Zentralinstitut für
Seelische Gesundheit

Landesstiftung
des öffentlichen Rechts

ANNUAL REPORT

EXECUTIVE BOARD

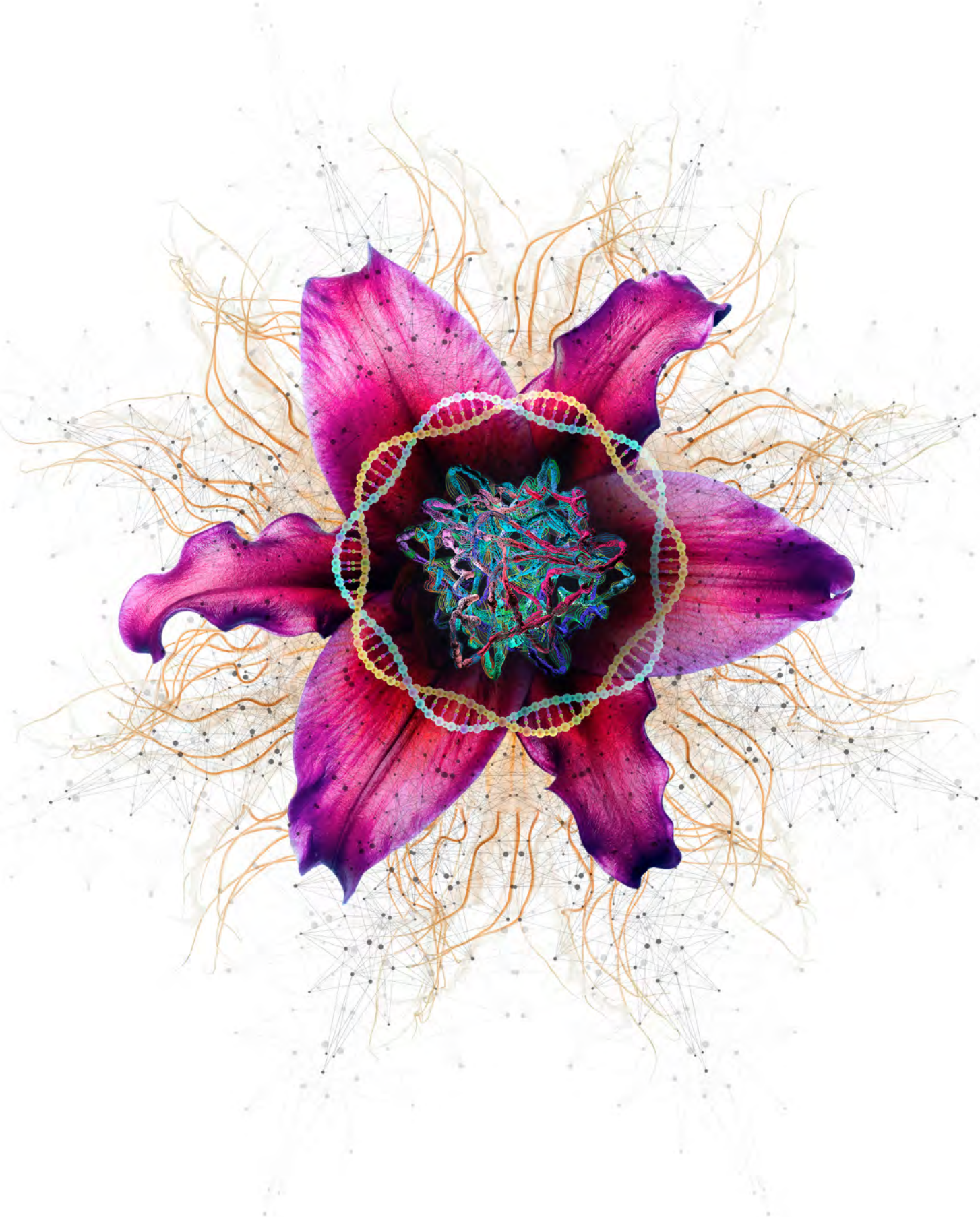
IN FOCUS

PATIENT CARE

RESEARCH

Departments and Institutes

ORGANIZATION



EXECUTIVE BOARD

EXECUTIVE BOARD REPORT

At CIMH, 2021 was still very much shaped by the corona pandemic. We were still, however, able to have a successful year. Thanks to the high levels of commitment demonstrated by all of our employees, we were able to continue to care for our patients. We have developed some very promising perspectives in our research: in the future CIMH will be a location for the new German Center for Mental Health and part of the Health & Life Sciences Innovation Campus.

In light of the corona pandemic, vaccinations were a critical step back towards normality. First vaccine doses were available for our particularly vulnerable patients and employees in these areas from January. In the subsequent weeks and months, our vaccine team was then able to offer all employees a protective vaccine at CIMH itself. Pleasingly, the vaccination rate quickly hit high levels, and there were no serious infections among our patients.

Our Corona Task Force is continuing its work in close collaboration with the Hygiene Officer and Occupational Safety Officer and with the Health Department of the city of Mannheim very effectively to this day. Thanks to the commitment and flexibility of all colleagues and the Staff Council, we were able to meet the challenges of the pandemic successfully. We were still able to be there for our patients and continue our wide-ranging research activities. We are very proud of this excellent collective achievement.

CIMH was able to make an important therapeutic contribution within the context of the pandemic by establishing a long COVID consultation hour and specific treatments in the occupational therapy outpatient clinic. Neuropsychiatric differential diagnosis is a relevant component of the treatment of the novel long COVID syndrome. We have been offering this since 2021.

CIMH BECOMES THE LOCATION FOR THE NEW DZPG

One highlight from 2021 and a promising future prospect is CIMH involvement in the new German Center for Mental Health (Deutsches Zentrum für Psychische Gesundheit, DZPG) announced by the Federal Ministry of Education and Research. Following a challenging international assessment process, the decision was made that CIMH would form one of the locations of the global network structure of the DZPG together with partners from the universities of Heidelberg and Ulm. Together, we will bring the unique technological infrastructure of our Center for Innovative Psychiatry and Psychotherapy Research (CIPP) and the expertise of our research team in the fields of psychotherapy, trauma, and care research. You can find out more about this from page 12.

Based on the classic figures, 2021 once again demonstrated the capacity of the researchers at CIMH. The number of publications rose compared with previous years, as did the total number of impact factors and the third-party funds applied for (see page 8).

CIMH RESEARCHERS ARE COORDINATING A NEW 3R CENTER

Even a reduction can be a success, particularly if it is associated with improvements in quality. One example is the research with animal models in psychiatry, which remains essential. CIMH has become a significant part of the new 3R Center Rhine-Neckar. 3R stands for the guiding principle of animal research in terms of protecting animals: Replace, Reduce, Refine. Together with partners from the Medical Faculty Mannheim and Heidelberg University, researchers at CIMH wanted to further reduce the number of laboratory animals used and reduce the stress on them by networking and jointly optimizing methods and measuring processes. Read more about this from page 22.

CIMH IS PART OF THE HEALTH & LIFE SCIENCES INNOVATION CAMPUS

The health and life sciences research landscape in the Rhine-Neckar region is on the move and showing exciting prospects for the future. CIMH has become part of the Health & Life Sciences Innovation Campus. The aim of this alliance of leading research facilities is to form an excellence region through joint projects with the support of the state government and the cities of Mannheim and Heidelberg, that is perceived as such in the international arena. Find out more about this on **>health-life-sciences.de.**

UNBEDINGT WIR – FOCUSING ON NURSING AT CIMH

Of course, here at CIMH we know that nursing in psychiatry is something special, but it was about time that we told the general public, with the goal of recruiting new colleagues for our team, too. Under the motto *Unbedingt wir (Absolutely us)*, you can now see and hear what our colleagues in the nursing and education service are excited about when it comes to their work and what motivates them. We were very pleased with the very positive internal and external response to the campaign. Learn more about expanding our nursing team from page 14.

SUPPORT FOR MENTALLY ILL PARENTS AND THEIR CHILDREN

We consistently implement good ideas about how to improve care in line with our mission. This is evident, for example, from the *Stark im Sturm (Strong during a Storm)* project. In a relatively short amount of time and during the pandemic, a multidisciplinary team at CIMH was able to establish structures that ensure that the special needs of the children of our patients are seen and are taken into account. You can learn more about the challenges associated with this and how far the networking that is part of this initiative has progressed from page 19.

TOGETHER, WE ARE DEVELOPING CIMH

The topics discussed here are selected examples of our work in 2021. They are representative of a number of other projects and initiatives, not to mention the important day-to-day business of health care, research, and teaching. The services that we provide together at CIMH remain tremendously diverse. We continue to grow and we are accelerating digitization in health care and research. We are continuing to develop our processes and networking. We promote the ideas and initiatives of young scientists in a targeted manner. We are increasing our efforts to ensure environmental protection and sustainability in our day-to-day work. We are planning and testing extensive restructuring of the interface between health care and research. We will always pursue our overarching objective to improve and accelerate translation, in other words the transfer of new research results into therapeutic care for the benefit of our patients.

We also want to continue our path of financial stability. In the coming years, too, we want to show that we can achieve this together with our partners in the challenging university environment.

All of this is only possible because we are able to rely on highly motivated and exceptionally well-qualified employees in all areas at CIMH and ZI Service GmbH. They are the CIMH and they shape it with the work they do each day. They think and act for the benefit of our patients and help us, as the Executive Board, to do the same. Our deepest gratitude goes to them.

For us, CIMH remains the most exciting place imaginable for diverse, innovative, and meaningful activities. This will become clear over the following pages of this annual report. Happy reading!

Kind regards,

Prof. Dr. Andreas Meyer-Lindenberg
Chair of the Executive Board

Dr. Matthias Janta
Commercial Managing Director

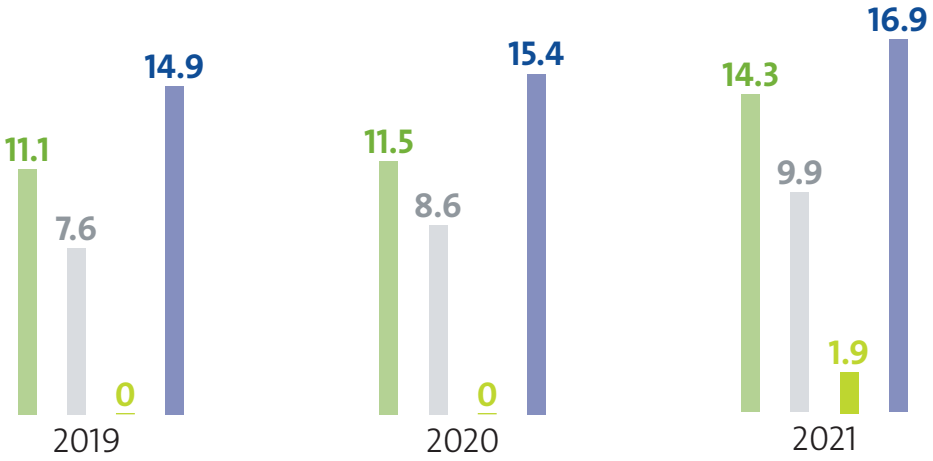
FAREWELL FROM DR. HANS MARTINI

On June 19th, 2021, the co-founder of CIMH, Dr. Hans Martini, died at the age of 93. As Mayor of Social Affairs of the city of Mannheim, he was heavily involved in the founding of the Central Institute of Mental Health Foundation. With the death of Dr. Hans Martini, we are losing a patron who has been supporting and shaping the development of CIMH since the very start. We will remember him and his long-lasting effect on the CIMH with gratitude.

DEVELOPMENT FIGURES

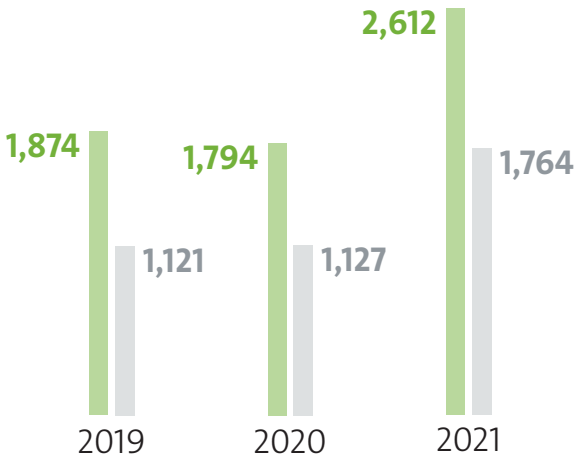
RESEARCH

THIRD PARTY FUNDING AND OPERATING FUNDS IN MILLION EUROS (ROUNDED)



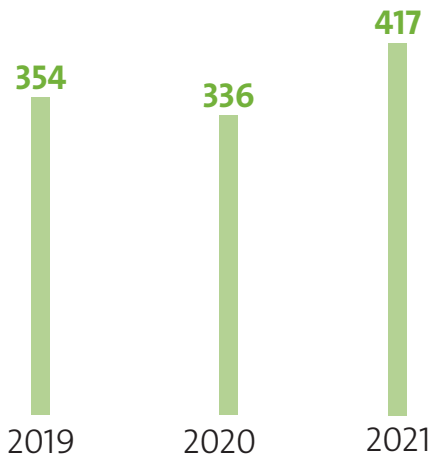
project third-party funding unweighted | thereof BMBF + DFG
DFG and state large-scale equipment + construction | operating funds of the federal state of Baden-Württemberg

