



# European Psychoneuroimmunology Autumn School Series



## “The skin-brain axis and the breaking of barriers”



**2<sup>nd</sup>-10<sup>th</sup> September 2023**

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<https://www.gebin.org>, <https://pnieurope.eu/>, <https://www.cmbb-fcmh.de/>

Instructors will include: Judith Alferink, Anna Andreasson, Lilian Basso, Janne E. Bredehöft, Carsten Culmsee, Adriana del Rey, Firdaus Dhabhar, Uwe Gieler, Michael Hertl, Alexander Karabatsiakis, Karsten Krüger, Mats Lekander, Christina Nassenstein, Eva M. J. Peters, Georg Pongratz, Christoph Rummel, Manfred Schedlowski, Martin Schmelz, Rainer Straub

The course will be held at the idyllic castle Rauischholzhausen in Hesse, Germany

<http://schloss.faber-management.de>

**Application opens: 12<sup>th</sup> December 2022**

**Application deadline: 31<sup>st</sup> January 2023**

<https://www.uri-giessen.de/epn-autumn-school-series>

gives all information and will be completed by the 12<sup>th</sup> December 2022

The School will introduce outstanding contemporary work in the fields of neurosciences, physiology, immunology, psychology, veterinary medicine, dermatology a.o. It will exemplify a variety of research approaches to decipher brain-body cross talk in health and disease. Skin will serve as an exemplary organ to discuss the field of psychoneuroimmunology in general.

Eligible are MD and PhD students, postdoctoral fellows as well as young group leaders with research interest in the field.

What we offer: one week of training in morning lectures and hands-on practical afternoon courses that will cover a wide range of topics, from neuro-immune communication in peripheral organs to making a carrier in psychoneuroimmunology and related fields.

The main selection criterion for awardees will be the degree to which each applicant can be expected to benefit from the school. The organizers will attempt to balance fields, nationalities, and gender.

The school is funded by the Volkswagen Foundation and tuition for the school, including travel (defined budget), lodging and food are fully supplemented.

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## 1 Aims and scope of the Autumn School series

*We are grateful to the Volkswagen Foundation for funding the EPN Autumn School Series!*

The Autumn Schools “European Psychoneuroimmunology” are planned as a **series** to cover **major organ systems** representative of **interactions between the individuuum / individual health and the environment**. They explore innovative ideas and research venues in a multidisciplinary field that includes **neuroscience, immunology, stress research** and **psychiatry/psychosomatics/psychology** from basic to clinical science. A particular focus lies on **therapeutic options** for the reduction of pathogenic neuroendocrine-immune interactions.

Complex interdisciplinary interactions emerge as an important melting pot for the development of new integrative approaches addressing modern civilization health challenges. The activation of the immune system in interaction with the brain in health and disease forms the core of this multidisciplinary bio-psycho-social research approach. Multiple immune-derived messengers originating from peripheral inflammatory insults contribute to immune-brain communication, while neurogenic mediators can modulate the peripheral immune response. Recent evidence showed that these processes have high similarities in different organs, but organ-specific disease relevance. Besides the largely investigated gut-brain axis, the lung-brain and skin-brain axes deserve increasing attention.

Research in psychoneuroimmunology (PNI) is instrumental to achieve breakthroughs in these research fields with a high potential to spread these concepts to other research areas. While the COVID-19 crisis highlights the importance of infection trespassing body barriers, these relatively new research fields remain poorly understood. Here, we combine the expertise of the German-Endocrine-Brain-Immune-Network (GEBIN) and the recently established European PNI Network (EPN) with specialists in lung and skin research to establish training events for a new generation of young motivated researchers. The scope is to promote novel research on health challenges of substantial relevance. This series of Autumn Schools will foster interactions between leaders and trainees in traditionally separated research fields within the framework of PNI. We aim at creating an attractive atmosphere to increase the interest of a new generation of scientists who should contribute to the development of an urgently needed integrative multidisciplinary medicine.



We are glad to announce that the first School “Lung-Brain Axis” was a great success (see photography of participants present on the first day), both academically and socially, and we are looking forward to repeating the experience with a keen group of scientists interested in deepening their psychoneuro-immune insight. Publication of the editorial and abstracts can be found here:

<https://www.karger.com/Article/FullText/526565>,  
<https://www.karger.com/Article/Pdf/526623>.

