we attracted many new nurses, who are an important part of our multi-professional team in health care. In 2022, we designed a new campaign under the motto einzigartigWIR

(uniquely us). It puts the focus on collaboration between professional groups at CIMH and was published in 2023 (see page 20).

RETENTION AND TRAINING

Attracting new employees is a challenge in the strained employment market, and getting them to stay in the long term is also hard. This is why staff retention is particularly important to us. We have introduced an app to make starting at CIMH easier for new colleagues. Our onboarding app gradually provides users with basic information about CIMH over the course of the first working day. In this way, we support an optimal start and contribute to successful integration. One element of staff retention is also the corporate benefits platform. It enables all employees to purchase products and services under special conditions from a wide range of providers.

Education and study, support for the next generation, and further training are also important for the positive development of CIMH and were further expanded in 2022. Four students graduated from the Baden-Württemberg Cooperative State University in collaboration with CIMH having studied business administration specializing in health management. Four nurses take part in the additional psychiatric training for nurses every two years, which CIMH offers in collaboration with the psychiatric centers in Weinsberg, Wiesloch, and Winnenden. CIMH is also a popular cooperation partner for various somatic hospitals and universities as part of the new generalist training in nursing.

Our CIMH Academy offers diverse training opportunities and targeted further training. It offers employees in all professional groups numerous educational measures. For example, there are special course and mentoring programs for professional development among researchers.

SATISFACTION AND HEALTH

The satisfaction of our employees is important to us. We are certain that a balance between work and private life is important to ensure employees are happy and performing at a high level in their job. We support our employees by taking into account individual desires about working hours and work location, and plan working hours and parental leave in a way you can rely on. We collaborate with various facilities on emergency and family care and on creche and kindergarten places.

The health of our employees is just as important to us as the health of our patients. This is reflected in our extensive health services. Health management includes health promotion through discounts in various sporting facilities, and internal workshops at CIMH. Occupational safety in all of its facets is also important: de-escalation management in health care is particularly important to support our employees as well as possible in their everyday working life. The range of measures to support mental and physical health is regularly expanded. Counselling services for colleagues who are caring for relatives or in a difficult life situation were added in 2022.

LEADERSHIP CULTURE AND VALUES

Leadership culture and leadership behavior are very important to CIMH and the development of all employees. We therefore developed leadership principles. They reflect the goals and values of CIMH, and help to orient us in our work:

We help mentally ill people and act in a preventative manner. We are a role model. We work together. We have the strength to trust. We are open to other opinions. We promote personal responsibility through information.

CONCLUSION AND OUTLOOK

Diverse and meaningful tasks make CIMH an attractive employer with future prospects. We promote an innovative and flexible work environment in which our employees can shape themselves and personally develop. Together, we work on our mission of using top-level research and medicine to improve the lives of our patients and strengthen their mental health every day. —

ZI SERVICE GMBH

CEO: Peter Schöfer

RECEPTION AND SECURITY
The reception is staffed around the clock and is therefore the first point of contact for patients and visitors to CIMH. The team also forwards incoming calls and distributes in-house and external mail. In addition, all tasks related to security on CIMH campus are bundled in this area.

CATERING
The catering team takes care of patients' meals, the cafeteria and conference service. All wards on site and in the external CIMH departments are supplied with food and beverages. In doing so, the employees continuously exchange ideas with the nursing staff and ward managers. In addition to standard catering, individual patient requests are taken into account and dietary consultations are offered. The cafeteria offers a variety of food and beverages for breakfast and lunch. Regular special events provide variety. The conference service takes care of catering for internal and external events.

CLEANING, LOGISTICS, AND SERVICES
The cleaning department is responsible for ensuring that the specific hygienic requirements of a hospital are met. The division management constantly exchanges information with the hygiene specialists and works closely with nursing staff and ward managers. For example, cleaning schedules and procedures are coordinated with ward and treatment processes. The logistics and service department ensures that everything is in its rightful place. The team also maintains the outdoor facilities and thus contributes to the public image of CIMH. —

CENTER OF PSYCHOLOGICAL PSYCHOTHERAPY (CPP) MANNHEIM

CPP Mannheim is a core facility at the Institute of Cognitive and Clinical Neuroscience sponsored by the Central Institute of Mental Health. It serves primarily for the postgraduate professional training of psychologists as psychological psychotherapists as well as child and adolescent psychotherapists.