IMPACT FACTORS



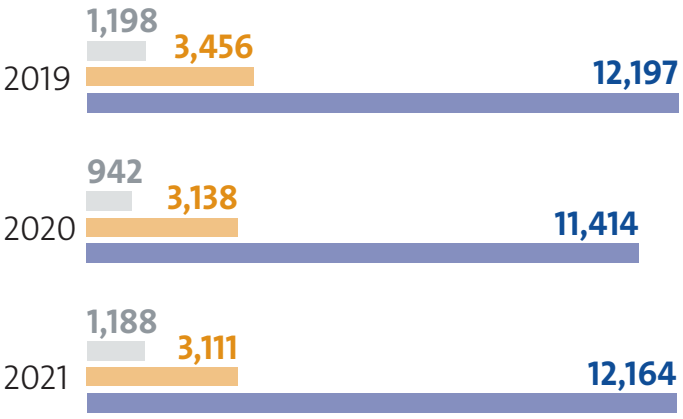
total | corrected by co-authorships

NUMBER OF PUBLICATIONS



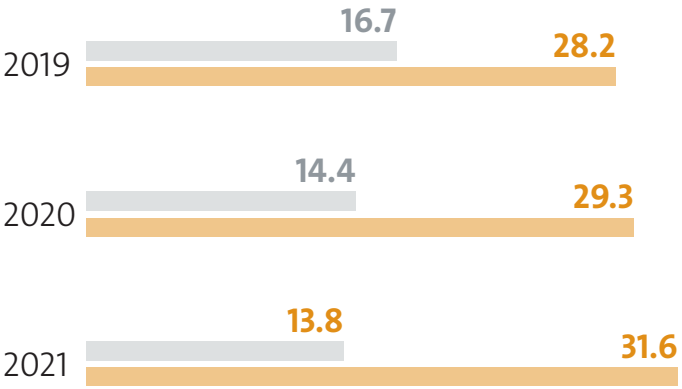
PATIENT CARE

PATIENT NUMBERS



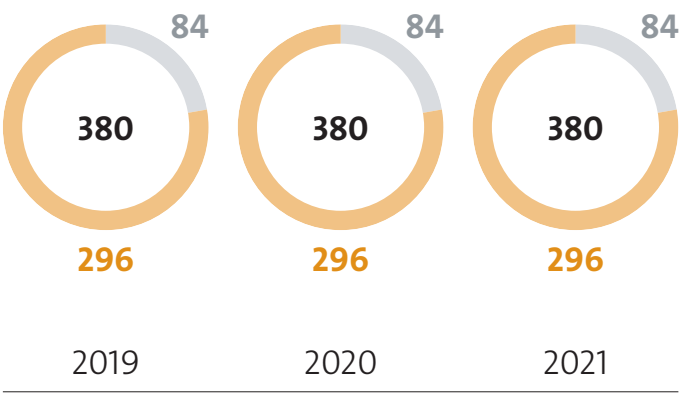
day care | inpatient | outpatient

AVERAGE LENGTH OF STAY IN DAYS



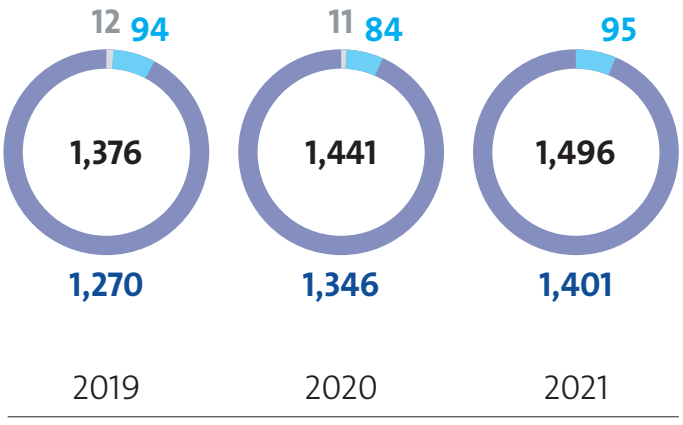
day care | inpatient

BEDS AND TREATMENT UNITS

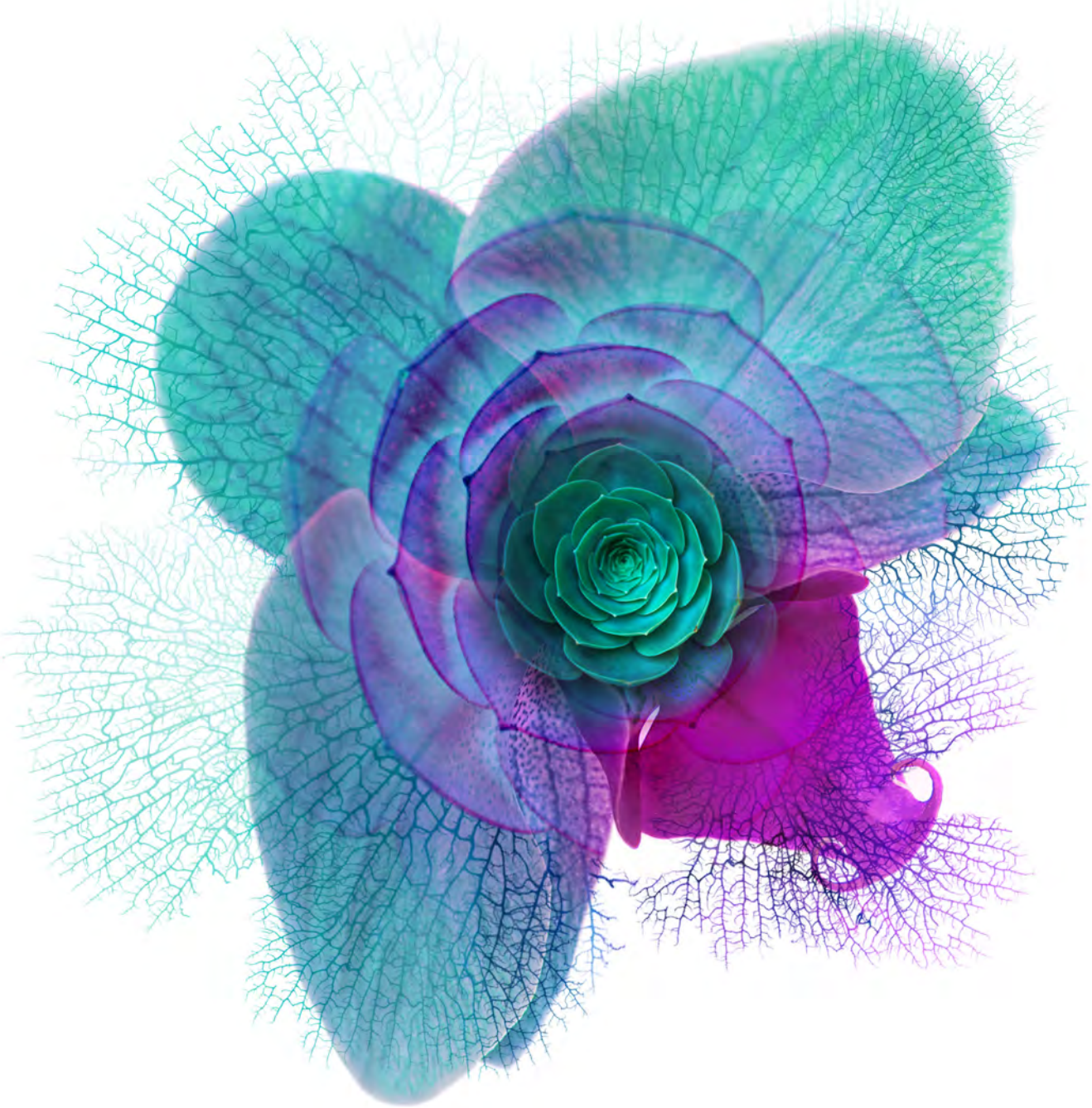


inpatient | day care | total

EMPLOYEES

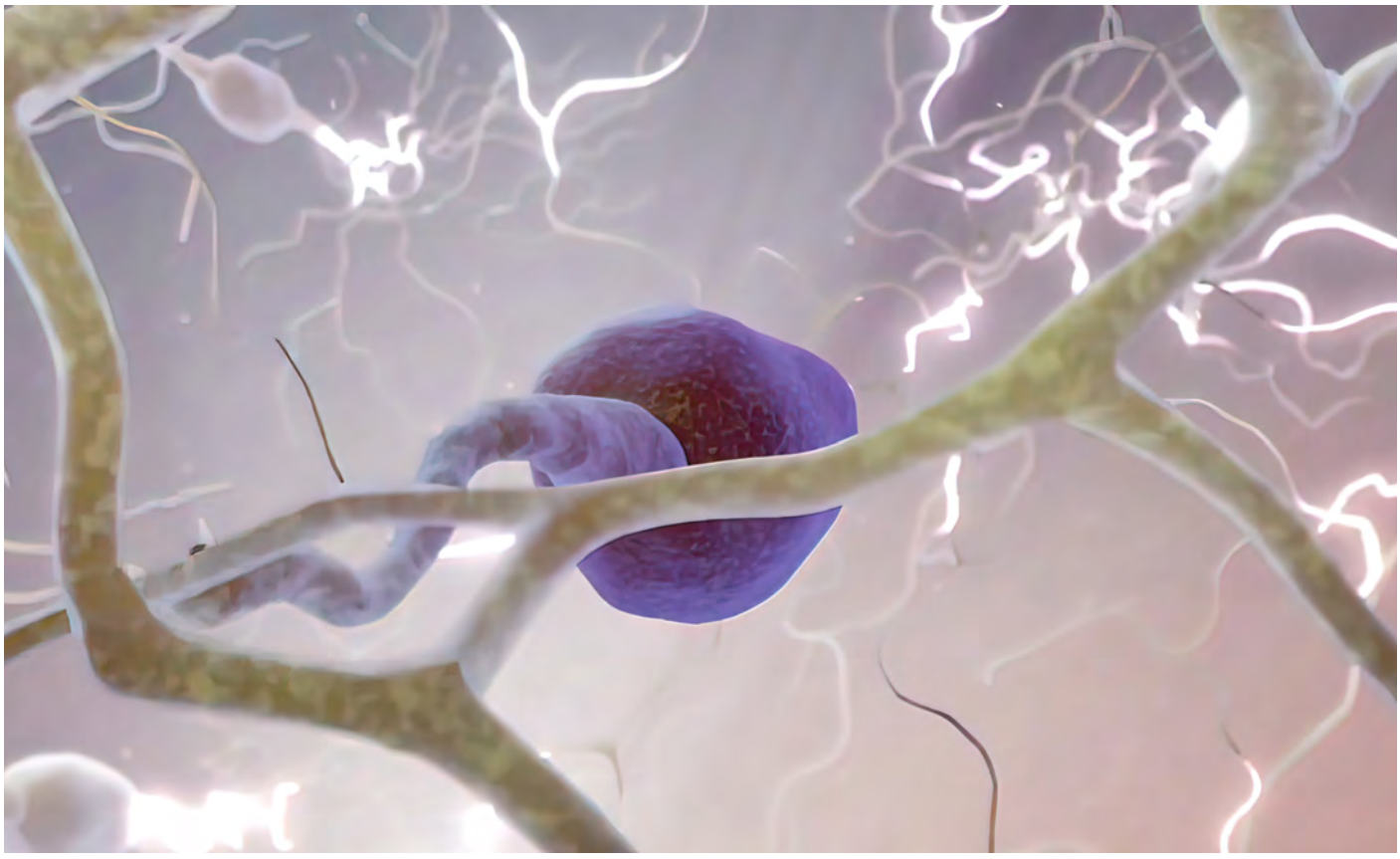


CIMH | CIMH Service | MVZ* | total
* Subsidiary of CIMH until 12/31/2020



IN FOCUS

EXCELLENT RESEARCH IN THE GERMAN CENTER FOR MENTAL HEALTH



The ZIHUb research alliance, coordinated by the Central Institute of Mental Health, is the location for the new German Center for Mental Health. Together with its partners from the universities of Heidelberg and Ulm, CIMH qualified in a challenging international assessment process, and won over the judges with its broad expertise. The concept is based on improving the diagnosis, treatment, and prevention of mental illnesses in a tangible manner.

In 2020, the Federal Ministry of Education and Research announced the founding of a German Center for Mental Health (Deutsches Zentrum für Psychische Gesundheit, DZPG), and in this way wants to enable new medical research results to be applied more quickly to develop more effective prevention, diagnosis, and treatment methods.

Based on the model of the existing German centers of health research for cardiovascular diseases, infectious diseases, lung diseases, cancer and diabetes, and neurodegenerative diseases, the German Center for Mental Health will also be divided across several locations across Germany. The goal is to bring together

most high-performing German facilities in the field of mental health research and to increase the intensity of collaboration between scientists from different fields and areas of focus and to help them coordinate with one another. The ZIHUb research alliance, coordinated by the Central Institute of Mental Health, won out in the two-part selection process, which ended in May 2022. In addition to Mannheim/Heidelberg/Ulm, the areas Berlin/Potsdam, Bochum/Marburg, Halle/Jena/Magdeburg, Munich/Augsburg, and Tübingen were also selected as DZPG locations.

"Since it was founded, CIMH has stood for innovative, treatment-guided research of the fundamentals of care," says Prof. Dr. Andreas Meyer-Lindenberg, Director and Chair of the Executive Board at CIMH and location coordinator for the ZIHUb research alliance. "We are delighted that, together with our partners from Heidelberg and Ulm, we now have the opportunity to bring our expertise into the new German Center for Mental Health." There will be three areas of focus to the DZPG in the future: risk and resilience in mental and physical health throughout life; innovative, individualized interventions; and prevention, recovery, and participation in a living environment. Three flagship projects will also be defined which combine these areas of focus: firstly urban mental health; secondly early detection, intervention, and prevention; and thirdly expanded psychotherapy. An important part of the DZPG is the continuous collaboration with patients and relatives to ensure that the most relevant research results possible are obtained. This three-part work was already intensive during the application phase, and builds on the Patient Council at CIMH.

In the location selection process, researchers from Mannheim, Heidelberg, and Ulm were able to propose convincing projects and structures that could, when resources are combined, significantly accelerate the translational circulation in psychiatry – from research into individual risk and resilience factors through to the development of new treatments, and on reaching large parts of the population using mobile digital technologies – thereby measurably improving the mental health of the population. Twenty-two scientists at CIMH, seven researchers from Heidelberg University and seven from Ulm University were heavily involved in the application.

Social interactions in patients with previous trauma and in adolescents were the focus of the research program proposed by the ZIHUb alliance. Together with the Center for Innovative Psychiatry and Psychotherapy Research (CIPP), which was created in 2019, CIMH is bringing excellent conditions into the collaboration. The technology infrastructure at CIPP (see page 60) forms the basis to develop tailored, individual treatments for psychiatric patients, and as a research infrastructure is available to all of the DZPG scientists. Researchers can use a unique combination of tools to implement a fundamentally new translational, university approach to human research in psychiatry.

The broad expertise of CIMH as Germany's largest psychiatric research facility is supplemented by the excellence in psychotherapy research, trauma research, and care research being carried out at the partner locations in Heidelberg and Ulm. In addition to this, there are also the research skills of the German Cancer Research Center in the field of the investigation of cellular and molecular biomarkers. All of the partners are linked in intensive collaborations over many years.

Once a year, the researchers in the ZIHUb alliance meet for a retreat to discuss overarching research topics. In 2021, the DZPG was the crucial topic at the meeting, and the researchers from CIMH, Heidelberg University, and Ulm University agreed the topics to be included in the research program to be brought to the DZPG.

The concerns and perspectives of patients themselves hold particular weight in the conceptual approach. The Patient Council at CIMH was therefore included in the process. The research carried out by the DZPG should ultimately end up in the world of the patients and their relatives. The provision of information about mental illnesses, destigmatization, and the communication of knowledge about help and self-help, including using digital infrastructures, is a further area of focus of the joint work program. "It is important to provide better information about the meaning of mental health in society and the perspectives of those affected," says Ronald Fischer, Chair of the Patient Council at CIMH and one of the speakers on the Trialogical Council of the DZPG. He also says a more sensitive approach to mental illness is needed so those who are affected seek help promptly.

NURSING IN PSYCHIATRY IS SOMETHING SPECIAL

More than 400 nurses work at CIMH in multi-professional treatment teams. They actively shape the therapeutic relationship and therefore the success of treatment. They can best describe what makes nursing in psychiatry so special, so in the *Unbedingt wir (Absolutely Us)* campaign published in 2021, nurses give their very personal insights into their work and their motivation.

Seelische Wunden brauchen Zeit zum Heilen. Und die nehme ich mir für meine Patientinnen.

"What we do here can really change lives, and that's great." That is how Nadine Schenkel describes what the work she has been doing at CIMH for almost 20 years means. In this time, she has been able to experience a great number of successes together with patients. She runs several wards for adults and loves the variety and the versatility that her job offers.