## 2 Call

The Second Autumn School on “The skin-brain axis and the breaking of barriers” will take place from 2<sup>nd</sup> to 10<sup>th</sup> September 2023. The call for application starts on 12<sup>th</sup> December 2022 and closes on 31<sup>st</sup> January 2023. Applicants are asked to upload all documents until 30<sup>th</sup> April 2023. Trainees will be notified about acceptance by 1<sup>st</sup> June 2023.

## 3 Preliminary schedule and program

The program can be obtained from the EPN Autumn School homepage upon finalization.

Day Date	Saturday 02.09.2023	Sunday 03.09.2023	Monday 04.09.2023	Tuesday 05.09.2023	Wednesday 06.09.2023	Thursday 07.09.2023	Friday 08.09.2023	Saturday 09.09.2023	Sunday 10.09.2023
<b>Breakfast</b> 08:00 – 09:00									
<b>Morning session I</b> (40 Min. talk+20 Min. discussion)  9:00 - 10:00		"Skin biology and function: a paradigmatic barrier organ"  <i>M. Hertl</i>	"Neuro-immune interaction controls skin regeneration and homeostasis"  <i>E.M.J. Peters</i>	"Basics in neuro-immunology: each and every immunocyte responds to stress mediators"  <i>G Pongratz</i>	"Itch: a model symptom for biopsychosocial interaction"  <i>C. Schopf</i>	"Metabolic regulation of cell death and immunity in skin and brain"  <i>C. Gutmsee</i>	"Skin-mental health interaction: the psychotherapeutic perspective"  <i>U. Gielert</i>	"Animal and human studies in Psychoneuro-immunology"  <i>A. del Rey, E.M.J. Peters, J. Bredehöft</i>	<b>Farewell</b>
<b>Coffee break</b> 10:00 – 10:30		Meet today's Pls	Meet today's Pls	Meet today's Pls	Meet today's Pls	Meet today's Pls	Meet today's Pls	Meet today's Pls	
<b>Morning session II</b> (40 Min. talk+20 Min. discussion)  10:30 - 11:30		"Neuroanatomy of the skin-brain axis lays the ground for close interaction"  <i>C. Nassenstein</i>	"Neuro-immune cross-talk along the skin-brain axis controls inflammation"  <i>L. Basso</i>	"Stressed host defense: What does depression teach us?"  <i>J. Aftenink</i>	"Itch, pain and beyond: classical and non-classical pathways of brain-skin communication"  <i>M. Schmelz</i>	"Oxidative stress in brain, skin and hair"  <i>A. Karabotsiakis</i>	"Read-outs for stress attacks on barriers: lessons from rheumatology studies"  <i>R. Strauß</i>	"From clinical research to basic science in Psychoneuro-immunology"  <i>NW</i>	
<b>Coffee break</b> 11:30 – 12:00		Meet today's Pls	Meet today's Pls	Meet today's Pls	Meet today's Pls	Meet today's Pls	Meet today's Pls	Meet today's Pls	
<b>Morning session III</b> (40 Min. talk+20 Min. discussion)  12:00 -13:00		"Basic principles of brain-immune-organ interaction"  <i>A. del Rey, C. Rummel</i>	"Psychology of intact barriers: what have we learned from Covid-19?"  <i>M. Schedlowski</i>	"Bioinformatics: Signaling pathways relevant in skin and brain"  <i>NW</i>	"Immune-homeostasis of the skin: mast cells coordinate constant remodelling"  <i>NW</i>	"Leads and lessons from epidemiology for the study of neuroendocrine-immune circuits in skin"  <i>NW</i>	"Statistics in Psychoneuro-immunology"  <i>A. Andreasson</i>	"Perspectives in psychoneuro-immunology research"  <i>M. Lekander</i>	
<b>Lunch</b> 13:00 – 14:00									
<b>Recreation time</b> 14:00 - 15:00				Cave: Event starts at 14:00		Cave: Event starts at 14:00			
<b>Practical courses Part I</b> 15:00 - 16:20	<b>Arrival and Registration</b>	"How does mental health interact with skin barrier homeostasis?"  <i>NW</i>	Autumn School Mini Congress: Awardee Abstract Presentations	Venture into scientific Gießen  <i>Networking mentor-mentee</i>	Biopsychosocial conceptualization of the brain-skin axis	Venture into scientific Marburg  <i>Networking mentor-mentee</i>	Impact of skin diseases on brain homeostasis and plasticity and vice versa	<b>Methods swap</b>	
<b>Biobreak</b> 16:20 – 16:40									
<b>Practical courses Part II</b> 16:40 - 18:00		Training: "Elevator Pitch"	(5 minutes + 5 minutes discussion per mintalk) moderated by C. Rummel, A. del Rey, E.M.J. Peters	Visit of Laboratories and the Gießen Sperm Whale	Biopsychosocial concept round table wrap up moderated by E.M.J. Peters, K. Krüger	Visit of the University "Wachsmoutagen"	Psonasis - U. Gielert, Atopic Dermatitis - E.M.J. Peters, Prurigo - NW	Collection of feedback forms  all on site Pls	
<b>Recreation time</b> 18:00-18:30									
<b>Dinner</b> 18:30-19:30									
<b>Evening</b> 19:30 - 20:30 20:30-21:30	<b>Leisurely optional privat come together</b>	"Introduction to Psychoneuro-immunology"  <i>F. Dhabhar</i>	<b>Evening social at the posters</b>  <i>Poster session I</i>  <i>Poster session II</i>	<b>Leisurely optional privat come together</b>  <i>social room</i>	<b>PNI Charade and Midtime Social</b>  <i>social room</i>	<b>"Career: How to start your own group?"</b>  <i>C. Rummel</i>	<b>Meet the PI to discuss career experiences, wishes and options</b>  <i>all on site Pls</i>	<b>Closing address, feedback discussion, Farewell Social</b>	