The theoretical and outpatient program is developed jointly with the Otto Selz Institute at the University of Mannheim. The training courses with the procedural focus on behavioral therapy aim to impart extensive knowledge, skills and abilities necessary to apply diagnostics, psychotherapy and rehabilitative measures to patients with mental disorders. This also includes the accompanying concomitant treatment of physical illnesses. The training content is based on current scientific findings and considers ethical and occupational law regulations. CPP Mannheim is a member of <unith>, the union of university courses for psychotherapy. The aim of the non-profit organization is to ensure high quality and up-to-date training of psychotherapists by closely linking state-approved training in psychotherapy and research in clinical psychology and psychotherapy.

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Prof. Dr. Bernhard Eitel
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Representative of the staff of the Central Institute of Mental Health (member of the Supervisory Board according to Section 10 Paragraph 2 i of the Foundation Statute, elected by the employees of CIMH for a period of three years)

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Medical Director of the Clinic of Psychiatry and Psychotherapy at the University Hospital Tübingen

Prof. Dr. Dr. Monique M. B. Breteler
(Neurodegenerative Diseases, Neuroepidemiology)
Director of Population Health Sciences at German Center for Neurodegenerative Diseases, Bonn

Prof. Dr. Wim van den Brink
(Addiction Research)
Professor for Psychiatry and Addiction Research at the Academic Medical Center, University of Amsterdam, Director of Amsterdam Institute for Addiction Research, Scientific Director of the National Committee for the Treatment of Heroin Addiction, Utrecht, the Netherlands

Prof. Dr. Jan K. Buitelaar
(Child and Adolescent Psychiatry)
Head of the Research Group on Neuropsychiatric and Developmental Disorders, Principal Investigator at Radboud University Medical Centre, and Head of Karakter Child and Adolescent Psychiatry University Centre, Radboud University, Nijmegen, the Netherlands

Prof. Dr. Christine Heim
(Psychology)
Head of the Institute of Medical Psychology at Charité, Berlin

Prof. Dr. Heidi Johansen-Berg
(ZIPP)
Director of the Wellcome Centre for Integrative Neuroimaging (WIN) at Nuffield Department of Clinical Neurosciences (NDCN), Oxford, Great Britain

Prof. Dr. Wolfgang Wurst
(Basic Research)
Director of the Institute of Developmental Genetics at Helmholtz Munich – German Research Center for Environmental Health, Neuherberg

STAFF

PROF. DR. ANDREAS MEYER-LINDENBERG ONE OF THE MOST CITED ACADEMICS

Academics whose papers are particularly frequently cited in specialist circles and who are considered to be particularly influential are listed in the "Highly Cited Researchers" rankings every year. In 2022, too, Dr. Andreas Meyer-Lindenberg, Chair of the Executive Board of CIMH and Medical Director of the Clinic of Psychiatry and Psychotherapy, is once again listed as one of the most influential academics in the world. He is on the list for the ninth time in a row, and is listed in the "cross-field" category. This takes into account the impact across disciplinary boundaries. Andreas Meyer-Lindenberg is developing novel treatment methods for serious mental illnesses, in particular schizophrenia. To do this, he uses multimodal imaging, genetics, and techniques for recording environmental conditions to characterize the brain networks that underlie the risk of mental illnesses and cognitive functional disorders.

PROF. DR. ANDREAS MEYER-LINDENBERG BECOMES THE NEW PRESIDENT OF DGPPN

On January 1, 2023, Prof. Dr. Andreas Meyer-Lindenberg took over the office of President of the German Association for Psychiatry, Psychotherapy and Psychosomatics. He has been elected President of the association until the end of 2024. Meyer-Lindenberg's goal for his time in office is among other things to further develop psychiatric and psychotherapeutic care. He is therefore backing the increased use of digital therapies. He also believes it is important for those providing treatment and the health care system to respond better to future crises and emergencies by focusing on ecological psychiatry, strengthening translational and participative research, and last but not least by making further efforts to attract qualified young psychiatric professionals.

PROF. DR. ULRICH REININGHAUS ELECTED TO THE EXECUTIVE BOARD OF BVPG

The new Executive Board of the Federal Association for Prevention and Health Promotion (Bundesvereinigung Prävention und Gesundheitsförderung e. V., BVPG) was elected on May 22, 2023 for three years. Prof. Dr. Ulrich Reininghaus, Head of the Department of Public Mental Health at CIMH, will bring his varied expertise and both national and international research experience to the committee. The BVPG is a voluntary umbrella association with 136 organizations that are currently members, including federal associations from the health care sector that focus on the area of "prevention and health promotion". The BVPG contributes significantly to the specialist and political discussion and to the practical implementation of prevention and health promotion in Germany.