CIMH treats patients of almost all ages: children and adolescents, adults, and elderly people. Each and every one has a personal history, and his individual strengths that can be worked with. The nursing and educational service takes on a highly responsible role in the multi-professional teams made up of doctors, psychotherapists, sports therapists, occupational therapists, physiotherapists, educators, and social workers.

TIME TO BUILD RELATIONSHIPS

A good therapeutic relationship is important for the treatment to be successful. It takes time to bring the often hidden causes of a mental illness to light and to process them. Compared to somatic clinics, nurses in a psychiatric clinic have more time to talk to patients in detail and get to know them better. Kerstin Scheller-Fischer, who works on a ward for children and adolescents, describes how important the human factor is in psychiatric care: "I have a good rapport with girls with eating disorders. When they reveal what they are feeling and notice that there is someone there who is helping them with their emotions, that is a deep moment. This relationship work has always stimulated me and it gives me a great deal." Scheller-Fischer has been working at CIMH for more than 20 years, and values the combination of professional treatment standards with authentic, personal care.

The nurses at CIMH work on the basis of the principle of reference-based nursing. This means that a nurse is responsible for the continuous nursing and interpersonal relationship process. They work closely with everyone who is involved in the treatment and ensure that the patient's individual needs are taken into account.

AN ENVIRONMENT IN WHICH TO DEVELOP

Anyone who wants to can continue to develop their skills and their area of activity. "If you're motivated to do it, you can do anything here," says Cem Demir. The 29-year-old has been working at CIMH since 2016, initially on a ward in the Clinic of Addictive Behavior and Addiction Medicine. After two years, he switched to running a team on the intensive care and admission ward, where people in acute mental crises are treated. "The route to this leadership role showed me that the effort you make is seen and recognized." In addition to managing the team, Demir also did an additional course in de-escalation training alongside his work, and he now trains his colleagues on de-escalation techniques – an important skill for nurses working in psychiatry.

De-escalation training is compulsory for employees who are in direct contact with patients. It prepares them for challenging situations in everyday life in a psychiatric clinic, and they learn to cope with them. Courses at CIMH Academy teach interested parties specialist knowledge on other topics such as nutrition, pain, dementia, and crisis intervention discussions. The training offered as part of personnel development ensures that nurses are able to develop themselves on both a professional and personal level.

In annual discussions with employees, the managers clarify individually what the next steps are and what may need to be changed. "For me, it's important to show every colleague that I'm grateful that they're there. I want to show them the many careers that are possible at CIMH, whether this is taking on a leadership role, coordinating the practical training of the trainees as a practice supervisor, or working in research," says Nadine Schenkel.

PREPARING FOR NURSING IN THE FUTURE

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. "Our colleagues are expanding their ability to make patient-focused decisions and use nursing methods in a targeted way. We experience them bringing new ideas that the teams and our patients benefit from" – the Deputy Director of Nursing, Doris Borgwedel, is convinced of the benefits. A new outpatient care service in which nurses take on a critical and responsible role was introduced by CIMH in 2020: in ward-equivalent treatment, patients are treated at home in their usual living environment by a multi-professional team. There is a nurse at every visit.

STRONG AND UNDERSTANDING TEAMS – WITH A GOOD SENSE OF HUMOR

Patients being treated in a psychiatric ward are in crisis or experiencing acute mental crises. A working area of this type requires authenticity, understanding, tolerance, and sensitivity from fellow employees. The chemistry in the team needs to be right, too. "We have great colleagues and a fantastic cohesion. That's worth a great deal, and helps you to get through even stressful phases of life well. Each person does their own part, we talk a lot, are there for one another, and stand up for one another. I'm really proud of my team," says Janine Marcy, Nursing Manager of the geriatric psychiatry wards, who has been with CIMH since 2007.

Individuality and diversity are the team's strengths. Each person has their own way of dealing with challenges, and everyone gets support and advice. "We're very enthusiastic about our work, and everyone is listened to. Of course there's also humor in it, because it's important to be able to laugh with one another and with the patients," emphasizes Cem Demir.

In drei Jahren vom Azubi zum Teamleiter.

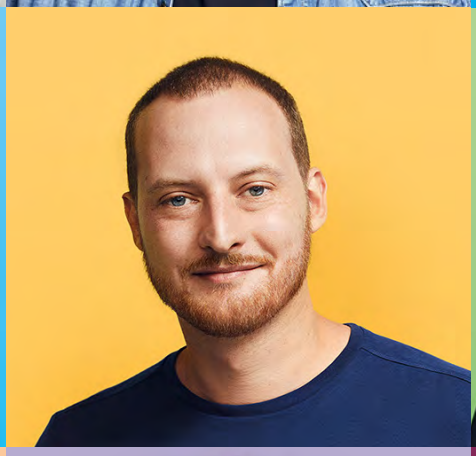
Wer motiviert ist, kann hier alles schaffen.

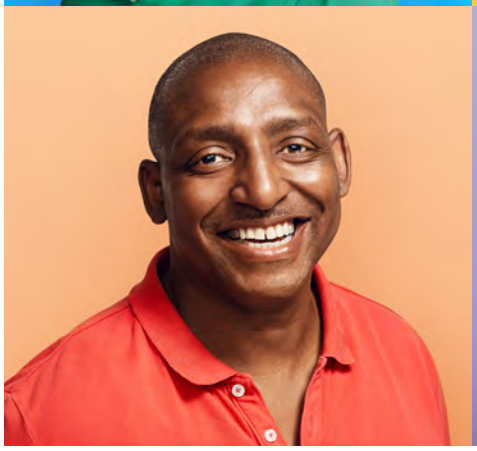
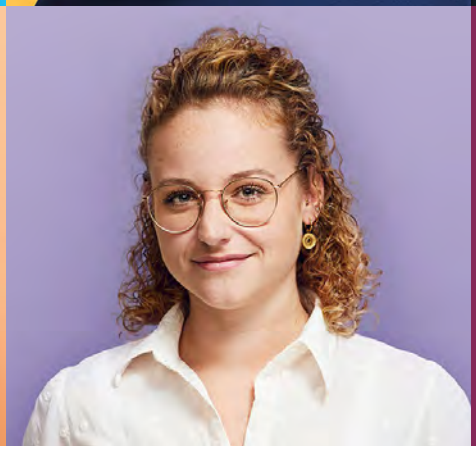
They are the faces of the *Unbedingt wir* campaign:
Nadine Schenkel, Kerstin Scheller-Fischer, Jürgen Reitzig, Cem Demir, Faruk Göktan, Simone Schmidt, Sven Mengel, Janine Marcy, Donald Staley and Clara Horwedel.









Ich bin persönlich gewachsen. Viele Dinge sehe ich jetzt mit anderen Augen.

INDIVIDUAL SOLUTIONS FOR EVERY LIFE SITUATION

A healthy balance between work and private life ensures the necessary offset against the challenging work and improves employee satisfaction. In nursing in particular there are many ways to take into account individual wishes. "As a manager, it's important to me to find tasks and working hours models for the colleagues in my team that fit well with the respective strengths and personal needs," says Nadine Schenkel. Parents can decide to work the early shift, late shift, or night shift, depending on what their childcare situation is like.

To reduce the strain on the ward teams, the colleagues from the KNAPP Team (Emergency Nursing Staff Shortage Concept) are also available. The experienced nurses on this team provide cover for unplanned staff absences, for example if someone falls ill, based on a reliable duty roster. This ensures that care is provided for the patients while also meaning that colleagues who are taking free time or rest time are less frequently disturbed. "This concept accommodates colleagues who want variety and those who value reliability because of their life situation. We have a lot of positive feedback about this mode," says Nursing Director Claus Staudter.

WORK WITH MEANING

The nurses at CIMH are close to the people, support them a little on their difficult path, enable patients to make positive changes in their lives, and experience a great deal of gratitude. "With the kids in particular we can set their lives on a good path. There are some patients who get in touch after a long time and tell us what's become of them. Those are the success stories I take home with me," says Jürgen Reitzig, who has been working as a pediatric and adolescent nurse for almost 30 years. Lots of nurses report experiences like this, drawing energy from them and growing personally as a result. Nursing at CIMH is more than just a job, it's something really special.

THE TEAM IS GROWING

A total of 429 people were working in the nursing and educational service by the end of 2021. While the number of treatment places remains the same, the team needs to continue to grow to ensure a good working environment and intensive support for patients.

UNBEDINGT WIR

All of the insights from the employees are available in video or text form on **>unbedingt-wir.de**. Posters and banners on CIMH campus with portraits and concise quotes raise awareness to recruit new colleagues for the team. The campaign is continuing with the *Sound of Nursing* – what work on the wards sounds like.

STARK IM STURM – SUPPORT FOR MENTALLY ILL PARENTS AND THEIR CHILDREN

Stark im Sturm – keeping the wellbeing of the children in mind together with the parents

If parents are mentally ill or suffering from an addiction, the entire family is generally affected and it is primarily children and adolescents who suffer. The *Stark im Sturm (Strong during a storm)* initiative founded at CIMH helps families to find the best possible help.

Huong Tran is a social worker in the social services clinic at CIMH. Since March 2020, she has been actively supporting *Stark im Sturm* as a Children's Commissioner. "Children are always a sensitive topic," emphasizes Huong Tran. From her experience, it initially takes a lot of effort for parents who are sick to speak openly about their family situation: "it takes a lot of courage to admit that you're suffering from a mental illness and are also unable to cope with your family situation." In the initial contact, the Children's Commissioner experiences parents who are very hesitant and reserved. The more intensively Tran brings them into the discussion, though, the more trust they show: "they probably also realize that they're in a protected space and that we're there to help them," the Children's Commissioner says of the *Stark im Sturm* cause.

SITUATION OF THE CHILDREN WHO ARE AFFECTED

There are an estimated three million children of mentally ill parents in Germany. A further 2.6 million children have a mother or father suffering from addiction. These parents often feel overloaded, dejected, or overstrained. If a parent is partially or entirely missing because of their disease, an important reference person is missing for the children, depriving them of emotional warmth and affection. This lack and the additional need to care for their sick parent can make the next steps in life significantly more difficult for children who are affected.

Even when mothers and fathers try to keep their disease a secret as much as possible and maintain a facade, even young children very clearly notice that something is not right with their parents. Children's Commissioner Huong Tran tells of children who keep asking their parents desperate questions like: "when will you have time for me again?" or "why do you cry so much?". Some children, though, keep their observations and problems to themselves, withdraw and start to brood, although this situation is precisely the time when they need the proximity of a person they trust and particularly large amounts of attention.

Older children often experience feelings of guilt and take on too much responsibility, like looking after the house or caring for their younger siblings. They often put aside their own needs, their performance at school suffers, and their contact with their peers falls by the wayside. This is harmful to important development steps in childhood and adolescence. Over the course of their lives, these children are at a much higher risk of developing a mental illness or addiction themselves.

OFTEN THE HELP DOES NOT REACH

The need for care structures and networks for the children who are affected is huge. There have been services like parent or family counselling, children's groups and even sponsorship programs that target the children of mentally ill parents and those battling an addiction and their families for a long time, but those affected are often not even aware of them because the services tend not to be sufficiently present or networked.

Even if the families who are affected are aware of the services, they often feel unable to use them because of feelings of guilt and shame. Many parents with an illness generally fear that their children will not be able to deal with the disease when it is disclosed – that they will then worry too much or lose respect for their parents. Other parents are tortured by the question of who will look after their children if they have to be admitted to a clinic for inpatient treatment. Fear of government control is also typical. "Lots of parents are worried that their children will be taken away or the Youth Welfare Office will come to check up on them or patronize them," explains Children's Commissioner and Nurse Anita Warner. Most parents develop almost an inability to open up and accept professional help.

This is where the *Stark im Sturm* initiative comes in: through continuous, empathetic discussions, it is possible to build trust with the parents who are affected. "Parents who have had initial positive experiences with *Stark im Sturm* become more open in their interactions and talk more about their family problems," explains Children's Commissioner and Nurse Katja Fischer.

KEEPING THE CHILDREN IN MIND TOGETHER WITH THE PARENTS

Since it was founded in 2019, the *Stark im Sturm* initiative has been able to appoint numerous children's commissioners: at CIMH and since 2021 at the Clinic of Psychiatry at Heidelberg University Hospital and at the Clinic for Addiction Therapy and Withdrawal at Nordbaden Psychiatric Center in Wiesloch.

Stark im Sturm was developed by Dr. Yvonne Grimmer, Attending Physician at the Clinic of Child and Adolescent Psychiatry and Psychotherapy at CIMH, and PD Dr. Anne Koopmann, Attending Physician at the Clinic of Addictive Behavior and Addiction Medicine at CIMH. The initiative has been a member of the National Working Group on the Children of Mentally Ill Parents (Bundesarbeitsgemeinschaft Kinder psychisch erkrankter Eltern, BAG KiPE) since 2020. *Stark im Sturm* receives financial support from the Dietmar Hopp Foundation.

The children's commissioners help directly on site on the wards of psychiatric hospitals. Their main role is to put mentally ill parents and those battling an addiction in contact with the right advice centers and support facilities during their stay in hospital.

From the initial discussion with the parents, the children's commissioners keep the focus on the children. They are committed to the wellbeing of the children: Together with the parents they shine a light on situations where the parent is overloaded and encourage them to accept help. In this way, the children's commissioners create the basis for a stable family life.

LOW-THRESHOLD CONTACT WITH PATIENTS

Children's commissioners work full-time on all wards, often in nursing or social services, and in outpatient clinics. During their visits, they make the patients aware of the initiative and try to build an initial basis of trust in the discussions. They indicate that the affected parents can use them as a point of contact for their concerns and their questions.

The direct, low-threshold contact with patients is critical to establishing a trusting atmosphere for the discussions: "trust is best built up in everyday situations on the ward, for example when they're on kitchen duty together or baking something and the conversations that come out of that," explains Katja Fischer, who has been involved in the initiative since it was founded.

In addition to direct contact, the children's commissioners also offer small information groups for parents. Because of their expertise, the children's commissioners are also involved in interdisciplinary case discussions and group work to offer customized assistance. Maximilian Herbst, who has supported *Stark im Sturm* from the start as a Social Worker and Social Education Worker says "in the Day Clinic for Addictive Disorders I really like to use social group work to build trust and raise awareness of the wellbeing of the children."

CREATING AWARENESS OF STARK IM STURM

The children's commissioners have developed numerous methods to create awareness as multipliers – not just among the parents who are affected but also among professional helpers. Regular information events are held in the psychiatric facilities and institutions that are involved. The website (**>starkimsturm.de**), flyers, posters, and newsletters are used as communication channels.

Stark im Sturm is also anchored more broadly in day-to-day clinic life: when the patient's history is taken, there are mandatory fields on whether the patient has children and how they are being cared for. Thanks to the initiative, areas such as adult psychiatry and the addiction clinic collaborate to an increasing extent with pediatric and adolescent psychiatry. "For example, we made it possible for the relatives of mentally ill patients and those battling addictions to get an appointment in the specialist outpatient clinics at other facilities more quickly if this is necessary because of the collaboration between the outpatient clinics. This is just one example of the breaking down of barriers that we want to drive forwards," explains Dr. Yvonne Grimmer. There is a particular focus on a better handover at intersections, for example, when someone who is affected turns 18.

The knowledge should also be systematically integrated into the curriculum for clinic staff, particularly those working in further training for nurses and doctors.

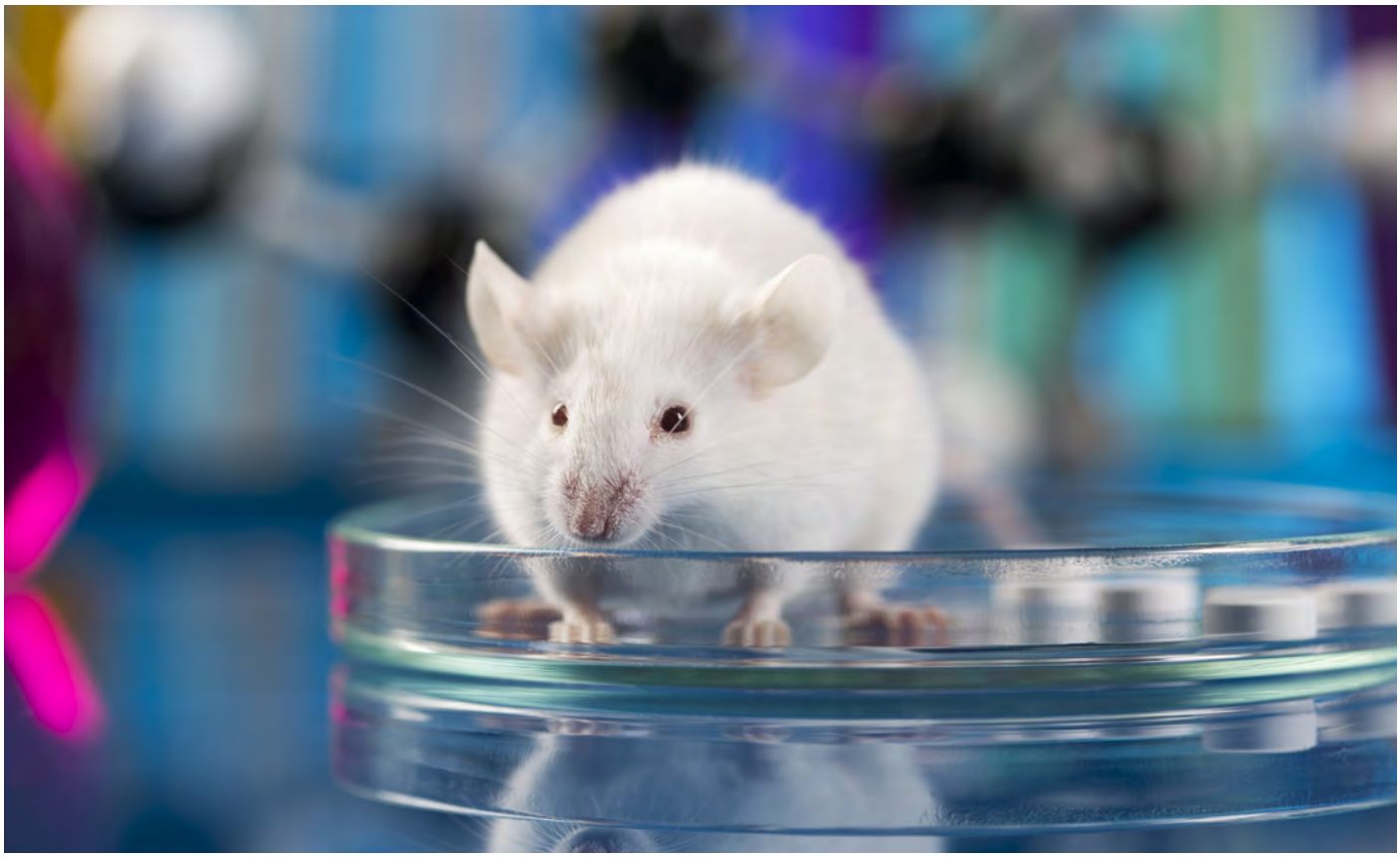
INTO THE FUTURE WITH STARK IM STURM

The founders, PD Dr. Anne Koopmann and Dr. Yvonne Grimmer, overall feel that the progress of the initiative so far has been good. *Stark im Sturm* is very well established at CIMH and is constantly being expanded. Similar structures were able to be created at the Clinic for Addiction Therapy and Withdrawal and the Clinic for Psychiatry and Psychotherapy at Heidelberg University Hospital, with which there are collaborations.

In order for *Stark im Sturm* to be able to achieve its objectives, optimal networking in the region is critical, particularly with youth welfare offices, youth welfare institutions, and adult advice centers. Numerous further training sessions have been organized for employees of these institutions. This network is constantly successfully expanding the initiative: since 2019, for example, CIMH has been the main referrer to the Mannheim Initiative for Children with Mentally Ill Parents (Mannheimer Initiative für Kinder mit psychisch kranken Eltern, MaIKE).

"The vision is now to permanently anchor *Stark im Sturm* at CIMH, to expand it particularly in the outpatient environment, and to establish similar care structures in other locations, so we can improve the care of children with mentally ill parents or those battling addiction in the region," says PD Dr. Anne Koopmann.

STRENGTHENING ANIMAL WELFARE AND IMPROVING METHODS



Established in 2021, the 3R Center Rhine-Neckar advances the Rhine-Neckar region's commitment to animal welfare in research. The work is based on the internationally recognized 3Rs principle (Replace, Reduce, Refine).

The 3R Center (**>3r-rn.de**) involves CIMH, Mannheim University Medical Center and the Interfaculty Biomedical Facility (IBF) at University of Heidelberg. The partners are intensifying their networking in order to further reduce the number of animal experiments and to reduce the stress on laboratory animals as much as possible by optimizing methods and measurement procedures. The Baden-Württemberg Ministry of Science, Research and the Arts fund the 3R Center Rhine-Neckar.

POOLING EXISTING EXPERTISE

In Baden-Württemberg and in the Rhine-Neckar region, there are a large number of biomedical research institutions where animal experiments also take place. Therefore, the issue of animal welfare is of particular importance. With the 3R Center Rhine-Neckar, the Baden-Württemberg Ministry of Science, Research and the Arts is now promoting expanded efforts to strengthen the internationally recognized 3Rs principle. "I am pleased that CIMH, University Hospital Mannheim as well as Heidelberg University are contributing their many years of experience in this field to the new 3Rs network and helping to advance animal welfare in research and teaching throughout the state. The network brings together all locations of biomedical research in Baden-Württemberg, bundles the broadly available expertise and, in doing so, aims not only to address the issue of animal welfare continuously but also to improve the overall quality of research. With its focus on 'Refine' and 'Reduce', the 3R Center Rhine-Neckar ideally complements the '3R Center for In Vitro Models and Animal Testing Alternatives' in Tübingen/ Reutlingen, which we have been supporting since last year," says Science Minister Theresia Bauer.

SIGNIFICANT REDUCTION IN ANIMAL TESTING

The 3Rs principle is based on the following three aspects: First, animal experiments should be replaced by suitable alternatives wherever possible (Replace). Second, if this is not possible, the number of animal experiments should be reduced to the lowest possible level (Reduce). Third, by optimizing scientific methods and measurement procedures, carefully selecting animal models and keeping them in a species-appropriate manner, the conditions for laboratory animals should be improved as much as possible (Refine). "We have already broken new ground over many years in the spirit of the 3Rs principle, which has led to a significant reduction in animal experiments at CIMH. With the new 3R Center, we can identify further potential and strengthen animal protection together with our partners," says Prof. Dr. Rainer Spanagel, Scientific Director of the Institute of Psychopharmacology at CIMH and one of the initiators of the new center.

CONTACT POINT AND SUPPORT FOR ANIMAL RESEARCHERS

An important task of the center is to coordinate animal research in the Rhine-Neckar region even better in the future, to enable the exchange of expertise and mutual assistance so that the highest level of scientific knowledge can always be implemented. A database will help to facilitate the joint exchange of laboratories. The new center is intended to be a single point of contact when it comes to designing new experiments. "We hope that in this way the 3Rs principle can be implemented effectively, thus avoiding unnecessary animal experiments," says Dr. Marcus Meinhardt, coordinator of the new 3R Center Rhine-Neckar.

The 3R Center Rhine-Neckar aims to involve scientists who are already working in experimental animal research or who intend to do so, because they are in the best position to refine their experiments in the interest of animal welfare and to reduce the number of experiments. Therefore, at the 3R Center, researchers will receive support in selecting useful animal models, training on 3Rs principles, and special seminars. This also involves free access to research results. The 3R Center Rhine-Neckar is committed to open science principles and encourages scientists to work and publish according to these principles.

OBTAINING DATA USING ALTERNATIVE APPROACHES

In order to reduce animal testing further, the 3R Center supports research projects that obtain data using alternative approaches. These include, for example, laboratory tests on cell systems and organoids (in vitro approaches) as well as experiments using computer models and simulations or by retrieving already collected data from special databases (in silico). Such Big Data approaches hold great potential for animal welfare in research in the field of preclinical neuroscience. "However, despite the enormous efforts and progress made so far in in vitro and in silico approaches, it is currently not possible to completely eliminate animal testing in biomedical research," says Spanagel.

PATIENT CARE

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CLINICAL DEPARTMENTS, CENTERS AND OUTPATIENT SERVICES

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.

Prof. Dr. Andreas Meyer-Lindenberg
Medical Director

Associate Prof. Dr. Michael Deuschle
Deputy Medical Director

Associate Prof. Dr. Dusan Hirjak
Managing Assistant Medical Director

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 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. 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, and physiotherapists are involved in the individually tailored treatment.

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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 protected 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 psychosis risk syndrome and patients with early manifestations of a psychotic disorder are diagnosed and treated in coordination with the Early Psychosis Outpatient Clinic, the Adolescent Center for Psychotic Disorders (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.

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 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 protected 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 situation in a protected 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 wards 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.

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

OUTPATIENT CLINICS

General psychiatric outpatient clinic with open consultation hours

Geriatric psychiatric 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 psychoses

Mental illnesses in the time around giving birth

Sports psychiatry

Turkish-speaking adults

Refugees

Memory disorders

Treatment of affective disorders in later life

Outpatient sleep clinic/sleep laboratory

Post-COVID syndrome

Outpatient clinic for community psychiatry

CLINIC OF CHILD AND ADOLESCENT PSYCHIATRY AND PSYCHOTHERAPY

Prof. Dr. Dr. Tobias Banaschewski
Medical Director

PD Dr. Sarah Hohmann
Deputy Medical Director

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. 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, 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 from primary school age and adolescents. An open psychotherapy ward with a partially protected intensive care unit treats adolescents experiencing suicidal crises. A protected ward treats adolescents 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. 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.

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 QuadratJ5" 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 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.

Information can be found online on >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.

Information can be found online on >foerderkreis-kjp.de

OUTPATIENT CLINICS

General outpatient clinic

Pediatric and adolescent psychiatric institution outpatient clinic

University outpatient clinic of the Adolescent Center

Attention deficit hyperactivity disorder (ADHD)

Autism spectrum disorders

Tic and obsessive-compulsive 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, e.g. 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, psychopharmacological 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 dialectical 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.

POSTTRAUMATIC 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 posttraumatic 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 university outpatient clinic

CLINIC OF ADDICTIVE BEHAVIOR AND ADDICTION MEDICINE

Prof. Dr. Falk Kiefer
Medical Director

Prof. Dr. Bernd Lenz
Deputy Medical Director

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 opiate-dependent patients with substitute substances. The general addiction outpatient clinic treats addictions and their comorbidities. Outpatient psychotherapeutic care is also offered for addicted parents and for people who have an addiction disorder and a borderline personality disorder.

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 or 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, e.g. personality disorders, posttraumatic 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 (e.g. addiction counseling centers, self-help groups, specialized clinics for long-term therapy), 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. In 2021, a focus was on establishing and researching integrated outpatient and inpatient care offerings for parents suffering from addiction.

OUTPATIENT CLINICS

Outpatient clinic for addiction medicine

Opiate 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 posttraumatic 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. In an ideal world, 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. This can, for example, 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 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 from 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: e.g. 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.

Living like in a residential community – the kitchen is the meeting point in Soteria.

OUTPATIENT CLINICS AT THE INSTITUTE OF NEUROPSYCHOLOGY AND CLINICAL PSYCHOLOGY

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CPP OUTPATIENT TEACHING CLINICS

The Center of Psychological Psychotherapy (CPP) treats children, adolescents and adults with mental disorders. The state-approved training institute has large outpatient teaching clinics at three locations in downtown Mannheim. Diagnosis and treatments based on the latest scientific knowledge are offered there. The around 80 therapists are undergoing advanced training as psychological psychotherapists. In the outpatient teaching clinics they work with the patients under supervision. The CPP focuses on behavioral therapy.

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 posttraumatic 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 tested.

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 31 employees and up to four trainees work in the central outpatient organization: medical assistants, healthcare assistants and nurses, office clerks, psychologists and one doctor. They organize the outpatient operation into six areas from making appointments through to diagnostic procedures, and on to invoicing for around 17,000 cases per quarter and around 100 treatment providers in eleven specialist outpatient clinics. In addition to this, 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 1,150 telephone calls a week were received on the central service number in 2021.

In the second year of the corona pandemic, the team also managed to respond quickly to changing situations and continue to provide outpatient care safely. The video and telephone consultation hours, which were introduced in 2020, were continued to reach high-risk groups in particular. At the same time, personal on-site contact was able to be increased again with high hygiene and safety standards maintained. In 2021, 53 percent of the appointments were on site, 33 percent were by telephone and 14 percent were by video.

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. The organization of treatments into track units has also resulted 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.

In April 2021, work started on building a prototype of an upstream, outpatient unit in the central outpatient clinic, which will be a cross-sector and cross-clinic contact point for all patients. Following an extensive clinical and scientific initial diagnosis, the diagnosis and admission center will coordinate the further outpatient or inpatient treatment and diagnosis steps at CIMH and provide information on participation in relevant studies at an early stage.

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 patient satisfaction.

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.

DISCHARGE MANAGEMENT

The discharge management supports patients in returning to their everyday lives from inpatient and day-care facilities. They receive information and individual advice 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.

PATIENT ADVOCATE

Monika Wolff (until end of 2021)

The patient advocate is an independent and neutral contact person for suggestions, wishes and complaints during a stay at CIMH. She mediates between patients, relatives and employees on these issues. The concerns raised are treated confidentially and clarified together with the various areas of the clinic. As a former patient of CIMH, Monika Wolff knows the perspective of patients from her own experience and can well understand how people are feeling in an acute condition. She offers weekly consultation hours and participates in information and relatives' groups.

PATIENT FEEDBACK MANAGEMENT

The opinion of patients and relatives about a stay at CIMH is important to improve quality further. The central patient feedback management ("Lob und Tadel") 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.

NURSING DEPARTMENT

Head: **Claus Staudter**

Deputy: **Doris Borgwedel**

Nursing at CIMH is something really special. The treatments in the four clinics are just as tailored to 3-year-olds as to 99-year-olds. The tasks and activities carried out by the nurses are correspondingly different and varied. Keeping an eye on the overall treatment goal, they take on a key role in the multi-professional teams made up of doctors, psychologists, therapists, and social workers.