REPRESENTATIVE OF THE STAFF ELECTED TO THE SUPERVISORY BOARD

The CIMH statutes provide for the Supervisory Board for the Institute to have a representative of the employees as a member. Dr. Isabella Wolf was re-elected by CIMH employees as the staff representative to the Supervisory Board on November 7, 2022. The period of office is three years. Isabella Wolf has been Chair of the Staff Council at CIMH since 2019.

DIRECTOR OF NURSING CLAUS STAUDTER RETIRES

After 38 years at CIMH working in various positions, Director of Nursing Claus Staudter retired at the end of 2022. The registered nurse specializing in pediatric and adolescent psychiatry took on various leadership positions in the Clinic of Child and Adolescent Psychiatry and Psychotherapy in the 1990s. He became Deputy Head of the Nursing Service in 2013, Deputy Director of Nursing in 2016, and Director of Nursing in 2017. An influential character is leaving CIMH with Claus Staudter's departure. However, he will remain connected to the Institute as a freelance trainer and de-escalation consultant. His previous Deputy, Doris Borgwedel, took over as Head of Nursing on January 1, 2023. —

POSTDOCTORAL QUALIFICATIONS

Associate Professor Dr. Jamila Andoh, *Head of the Research Group on Brain Stimulation, Neuroplasticity and Learning and the Research Group on Systems Neuroscience in Psychiatry (SNiP)*, completed her doctorate in the field of experimental psychiatry, biological psychology and medical psychology in July 2022 with a thesis entitled "Neural origins and neuromodulation of phantom limb pain". She was awarded the title of Privatdozent (associate professor).

Associate Professor Dr. Alexander Häge, *Head of the Research Group on Pediatric Psychopharmacology and the Research Group on ADHD in Childhood and Adolescence,* completed his doctorate in the field of pediatric and adolescent psychiatry and psychotherapy in July 2022 with a thesis entitled "Drug interventions in children and adolescents with attention deficit hyperactivity disorders (ADHD) and comorbid disorders". He was conferred the title of Privatdozent (associate professor). Alexander Häge is also Assistant Medical Director of the Clinic of Child and Adolescent Psychiatry and Psychotherapy.

Associate Professor Dr. Gordon Feld, *Head of the Research Group on Psychology and Neurobiology of Sleep and Memory (Emmy Noether-program)*, completed his doctorate in the field of psychology in December 2022 with a thesis entitled "How does sleep select memories for long-term storage?". He was conferred the title of Privatdozent (associate professor).

Associate Professor Dr. Martin Fungisai Gerchen, *Head of the Research Group on Biological Psychology*, completed his doctorate in the field of psychology in December 2022 with a thesis entitled "Psychology, the brain and belief". He was conferred the title of Privatdozent (associate professor).

Associate Professor Dr. Robin Bekrater-Bodmann, *Head of the Research Group on Body Plasticity and Memory Processes*, completed his doctorate in the field of neuropsychology, clinical psychology, and medical psychology in January 2023 with a thesis entitled "Phantoms on the track – experience of the body and pain following an amputation". He was conferred the title of Privatdozent (associate professor).

Associate Professor Dr. Florian Bublatzky, *Head of the Research Group on Social Learning and Person Perception,* completed his doctorate in the field of neuropsychology and clinical psychology in April 2023 with a thesis entitled "Friend or foe? Psychobiological mechanisms of social risk and safety learning". He was conferred the title of Privatdozent (associate professor).

ADJUNCT PROFESSORS

Dr. Inga Niedtfeld, *Head of the Research Group on Emotion Regulation and Social Cognition,* was awarded the title of Adjunct Professor by Heidelberg University in January 2022. She is also the research coordinator at the Clinic of Psychosomatic Medicine and Psychotherapy.

NEW SENIOR PHYSICIANS

CLINIC OF PSYCHIATRY AND PSYCHOTHERAPY
Dr. Stefan Fritze *(Senior Physician in the track unit for affective disorders, BD2-A, and the day clinic in general psychiatry, TK-A)*

CLINIC OF CHILD AND ADOLESCENT PSYCHIATRY AND PSYCHOTHERAPY
PD Dr. Alexander Häge *(Assistant Medical Director)*, **Dr. med. Konstantin Mechler** *(Senior Physician in the D-KJ ward)*, **Dr. med. Juliane Rausch** *(Senior Physician of the Adolescent Center and the university outpatient clinic of the Adolescent Center)*

CLINIC OF PSYCHOSOMATIC MEDICINE AND PSYCHOTHERAPY
Dr. med. Suna Su Aksay-Gut
(Senior Physician in the PSM ward)

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