With an attentive and supportive attitude, they create the basis for sustainable therapeutic relationships. They support the 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 service also helps to work on research projects and new treatment concepts. As practice managers, nurses pass their knowledge and experience on to trainees.

Employees from health care and nursing, geriatric and pediatric nursing, and social education are used for the most varied of tasks in the outpatient, partial inpatient, inpatient and ward-equivalent treatment units. To expand nursing skills, CIMH offers newly designed, additional psychiatric training for nurses in collaboration with three psychiatric centers in Baden-Württemberg. Four nurses at CIMH take part in this alongside their jobs every two years. Around 21 percent of the employees in the nursing team have completed additional psychiatric training.

The nursing processes are specifically planned for patients' respective situations and are based on scientifically sound treatment standards. This evidence-based nursing is effective in numerous areas, e.g. the avoidance of falls and bed sores, and de-escalation management.

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.

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 condition 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.

P

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 multiprofessional 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.

PSYCHIATRIC, PSYCHOSOMATIC AND ADDICTION MEDICINE CONSULTATION SERVICE AT MANNHEIM UNIVERSITY HOSPITAL

Senior Physician: **Dr. med. Maria Gilles**

CIMH ensures the Psychiatric Psychosomatic Addiction Medicine Consultation Service at the Mannheim University Hospital. Outpatients and inpatients are cared for in psychiatric, addiction medicine and psychosomatic issues. The tasks include the diagnosis of mental 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 2021, the medical colleagues of the consultation service processed 2,003 consultation requests at Mannheim University Hospital.

INTERNAL MEDICINE CONSULTATION SERVICE

Head: **Dr. Marco von Fürstenberg**

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 and stress ECG, sonography of the abdominal organs and thyroid gland, echocardiography, pulmonary function testing, long-term ECG, long-term blood pressure measurement and X-ray examinations 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.

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.

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

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. The corona pandemic has made self-help activities more difficult since 2020, and some groups have organized online meetings as an alternative.

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. Recertification is every three years. The self-help-friendly hospital quality report was filed again in 2021, and CIMH won the award for the fourth time.

RESEARCH

NEW RESEARCH PROJECTS

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

EFFICACY AND SAFETY OF PSILOCYBIN IN THE TREATMENT OF DEPRESSION

Depression is one of the most common diseases. At the same time, there are lots of people who are affected and who have already exhausted the treatment options without any success. In the authorization and efficacy studies for various medications, a third to half of patients do not respond to multiple weeks of treatment.

A possible approach to the treatment of treatment-resistant depression is the use of psilocybin – a naturally occurring substance made from special types of fungi. In humans, psilocybin has a psychoactive effect and can cause euphoria, physical lightness, and hallucinations. In addition to findings from the 1950s and 1960s, more recent clinical studies suggest the efficacy and safety of psilocybin in the treatment of (treatment-resistant) depression, anxiety, and substance use disorders.

A total of 144 patients with treatment-resistant depression take part in the bicentric clinical study. The second study site is the Clinic for Psychiatry and Psychotherapy at Charité Berlin (Mitte Campus). The investigation examined whether and how well psilocybin works in the treatment of depressive symptoms in patients with treatment-resistant, unipolar depression. At the same time, possible risks of the medicinal product for patients are systematically recorded. Under therapeutic supervision, the test subjects either receive a high dose, a low dose, or a placebo. The investigation is examining whether psilocybin has a better antidepressant effect than the placebo, and which dose achieves the best antidepressant effect. The teams are also investigating whether two doses of psilocybin have a better antidepressant effect than a single administration. Psychotherapists prepare the test subjects for the experience and then work through what the subjects experienced in integration sessions.

BMBF – Bundesministerium für Bildung und Forschung (Federal Ministry for Education and Research), 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

SUCCESS OF KETAMINE TREATMENT IN PEOPLE WITH TREATMENT-RESISTANT DEPRESSION

Depression is a common mental illness that has a significant adverse effect on the everyday lives of those affected. Many cases of depression are not able to be successfully treated with conventional therapies. The new active substance ketamine has been authorized to improve the success of treatment. The individual benefits for patients, however, are still unclear.

Treatment with antidepressants is not successful for many patients with severe depression. The active substance ketamine was authorized in 2020 for treatment-resistant depression: A nasal spray that contains esketamine has a short-term antidepressant effect and enables people with severe depression to start antidepressant treatment. However, 30 to 50 percent of patients show no improvement even with the new treatment. Ketamine is also associated with relevant side effects such as increased blood pressure or temporary psychotic symptoms.

It is therefore important to determine who will respond to the treatment with ketamine reliably in advance. The NeuroMarKet Research Association wants to identify biomarkers that may indicate the success of treatment with ketamine. In order to do this, blood samples are being taken and molecular biological tests carried out on treatment-resistant patients who have been given ketamine at Jena University Hospital and CIMH. The scientists are also examining the brain using imaging procedures. When they are combined, the results of the two approaches provide a broad biomarker profile. In parallel to the clinical tests, the mechanisms are also being investigated in an animal model at CIMH. The aim is to identify blood biomarkers and imaging biomarkers of brain function that are linked to depression and the response to ketamine.

BMBF – Bundesministerium für Bildung und Forschung (Federal Ministry for Education and Research), partial project 01E2010B: imaging and biomarkers as indicators of a response to ketamine in patients with treatment-resistant depression. 2020–2023 (increase in 2021: 9.4 T high performance animal magnetic resonance imaging).

Associate Prof. Dr. Alexander Sartorius
Head of the Translational Imaging Research Group

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

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

Dr. Georgia Koppe
Head of the Computational Psychiatry Research Group

DIGITAL MOBILE METHODS ARE INDIVIDUALIZING ROUTINE PSYCHIATRIC CARE

The European IMMERSE consortium (Implementing Mobile MEntal Health Recording Strategy for Europe) aims to make psychiatric health care in Europe personalized. This is achieved by the treatment being tailored to the needs of each individual and by better including patients in the decision-making and treatment processes using digital mobile methods.

The scientists are developing a clinical digital health instrument, Digital Mobile Mental Health (DMMH), which is fed with data from the everyday lives of those affected, mobile sensor data, and machine learning models. The data are made available for clinical decision-making and treatment processes. This is based on the Experience Sampling Method (ESM): the established structured diary technique makes the individual person the focus of the treatment.

Digital Mobile Mental Health consists of an app which records self-reports about the person's mental health in daily life (Ecological Momentary Assessment, EMA), a database that enables these data to be analyzed, and a user interface for the data to be visualized and fed back to the users.

The implementation of the new tool in routine psychiatric care is being evaluated with respect to its feasibility and efficacy in a study in eight locations in Belgium, Germany, Scotland, and Slovakia. Relevant challenges relating to the use of DMMH in clinical practice should be identified and the tool tailored to the individual needs of users. The various ethical, legal, and health policy requirements recorded during the development of the DMMH should also be taken into account. Ultimately, a cost-benefit analysis will be carried out to define the area of use for future implementation of the DMMH.

The IMMERSE project is being coordinated by the Catholic University of Leuven. CIMH is one of eight other partners that are involved.

EU – European Union 945263: IMMERSE – The implementation of Digital Mobile Mental Health in clinical care pathways: Towards person-centered care in psychiatry. 04/2021-03/2025.

USING ARTIFICIAL INTELLIGENCE TO PROMOTE THE MENTAL HEALTH OF YOUNG PEOPLE

Adolescents and young people are particularly affected by mental health problems, but young people hardly ever use classic prevention services and mental health promotion. Apps for smartphones could break down this barrier.

The rapid progress in fields such as artificial intelligence and digitization offer a great deal of potential in terms of providing personalized services for prevention and mental health promotion for adolescents and young adults. An interdisciplinary research team at CIMH and at Ulm University is developing corresponding low-threshold digital training sessions and implementing them in a real laboratory. Real laboratories bring science and society together to test innovative technologies under real conditions.

Together they are developing and testing an app that young people can use to get digital training that is individually tailored to them and their specific situation which will improve their emotional resilience. The participants learn to consciously identify stress and stressful situations, reflect on their own behavior and improve their wellbeing. Using artificial intelligence, the data that are constantly collected are used to provide personalized training suggestions, thereby further optimizing the digital training.

The project uses a participative research approach and involves other facilities from educational counselling, school psychologist counselling, school social work, media education and care for young people with experience of being refugees. Like the adolescents and young adults, they are bringing their experience into the developing and testing of the app.

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

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

Dr. Georgia Koppe
Head of the Computational Psychiatry Research Group

MWK – Ministerium für Wissenschaft, Forschung und Kunst (Ministry of Science, Research and the Arts) Baden-Württemberg: real laboratory artificial intelligence for digital personalized health promotion in young people. 01/2021–12/2023.

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

NEURODYNAMIC MECHANISMS OF COGNITIVE FLEXIBILITY

People's environment is constantly changing: new locations, contexts and tasks mean new strategies continually need to be developed and adapted. In order to cope with these conditions, people's behavior needs to be flexible. Cognitive flexibility is primarily located in the prefrontal cortex. One of the most significant goals in neuroscience is to decrypt the dynamic principles that determine the ability to get by in a constantly changing environment.

The scientists are working on understanding neurodynamic and computational principles and mechanisms of higher cognitive functions through various species, stages of development and cognitive domains. To do this, the partial project by the research consortium "Decryption of prefrontal networks of cognitive flexibility" is analyzing the experimental data obtained from partner projects. The basis for this is a common approach to statistical machine learning that uses deep generative recurrent neural networks (RNN) to decrypt dynamic systems that underlie the data. In this way, the neural attractor dynamics on which processes such as decision-making, the estimation of intervals of time and species-specific neurocomputational mechanisms of working memory are based and how these change over various stages of development. The question of whether the performance of various cognitive tasks that depend on the prefrontal cortex is based on similar or different neurocomputational processes is also being addressed.

Individual hypotheses on the underlying neurodynamic mechanisms are being formulated for each of the partial projects in the consortium, and these are being tested using the RNN approach. The research team is also generating specific, quantitative predictions that are fed back to the experimental project partners.

DFG - Deutsche Forschungsgemeinschaft (German Research Foundation) 437610067: Reconstruction of neurodynamic principles of prefrontal calculations in various cognitive tasks and species. 2021–2025

NEW RESEARCH GROUPS

TRANSLATIONAL PSYCHOPHARMACOLOGY

HEAD: DR. MARCUS MEINHARDT

Dr. Marcus Meinhardt

The research group is developing innovative treatment approaches and testing new medications for the treatment of addictions. Ultimately, a decision is to be made on the clinical use of medicinal products based on meaningful data. In their paper, the scientists bring together the Institute for Psychopharmacology and the Department of Molecular Neuroimaging, and therefore both preclinical and clinical research.

In preclinical research, the group is working with animal models on addictions and associated comorbidities. The model for alcohol addiction has demonstrated a good predictive power and is recognized internationally in the pharmaceutical industry as the gold standard model for testing new medications against relapses. It is based on the globally established classification system for mental disorders, DSM-5. In their work with animal models, the scientists use classic molecular and biochemical methods, innovative transgenic in vivo manipulation and the latest neuroimaging approaches such as Positron Emission Tomography (PET) and Magnetic Resonance Imaging (MRI).

For the route to the clinical use of promising new potential active substances, the research team can use the Early Clinical Trials Unit for experimental psychopharmacological studies. It is part of the translational Center for Innovative Psychiatric and Psychotherapeutic Research (CIPP) at CIMH.

The research group is also looking at the quality of research data. This includes, for example, measures in animal testing that increase the validity of studies and ensure a high statistical significance of results. This is very important in order to carry out high quality research to support the decision-making process on new potential medications for addictions.

Dr. Argyris Stringaris

Prof. Dr. Dr. Tobias Banaschewski

CLINICAL NEUROSCIENCE OF MOOD DISORDERS

HEAD: DR. ARGYRIS STRINGARIS, PROF. DR. DR. TOBIAS BANASCHEWSKI

Affective disorders such as depression and bipolar disorder are some of the most severe and most common mental illnesses in the world. Still, though, the manner in which moods and the changes in these moods develop and the effect this has remains largely unexplained. The research group is aiming to gain a better understanding of this and develop therapy concepts for children and young people.

Mood changes and an impaired handling of emotions (emotional dysregulation) are very significant in many disorders in childhood and adolescence. This applies to affective disorders, attention deficit hyperactivity disorder, schizophrenic disorders, and personality disorders. Those affected often also struggle with additional associated anomalies, such as psychosocial impairments, difficulties developing autonomy, and stigmatization as a result of their mental illness.

The scientists' work focuses on the issue of the development, definition, and clinical relevance of mood and the examination of features of mood and emotional dysregulation. The latter is expressed, for example, by significant mood swings, aggression, or an inhibition of feelings. The aim is to optimize existing therapy concepts and develop new therapies. The most modern of methods such as neuroimaging (functional magnetic resonance imaging, magnetoencephalography), epidemiological, and clinical examinations are used, among others. Significant value is placed on interdisciplinary work and collaboration with human sciences (history of science, anthropology, philosophy) and natural sciences (physics, computer science, statistics).

TOP-RANKING PUBLICATIONS

B

Borderline personality disorder – a current overview

Borderline personality disorder (BPD) is a serious mental illness that is associated with a significant burden for patients, relatives and the health care system. For a long time this disorder was considered to be barely able to be treated. In the past few years, significant progress has been made in terms of understanding the psychopathology and the underlying pathomechanisms. The diagnosis and treatment have fundamentally improved.

The authors provide an overview of the current level of scientific knowledge about BPD. They look in particular at the developments in the fields of epidemiology and progression, etiology, early diagnosis, and treatment options. It is based in particular on study results from publications from the years 2015 to 2020, important older publications, the databases in the Cochrane Library and relevant, evidence-based practice guidelines.

BPD generally starts in early adolescence and should also be diagnosed by this time. Symptoms such as depression, anxiety, behavioral disorders, hyperactivity, or substance consumption often occur before or in parallel. The disease often has negative effects such as a poor educational outcome, lack of long-term relationships and a low level of satisfaction with life.

Disorder-specific psychotherapy is currently the main method of choice. dialectical behavioral therapy (DBT) and mentalization-based therapy (MBT) are most commonly used. Good efficacy can be assumed with both. The disease should be clarified in detail at a young age so the patient can be treated early. Despite the significant progress, there are still unanswered research questions. For example, little is known about the genetic and neurobiological causes of the disorder of emotional regulation and about the progression of BPD and the change in symptoms in later phases of life.

Bohus M, Stoffers-Winterling J, Sharp C, Krause-Utz A, **Schmahl C,** Lieb K. Borderline Personality Disorder. **Lancet.** 2021

Oxytocin acts on territorial behavior

People clearly perceive that a space is divided into socially relevant territories or areas. The distinction between "my space" and "your space" is generally known. A research team has developed a model that explains how the brain connects spatial geometry with the social territory.

Spatial limits are social in nature, as they regulate who has access to a space and the associated advantages depending on hierarchy and belonging. The authors present a model for territorial behavior that is based on the hippocampus system and the neuropeptide oxytocin. Further studies are required to research how precisely territorial behavior is due to oxytocin.

On the one hand, the hippocampus system supports the navigation in space, and on the other hand it codes for social stimuli. It therefore provides the essential elements to demonstrate territorial ownership. Oxytocin is relevant for territorial behavior because it affects emo-

tions and reactions to others, for example belonging and bonding or distancing and aggression.

The researchers' thesis is that oxytocin acts on the hippocampal-entorhinal system due to its role in the processing of social information, and therefore influences territorial behavior. The hippocampus and the adjacent entorhinal cortex are structures in the brain that play a key role in linking various pieces of sensory information and storing new experiences in the long-term memory.

Wirth S, Soumier A, **Eliava M,** Derdikman D, Wagner S, **Grinevich V,** Sirigu A. Territorial blueprint in the hippocampal system. **Trends in Cognitive Sciences.** 2021

H

How astrocytes regulate positive emotions through oxytocin

The non-neuronal cell type of astrocytes has a significance in the regulation of positive emotions that was not previously known. They form an important part of neuronal networks in the brain.

Astrocytes are assumed to only offer structural support for brain function. Investigations have now shown that they influence neuronal function by forming what is known as the tripartite synapse, which enables them to communicate directly with neurons. Astrocytes are actively involved in the uptake and release of various neurotransmitters.

In their study, the scientists focus on the neuropeptide oxytocin, which influences numerous physiological reactions and behaviors including anxiety, pain, and stress. Previously, oxytocin was thought to act exclusively on neurons in the central amygdala, a structure which is responsible for anxiety retention and emotional regulation, by means of oxytocin receptors. The authors question this perspective. They show that astrocytes in the central amygdala are activated by oxytocin and then release D-serine to activate adjacent neurons, and that this activation is critical to the proper functioning of the neuronal circuits.

The central amygdala plays an important role in emotional regulation, and this structure is linked to various psychiatric illnesses such as schizophrenia, autism, and generalized anxiety disorder. The research results enable new approaches to the treatment of anxiety to be developed.

Wahis J, Baudon A, Althammer F, Kerspern D, Goyon S, **Hagiwara D, Lefevre A, Barteczko L,** Boury-Jamot B, Bellanger B, Abatis M, Da Silva Gouveia M, **Benusiglio D, Eliava M,** Rozov A, Weinsanto I, Konobloch-Bollmann HS, Kirchner MK, Roy RK, Wang H, Pertin M, Inquimbert P, Pitzer C, Siemens J, Goumon Y, Boutrel B, Lamy CM, Decosterd I, Chatton JY, Rouach N, Young WS, Stern JE, Poisbeau P, Stoop R, Darbon P, **Grinevich V,** Charlet A. Astrocytes mediate the effect of oxytocin in the central amygdala on neuronal activity and affective states in rodents. **Nature Neuroscience.** 2021

N

New findings on the effects of human mutations of synaptic proteins on social behavior

Human mutations of certain genes in the SHANK family play a significant role in the development of autism and other neuropsychiatric diseases. SHANK genes are translated into proteins that directly affect the synapses in the brain.
To date, research has focused on the post-synaptic function of SHANK genes. A noticeable increase in certain glutamate receptors was able to be identified at the synapse in mice in which the SHANK gene had been knocked out in a targeted manner. Glutamate is the most import-

ant biochemical messenger substance in stimulating synapses. More recent studies indicate a possible pre-synaptic function of the SHANK proteins that has yet to be sufficiently well defined.

The authors examined how SHANK2 proteins can have electrophysiological, molecular, and behavior-related effects. In order to do this, the SHANK2A gene or one of its human dominant negative point mutations that is associated with autism was overexpressed. This changed SHANK2A acted on synaptic transfer and cortical signal dissemination. In mice, this showed development-dependent behavior that was similar to that of an autism spectrum disorder. The social interaction reduced or increased depending on the genetic manipulation. At the same time, though, attention deficit hyperactivity-like behavior was also observed. The change in behavior was able to be normalized by a correction in the adult animal. This provides indications that the social deficits observed can in principle be corrected and are not immutably stamped into the brain during development.

From this, we can determine that the disorder of the pre-synaptic and post-synaptic SHANK2 functions caused by SHANK2 mutations has significant effects on social behavior. The results indicate that the balance of synaptic SHANK2 activity is key to neural information processing and an imbalance between these functions can lead to various neuropsychiatric diseases that could in principle also be genetically corrected in adulthood.

Eltokhi A, Gonzalez-Lozano MA, **Oettl LL,** Rozov A, Pitzer C., Röth R, Berkel S, Hüser M, Harten A, **Kelsch W,** Smit AB, Rappold GA, Sprengel R. Imbalanced post- and extrasynaptic SHANK2A functions during development affect social behavior in SHANK2-mediated neuropsychiatric disorders. **Molecular Psychiatry.** 2021.

V

Decreased dynamics in brain networks in patients with schizophrenia

If people want to remember new information for a short amount of time, they need the working memory. Dynamic transitions in state in the brain are critical to this. The research on which network processes form the basis of this is as yet incomplete.

In patients with schizophrenia, the working memory is impaired and there is a disruption to the excretion of the messenger substance dopamine. For their study, the authors combined functional magnetic resonance imaging (fMRI) in people with schizophrenia and healthy control persons, pharmacological fMRIs, genetic analyses, and network control theory. The results show that a switch between activity states across the brain is needed when carrying out a working memory task. The brain of people with schizophrenia shows a change in behavior in terms of how they control the transition between the various states (network control). This can be seen, for example, in a more diverse energy landscape, which makes it more difficult to control the network, and in a lower level of stability of the activity states associated with the working memory.

Genetic analyses support the hypothesis that stable brain activation states are linked to the gene expression of the dopamine D1 receptor. Transitions between states are influenced by the expression of the dopamine D2 receptor. By means of pharmacological blocking of the dopamine D2 function in healthy test subjects, the authors were able to directly show that switching between activity states is linked to the dopamine D2 receptor function. From the results, the researchers conclude that dopamine signal transmission is relevant in terms of controlling the dynamics of networks in the entire brain while the working memory is active. These processes are also linked to the pathophysiology of schizophrenia.

Braun U, Harneit A, Pergola G, Menara T, Schäfer A, Betzel RF, **Zang Z, Schweiger JI, Zhang X, Schwarz K, Chen J,** Blasi G, Bertolino A, **Durstewitz D,** Pasqualetti F, **Schwarz E, Meyer-Lindenberg A,** Bassett DS, Tost H. Brain network dynamics during working memory are modulated by dopamine and diminished in schizophrenia. **Nature Communications.** 2021.

RESEARCH AWARDS

ENCP award for researching neuropeptide signaling in the brain

Prof. Dr. Valery Grinevich, Head of the Department of Neuropeptide Research in Psychiatry, was given the highly internationally renowned ENCP research prize. The award from the European College of Neuropsychopharmacology (ECNP) is handed out once a year for exceptional services to applied and translational neuroscience and comes with prize money of 10,000 euros.

Valery Grinevich is researching how messenger substance mechanisms in the brain act on stress, anxiety, and social behavior from a molecular level up to the entire body. To do this, he is using groundbreaking viral, optogenetic, chemogenetic, electrophysiological, and behavior-oriented approaches. His excellent scientific contributions include the discovery that axonal release of neuropeptides (demonstrated by way of an example using oxytocin) contributes to neuropeptide signaling in the brain. This expands the idea of the passive diffusion of messenger substances from the original source through the entire brain significantly. Valery Grinevich recently identified glial cells as an interesting target of oxytocin that is relevant to behavior. As a result, he has created an extensive basis for translational studies which focus on developing new treatments for socio-emotional diseases using neuropeptides.

A

Award handed out for research on addictions

PD Dr. Anne Koopmann and **Prof. Dr. Wolfgang H. Sommer,** Clinic of Addictive Behavior and Addiction Medicine, received the Wilhelm-Feuerlein research prize from the Matthias Gottschaldt Oberberg Foundation and the German Addiction Foundation. Anne Koopmann's work entitled "The influence of appetite-regulating peptides on cravings and the risk of relapse in addictions" won in the field of applied or clinical research (including the epidemiology of treatment). Wolfgang H. Sommer won the prize for his paper "Chronic alcohol consumption alters extracellular space geometry and transmitter diffusion in the brain" in the field of fundamental research/popular epidemiology. The Wilhelm-Feuerlein research prize recognizes excellent academic work in the field of research on substance-related addictions every two years. The prize is worth 4,000 euros.

P

Physical experiences in patients with borderline personality disorder

Dr. Robin Bekrater-Bodmann, Clinic of Psychosomatic Medicine and Psychotherapy, received the Hamburg Personality Disorder Prize, which is worth 10,000 euros, in 2021. At CIMH, he runs the research group on body plasticity and memory processes. In the papers for which he won the prize, Robin Bekrater-Bodmann looks at the physical experience and dissociation in patients with acute

and remitting borderline personality disorders from an empirical perspective and differentiates between these. A clinically highly relevant result is that patients whose disorder is remitting continue to have problems experiencing their own bodies. This is encouraging new models of the personality function and structure to be developed. The Hamburg Personality Disorder Prize is awarded annually by the Society for the Research and Treatment of Personality Disorders and Asklepios Clinics in Hamburg for clinical research on personality disorders.

E

ECNP Excellence Award for young scientist

Luzie Eichentopf, doctoral candidate in medicine in the Department of Molecular Neuroimaging, won an ECNP Excellence Award for an abstract she submitted with her poster presentation. She received 100 euros and a travel grant of 400 euros. The award aims to encourage young scientists to present a poster at the annual conference of the European College of Neuropsychopharmacology (ECNP). The abstract was entitled "Escitalopram: Drug monitoring for dose titration? Systematic literature review on the therapeutic and the dose-related reference range". The senior author on the paper is Xenia Marlene Hart.

B

Best poster prizes

CIMH researchers **Malte Zopfs, Xenia Marlene Hart, Dr. Gerrit Breitfelder** and **Laura Kärtner** won a poster prize at the conference of the German Association for Psychiatry, Psychotherapy and Psychosomatics (DGPPN) in Berlin. The prize is worth 500 euros and it is awarded to the best posters presented at the conference.

Malte Zopfs: Feasibility and validity of EFP-neurofeedback in an adolescent sample of BPD patients

Xenia Marlene Hart: How valid is the therapeutic reference range of aripiprazole and what role does the active metabolite, dehydro-aripiprazole, play? A systematic review

Dr. Gerrit Breitfelder: Development of the graduated setting "self-harm in patients with borderline personality disorder" on general psychiatric wards

Laura Kärtner: Low Dose Psilocybin in Depression: More than "Just Placebo"? A research question as part of the German EPIsoDE trial

Each year, the DGPPN awards innovative and outstanding papers and projects that provide new access to mental illnesses, a new understanding of their diagnosis and treatment and more information about the cause, development, and spread of them. Prizes are awarded to researchers and young scientists, among others.

PSYCHOTHERAPY RESEARCH OF A NEW QUALITY

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

The research infrastructure at CIPP 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 3T tomography machines and on the PET-MRI are constantly in use in a large number of studies across all areas within CIMH and by external collaboration partners. Standardized data format and evaluation strategy concepts are becoming increasingly important and are tested and established in the unit.

In 2021, the second tomography machine was equipped with the latest 3-Tesla whole body MRI technology, resulting in improved image speed, resolution, image and spectrum quality, and long-term stability. The upgrade is very important for the research program. If the scanner platforms coordinated with one another, then high-throughput studies can be carried out efficiently.

The **study center** provides support to researchers through a central support point.

The **biobank** integrated into the CIPP has further standardized its processes as the number of projects increases. The standardization is based on the relevant national and international standards – not least because the center will have the status of observer at the German Biobank Node in the future.

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), and two EEC cabins for adults for parallel operation. 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.

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 VR goggles, data gloves, and other accessories. Virtual realities are used both as an intervention tool in therapeutic contexts and as a means for researching different patterns of behavior and ways of perceiving the world.

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.

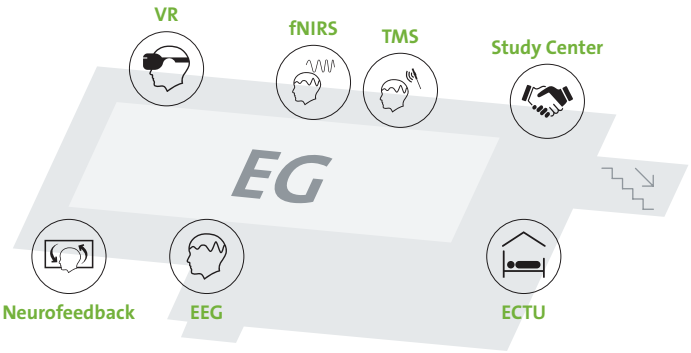
The **PET-MRI scanner** (Biograph mMR) is currently being used to examine the effects of treatment with antipsychotics on the neuronal systems that manage the neurotransmitter dopamine as part of a pilot study. The radioligand used for this is provided by the University of Mainz, as is a ligand that 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.

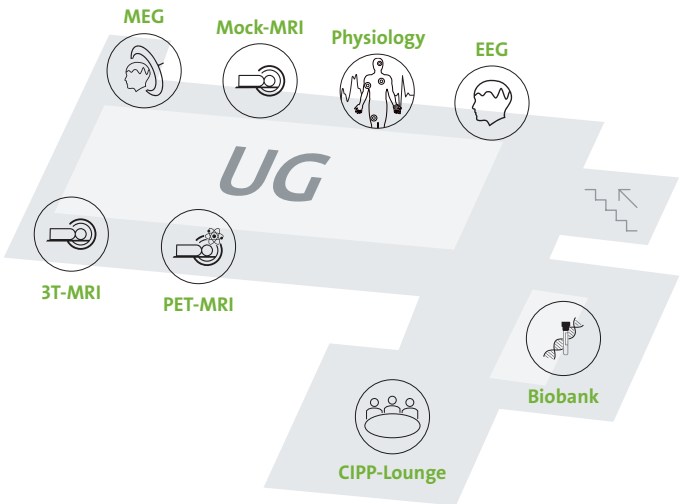
In the **Early Clinical Trials Unit** (ECTU), the first patients were treated as part of the EPIsoDE study, which is funded by the Federal Ministry of Education and Research, in 2021. The project is examining the efficacy and safety of psilocybin in the treatment of treatment-resistant depression. One to two patients a week are now being treated with the psychedelic here. The plan is to expand the occupancy in the future, with studies with empathogens and psychedelics in various indications and group therapies, among others.

Film explaining the CIPP

zi-mannheim.de > Reserach > CIPP

The CIPP research technologies





EEG – Electroenzephalography
fNIRS – Funktional 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

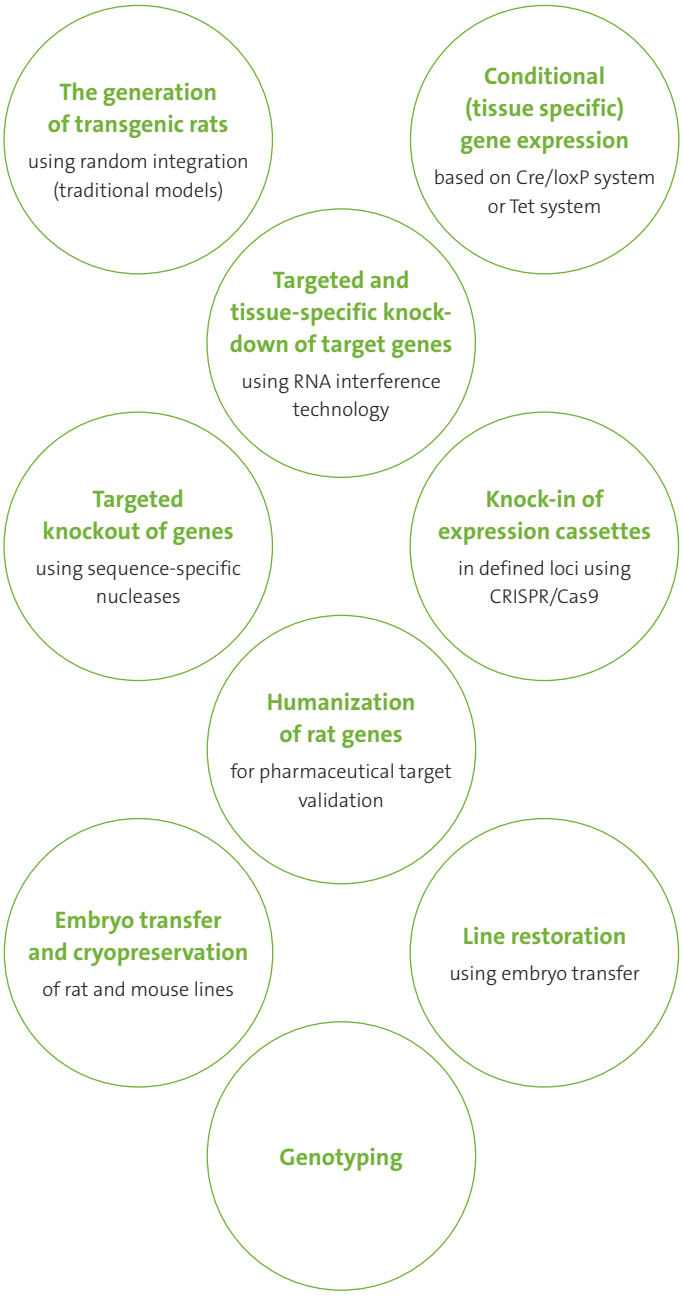
CORE FACILITY TRANSGENIC MODELS

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.

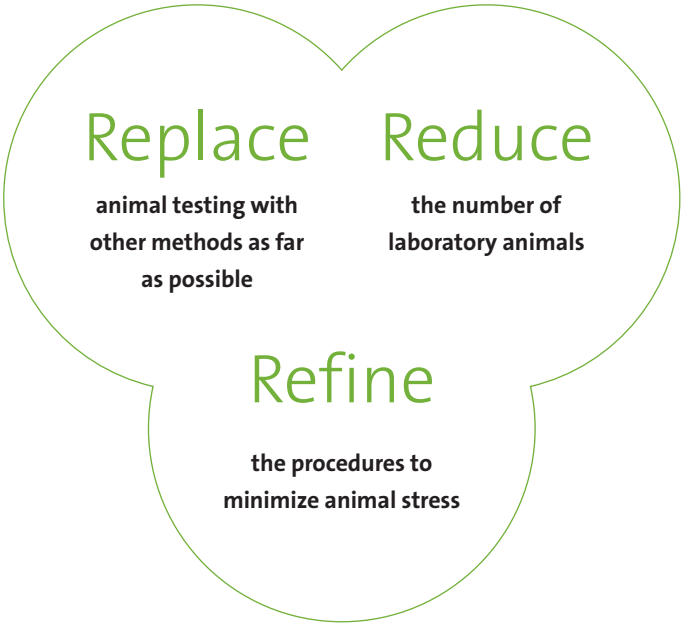
Animal research is an essential basis of identifying neurobiological mechanisms to better understand mental health problems and develop new drug therapies. The biology and the development of a neurological disorder in humans, mice and rats are similar. Many psychotropic drugs that are used clinically 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, e.g. 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 considerations regarding the recognized 3Rs principle.

The 3Rs principle



DEPARTMENT OF PSYCHIATRY AND PSYCHOTHERAPY

HEAD: PROF. DR. ANDREAS MEYER-LINDENBERG

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

The research activities are grouped into three overlapping theme clusters:

I.

Etiology and progression of mental disorders over the course of life – from childhood to old age.

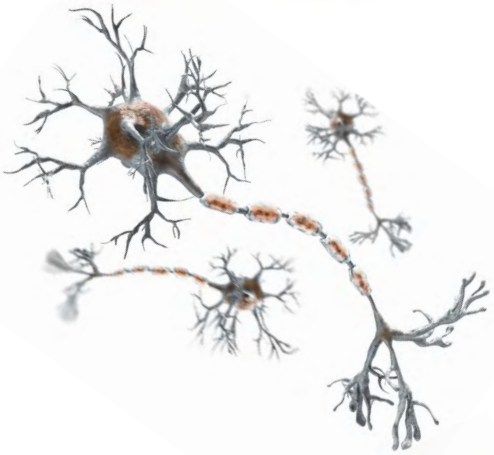
II.

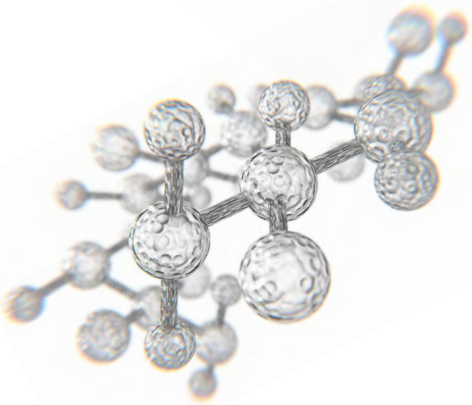
The inherent ability of individual nerve cells or entire brain regions to change their characteristics depending on their use (neuronal plasticity).

III.

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.





RESEARCH GROUPS OF THE DEPARTMENT

Center of Excellence for Research on Psychiatry and Psychotherapy
Head: Prof. Dr. F. Markus Leweke

Emmy-Noether Group Translational Bioinformatics in Psychiatry
Head: Emanuel Schwarz, Ph.D

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

Psychiatric and Mental Health Nursing
Head: Dr. rer. medic. Stefan Scheydt

Animal Models in Psychiatry
Head: Associate Prof. Dr. Peter Gass,
Associate Prof. Dr. Barbara Vollmayr

Stress-Related Disorders
Head: Associate Prof. Dr. Michael Deuschle

Systems Neuroscience in Psychiatry (SNiP)
Head: Prof. Dr. Dr. Heike Tost, 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

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

The researchers are investigating the specific and cross-disorder biopsychosocial mechanisms of risk, resilience, and progression of common pediatric and adolescent psychiatric disorders such as attention deficit hyperactivity disorder (ADHD) and autism spectrum disorders (ASD).

The translation of these mechanisms into innovative, age-appropriate personalized and staggered, biomarker-based, effective and safe non-pharmacological and pharmacological therapies, prevention concepts and guidelines is the focus of the research work. To this end, the long-term efficacy and safety of psychotropic drugs in children and adolescents is being investigated. The focus is on longitudinal research of early-onset disorders in epidemiological, clinical and risk cohorts, and the link between mental, somatic, genetic and environmental factors.

The department has a strong national and international network, with collaboration partners from the European Network for Hyperkinetic Disorders (Eunethydis) as well as the Donders Institute for Brain, Cognition and Behaviour and the Institute of Psychiatry, Psychology & Neuroscience at King's College London.

RESEARCH GROUPS OF THE DEPARTMENT

Attention Deficit Hyperactivity Disorder (ADHD) in Childhood and Adolescence
Head: PD Dr. Sarah Hohmann

Autism
Head: Dr. Tanja Schad-Hansjosten, Dr. sc. hum. Sarah Baumeister

Clinical Neuroscience of Mood Disorders
Head: Dr. Argyris Stringaris, Prof. Dr. Dr. Tobias Banaschewski

Developmental Neuroscience in Psychiatry
Head: N. N.

Developmental Clinical Neurophysiology
Head: Prof. Dr. Daniel Brandeis, Dr. sc. hum. Sarah Baumeister

Pediatric Psychopharmacology
Head: Dr. med. Alexander Häge

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 posttraumatic stress disorder – as well as psychotherapeutic interventions derived from it. The goal is a better understanding of disturbed emotion regulation and social interaction as well the influence of stress on cognitive processes.

For this, methods of experimental psychopathology are used, i.e. 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, e.g. by examining neural correlates of emotion regulation before and after psychotherapy.

RESEARCH GROUPS OF THE DEPARTMENT

Emotion Regulation and Social Cognition
Head: PD Dr. Inga Niedtfeld

Experimental Psychopathology
Head: Prof. Dr. Christian Schmahl

Body Plasticity and Memory Processes
Head: Dr. sc. hum. Robin Bekrater-Bodmann

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: Dr. rer. nat. Florian Bublatzky

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

PROJECTS

PUBLICATIONS

DEPARTMENT OF ADDICTIVE BEHAVIOR AND ADDICTION MEDICINE

HEAD: PROF. DR. FALK KIEFER

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

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. 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. Perspectives on quality assurance and further training and cost aspects and the use of tools are also examined.

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: Associate Prof. Dr. Wolfgang H Sommer, Prof. Dr. Falk Kiefer

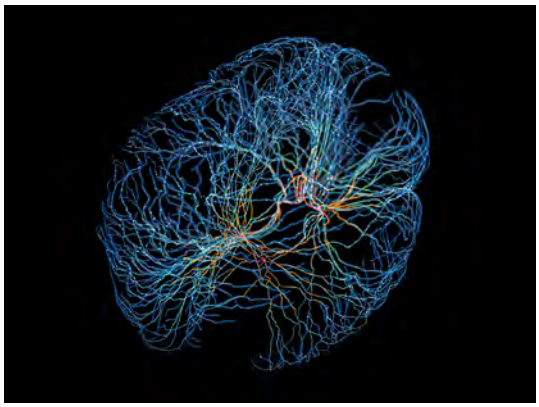
Behavioral Addiction
Head: PD Dr. Tagrid Leménager, PD Dr. Patrick Bach

PROJECTS

PUBLICATIONS

INSTITUTE OF COGNITIVE AND CLINICAL NEUROSCIENCE

SCIENTIFIC DIRECTOR: PROF. DR. DR. H. C. DR. H. C. HERTA FLOR



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: 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

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

INSTITUTE FOR PSYCHOPHARMACOLOGY

HEAD: PROF. DR. RAINER SPANAGEL

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

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

I. The development of behavioral therapies, pharmacological interventions (e.g. the use of psychedelics).

II. The clarification of long-term neurobiological consequences of drug abuse and binge drinking in adolescents.

III. 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. Marcus Meinhardt

Translational Addiction Research
Head: Prof. Dr. Falk Kiefer,
Prof. Dr. Christian Müller

Behavioral Genetics
Head: Dr. Ainhoa Bilbao

PROJECTS

PUBLICATIONS

DEPARTMENT OF BIOSTATISTICS

HEAD: PROF. DR. STEFAN WELLEK

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

The department advises researchers from all clinical and experimental disciplines at CIMH on trial planning, statistical modelling and the analysis of the data collected. 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. The goal is to expand the department and strengthen its integration into translational research. A future 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

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

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 (e.g. NAKO Gesundheitsstudie) and in national and international collaboration, including in the leading consortia (e.g. 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:

I. 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.

II. 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.

III. Genetic analyses
The 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).

IV. 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.

PROJECTS

PUBLICATIONS

DEPARTMENT OF GERIATRIC PSYCHIATRY

HEAD: PROF. DR. LUTZ FRÖLICH

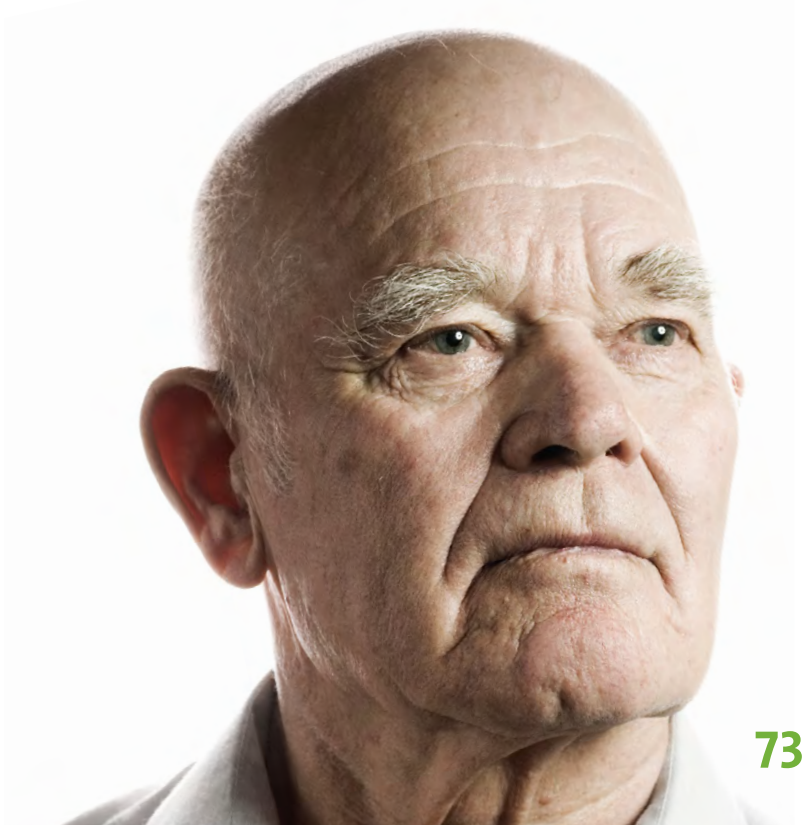
The focus is on translational therapy research in neurodegenerative dementia (primarily Alzheimer's disease) and other geriatric psychiatric diseases (e.g. depression and delirium in elderly patients). This includes the development of non-drug treatment options. Part of the research work is also the 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.

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

PROJECTS

PUBLICATIONS



DEPARTMENT OF CLINICAL PSYCHOLOGY

HEAD: PROF. DR. PETER KIRSCH

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

The scientists dedicate themselves to researching the causes, different characteristics and the effective psychotherapeutic treatment of mental disorders using empirical methods. 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 characteristics for mental illnesses, such as genetic predisposition.

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: Dr. Martin Fungisai Gerchen

Experimental Psychology
Head: Associate Prof. Dr. Stefanie Lis

Psychology and Neurobiology of Sleep and Memory
Head: 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. Modern imaging procedures are used for this, in particular Positron Emission Tomography (PET) and functional Magnetic Resonance Imaging (fMRI) are used for this in particular, and are 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 the CIMH taking the lead and Charité in Berlin as the second site (see also page 48).

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.

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

PROJECTS

PUBLICATIONS

DEPARTMENT OF NEUROIMAGING

HEAD: ASSOCIATE PROF. DR. GABRIELE ENDE

Associate
Prof. Dr. Gabriele Ende
Head of the Department
of Neuroimaging
Head of the Core Facility
CIPP

Magnetic Resonance Imaging (MRI) is an important method when it comes to driving forward the development of effective treatments for mental illnesses. Special techniques, for example, enable 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 3T human MRI machines and one 9.4T small animal scanner.

In humans, there are two main projects. 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.

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. For the special research area 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.

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

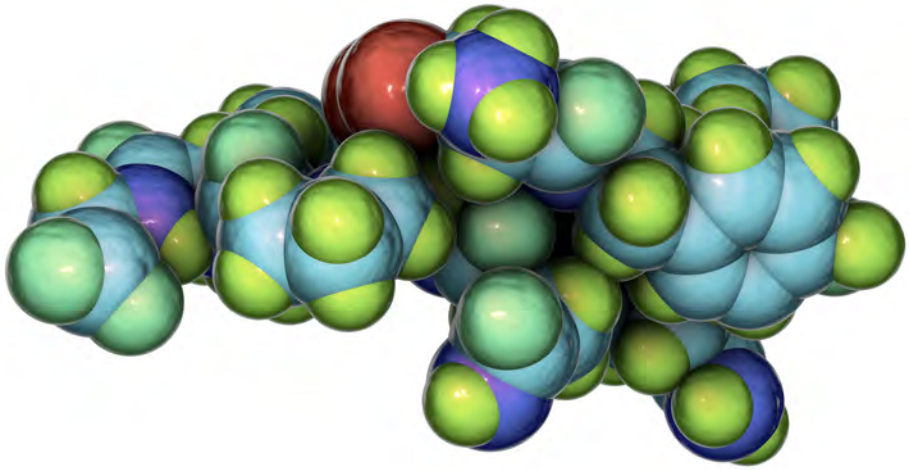
Translational Imaging
Head: Associate Prof. Dr. Alexander Sartorius,
Dr. Wolfgang Weber-Fahr

PROJECTS

PUBLICATIONS

DEPARTMENT OF NEUROPEPTIDE RESEARCH IN PSYCHIATRY

HEAD: PROF. DR. VALERY GRINEVICH



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

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

PROJECTS

PUBLICATIONS

DEPARTMENT OF PUBLIC MENTAL HEALTH

HEAD: PROF. DR. ULRICH REININGHAUS

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

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

IMMERSE is developing digital mobile methods to tailor psychiatric care individually to patients and to include them in decision-making and treatment processes (see also page 50). The real laboratory is developing and testing an app that adolescents and young adults can use to get personalized digital training to improve their emotional resilience (see also page 51).

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 Measurement and Health Economics
Head: Dr. Jan Böhnke

PROJECTS

PUBLICATIONS

DEPARTMENT OF THEORETICAL NEUROSCIENCE

HEAD: PROF. DR. DANIEL DURSTEWITZ

The department has three main approaches to research:

I) 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).

II) 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. On the basis of 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 (see also page 52).

III) 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

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

H

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

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

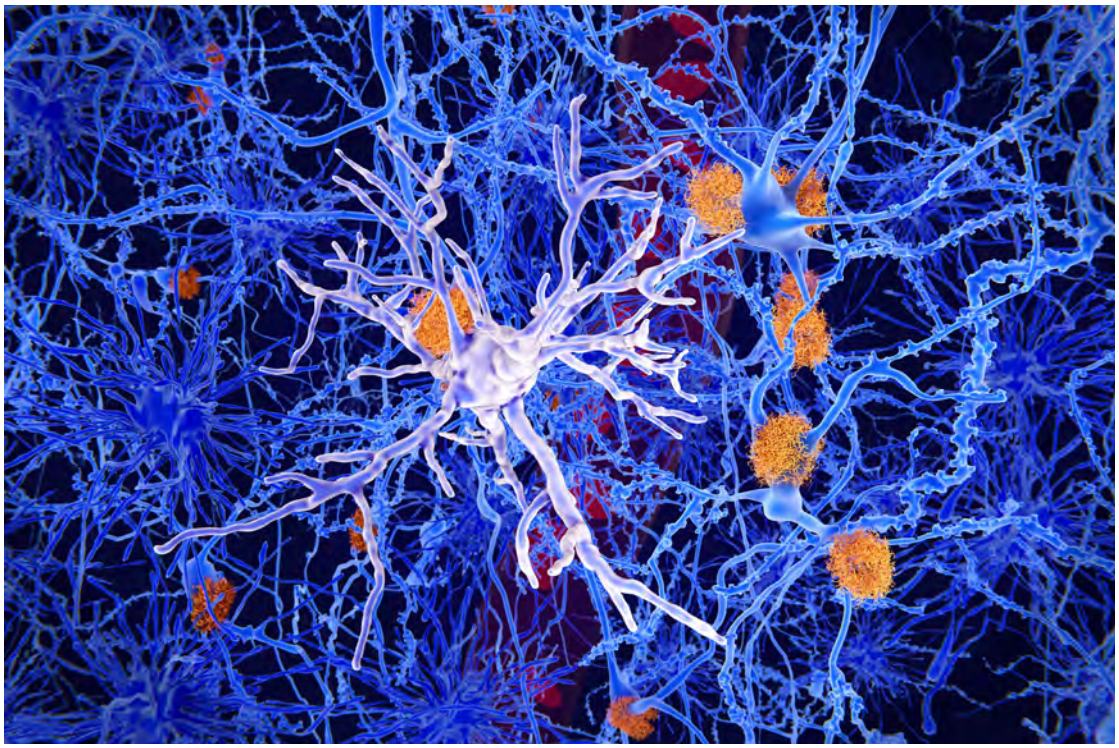
The researchers are investigating how in vitro generated neurons, 3-dimensional brain organoids, and neuronal networks display changes that can be placed in a causal context with psychiatric disorders. To this end, detailed morphological studies of neurons and glial cells and synaptic connections are 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.

RESEARCH GROUP OF THE DEPARTMENT

Developmental Brain Pathologies
Head: Dr. Julia Ladewig

PROJECTS

PUBLICATIONS



ORGANIZATION

CIMH AS AN EMPLOYER, SUBSIDIARIES, EDUCATION AND FURTHER TRAINING, SUPERVISORY BOARD, SCIENTIFIC ADVISORY BOARD, PERSONNEL MATTERS

CIMH AS AN EMPLOYER – SHAPING THE FUTURE TOGETHER

Excellent research and medicine in the service of people affected by mental illness and society – at CIMH, we work together for our mission in a trusting way in all areas. We love the high level of intrinsic motivation among our employees. There are now around 1,500 colleagues from various professional groups that identify with CIMH and the work it does. Together, we are shaping the future of the institute.

OBJECTIVES AND GROWTH

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.

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.

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. Since nurses are an important part of our multi-professional team in health care, we sharpened our profile in this area in 2021 with our nursing recruitment campaign *Unbedingt wir*. Nursing in psychiatry is something special, and we need to make people aware of this.

PRINCIPLES OF LEADERSHIP AND CULTURE

Leadership culture and leadership behavior are very important to CIMH and our development. We therefore developed broad leadership principles. They reflect the goals and values of CIMH, and help to orient us in our work. These are the leadership principles we want to live every day:

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.

TRAINING AND PERSPECTIVES

CIMH Academy: it is practice and knowledge-focused, interdisciplinary, and networked. It offers employees in all professional groups a wide range of educational measures and organizes the mandatory instruction sessions for each specific professional group that need to be completed on a regular basis. A special course and mentoring program has been compiled for successful professional development among researchers. New digital learning formats are also included in the education that is on offer.

Training and studies: training and young academic development continued to be expanded in 2021. In collaboration with CIMH four students are completing their business administration studies, specializing in health management, at the Baden-Württemberg Cooperative State University. 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 collaboration partner for various somatic hospitals and universities as part of the new generalist training in nursing.

SATISFACTION AND HEALTH

Ensuring a healthy work-life balance and therefore the satisfaction of all employees is a key objective. People who are looking for balance between job and family are in the right place. We take into account individual wishes in terms of working hours and workplace, and plan working hours and parental leave in a reliable way. We collaborate with various facilities on emergency and family care and on creche and kindergarten places. Various childcare services such as participation in the Delta-Kids summer sports camp are financially supported by CIMH.

The health of our employees is just as important to us as the health of our patients. Health management includes health promotion through discounts in various sporting facilities, and internal workshops at CIMH. Occupational safety is also important: de-escalation management in health care/nursing is particularly important to support our employees as well as possible in their everyday working life and to strengthen them in this. Both prevention and communication measures and defense and protection techniques are taught at regular de-escalation training sessions and by our practical trainers.

The corporate benefits platform is available to all CIMH employees. Our employees can obtain products from a wide range of providers under special conditions. They can also make use of discounts, for example with Vodafone, the National Theater in Mannheim, Europcar car rental, and at pharmacies in the direct vicinity of CIMH.

OUTLOOK AND VISION

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 improving the lives of our patients and strengthening their mental health.

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 Central Institute of Mental Health. It serves primarily for the postgraduate scientific and professional training of psychologists as psychological psychotherapists as well as child and adolescent psychotherapists.

The theoretical and outpatient program is developed jointly with Otto Selz Institute at University of Mannheim. The training courses with emphasis on behavioral therapy aim to impart the 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.

SUPERVISORY BOARD

PRESIDENT

Dr. Carsten Dose, Head of the Department of University Medicine in the Ministry of Science, Research and the Arts Baden-Württemberg

Deputy of the president

Dirk Grunert, Mayor Department III (Youth, Children, Education, Family, Health) of the city of Mannheim

Esther Pfalzer (from April 2021), Undersecretary in the Ministry of Finance Baden-Württemberg

Alfred Dietenberger (until April 2021), Executive Undersecretary in the Ministry of Finance Baden-Württemberg

Christina Rebmann, Undersecretary in the Ministry of Social Affairs, Health and Integration Baden-Württemberg

Prof. Dr. Sergij Goerdt, Dean of the Medical Faculty Mannheim of Heidelberg University

Prof. Dr. Bernhard Eitel, Rector of Heidelberg University

Prof. Dr. Andreas J. Fallgatter, President of the Scientific Advisory Board of the Foundation, Medical Director of the Clinic of Psychiatry and Psychotherapy at University Hospital Tübingen (member of the Supervisory Board according to Section 10 Paragraph 2 g of the Foundation Statute)

Anja Simon, Commercial Director at the University Hospital Freiburg (member of the Supervisory Board according to Section 10 Paragraph 2 h of the Foundation Statute)

Dr. Natalie Lotzmann, Vice President, Chief Medical Officer, Global Health Management at SAP SE, (member of the Supervisory Board according to Section 10 Paragraph 2 h of the Foundation Statute)

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

SCIENTIFIC ADVISORY BOARD

A

PRESIDENT

Prof. Dr. Andreas J. Fallgatter (Psychiatry), Medical Director of the Clinic of Psychiatry and Psychotherapy at University Hospital Tübingen

Prof. Dr. Dr. Monique 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 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 Buitelaar (Child and Adolescent Psychiatry), Head of the research group on neuropsychiatric und 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 (CIPP), 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 Zentrum München – German Research Center for Environmental Health, Neuherberg

PERSONNEL MATTERS

F

Founder and long-term supporter of CIMH has died at the age of 93

As Mayor of Social Affairs of the city of Mannheim, Dr. Hans Martini was heavily involved in the founding of CIMH and remained closely linked to the institute for his entire life. He recognized the potential of a social psychiatric facility in the community at an early stage, and justified the close relationship between the city of Mannheim and CIMH by locating it there.

With his many years of commitment, first as the Foundation Commissioner (from 1975 to 1978) and long-term Chair of the CIMH Promotional Association (until the end of 2012), he shaped the development of the Central Institute in the long term. Until he turned 90, Martini continued to be a member of the Supervisory Board, in later years in an advisory capacity, and continued to be closely linked to the institute after this. The clinic school at CIMH was particularly important to him.

We will remember his long-lasting effect on CIMH with gratitude. With the death of Dr. Hans Martini, we are losing a patron who has been supporting and shaping the development of CIMH since it was founded. We are also losing an excellent person, who continued to contribute to CIMH, the Medical Faculty Mannheim and the health of Mannheim citizens with his extensive knowledge until a great age.

Prof. Dr. Andreas Meyer-Lindenberg one of the most cited researchers

Scientists 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 2021, too, Prof. Dr. Andreas Meyer-Lindenberg, Chair of the Executive Board of the CIMH and Medical Director of the Clinic for Psychiatry and Psychotherapy, is once again listed as one of the most influential academics in the world. He is on the list for the eighth 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. Falk Kiefer is the new President of the German Association for Addiction Research and Addiction Therapy

At the German Addiction Conference in September 2021, CIMH researcher Prof. Dr. Falk Kiefer was elected the new President of the German Association for Addiction Research and Addiction Therapy. He is Medical Director of the Clinic of Addictive Behavior and Addiction Medicine at CIMH and holds the chair in Addiction Research at Heidelberg University. The German Association for Addiction Research and Addiction Therapy works in an interdisciplinary manner on the research, detection, treatment, and prevention of the risky consumption, dependence, and abuse of psychoactive substances and non-substance-related dependencies. As a member of the Arbeitsgemeinschaft der Wissenschaftlichen Medizinischen Fachgesellschaften e. V. (Association of the Scientific Medical Societies in Germany), it sets out guidelines on the evidence-based treatment of substance-related and non-substance-related addictions.

S

Six CIMH experts are once again on the Focus list of doctors
The magazine Focus-Gesundheit chooses its "top doctors" for a wide range of specialisms and diseases each year. Six doctors from the CIMH are on the expert list in the fields of psyche and neurology: Prof. Dr. Andreas Meyer-Lindenberg (schizophrenia and depression), Prof. Dr. Falk Kiefer (addictions), Prof. Dr. Martin Bohus (psychosomatics), Prof. Dr. Michael Deuschle (depression), Prof. Dr. Gerhard Gründer (anxiety disorders and depression) and Prof. Dr. Lutz Frölich (dementia and depression).

Prof. Dr. Martin Bohus retires
After 18 years of successful and productive work, Prof. Dr. Martin Bohus left CIMH in late September. He is retiring, but will remain a guest academic with the institute and the psychosomatic clinic. Martin Bohus took over the professorship in Psychosomatics and Psychotherapeutic Medicine in the Medical Faculty Mannheim at Heidelberg University in 2003. At the same time, he was appointed Medical Director of the Clinic for Psychosomatic and Psychotherapeutic Medicine at CIMH. Since 2015, he was Scientific Director of the Institute for Psychiatric and Psychosomatic Psychotherapy. He won multiple national and international awards for his research on psychotherapy. He developed innovative therapeutic services at CIMH. These included a three-month inpatient treatment program for patients with borderline personality disorder and patients with posttraumatic stress disorder, and the first adolescent center that offers disorder-specific and continuous treatment over the entire phase of adolescence.

HABILITATIONS

Associate Prof. Dr. Patrick Bach, Head of the Research Group on Neuroenhancement and a doctor in the Clinic of Addictive Behavior and Addiction Medicine completed a postdoctoral qualification in experimental psychiatry in 2021 on the subject of "Investigation of the morphological and functional changes within the mesocorticolimbic system in addiction". He was conferred the title of Privatdozent (associate professor).

NEW SENIOR PHYSICIANS

Clinic of Psychiatry and Psychotherapy: Dr. Florian Bähner (senior physician in the crisis and diagnosis ward, KD-A)

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