## 4 Overall format of the School

The format follows a template that ensures continuity and some branding of this specific trainee event series, overall lecturers invited to teach at the school and awarded trainees will interact in the following formats:

- Each day will start with the morning teaching, which covers three thematically related areas. Each of the 20 Lecturers will be allotted 40 minutes for his/her talk, followed by 20 minutes discussion and a coffee or lunch break.
- Afternoon sessions will provide excursions and practical courses with “hands on” formats that promote active participation of the awardees.
- After dinner sessions will be organized to support social interaction and networking in different formats.

## 5 Special session formats

### 5.1 The Autumn School Mini-Congress Presentation Event

All awardees will be asked to submit an abstract describing their own research and present it during the Mini-Congress. Short 5 min. presentations by the trainees will be followed by 5 minutes for questions. The Mini-Congress will be organized in three parallel sessions with 15 trainees each, one moderator from the organizer team and accompanied by the teachers present during the Mini-Congress. Chairs will ensure that trainees will be always allowed to ask questions first. PIs will also contribute to the discussion. The abstracts will be published in Neuroimmunomodulation (Karger).

### 5.2 Introductory talk on Psychoneuroimmunology

The introductory talk will be given by Prof. F. Dhabhar, Department of Psychiatry & Behavioral Sciences and Sylvester Comprehensive Cancer Center and Department of Microbiology & Immunology, Miller School of Medicine, University of Miami, Miami, Florida

### 5.3 Practical Course „Epidemiology“

Statistics as applied in epidemiologic PNI research (animals and humans) will be introduced and discussed with hands-on tasks to be completed by the trainees and supervised by Dr. Anna Andreasson. Dr. Andreasson merges expertise in PNI research with specific challenges in statistical analyses.

### 5.4 Training „elevator pitch“

The concept developed apparently in New York when people met VIPs in an elevator and tried to interact with them. How do you describe you, your work and your expertise in 1-2 minutes? We will do an exercise for the elevator pitch – so next time you meet your hero in science, you will be better prepared. The concept adheres to the following structure:

- The first sentence has to be right. It serves to arouse curiosity
- Offer: Experience? - Interest: Benefits?
- Motivation: Why would you like to work with this person?
- Appeal: What do you want from him/her?
- Stay in contact

## 5.5 Poster presentation

The trainees will present their research projects at their posters to foster one-by-one interaction between all participants. Refreshments and cheese will be offered during the session. Posters will be first hung up prior to the presentation but will remain available throughout the School.

## 5.6 Practical Course “Venture into scientific Giessen”

Lecturers and awardees will go from the Castle to Giessen by bus transfer. A lunch packet will be provided, dinner will be served upon return to the castle. A guided tour to laboratories of interest and a visit to the Giessen sperm whale will be offered.

## 5.7 Practical Course “Biopsychosocial conceptualization of the brain-skin axis”

After an activating talk by Prof. E. Peters (20 minutes), a round table discussion on challenges and consequences of bidirectional skin-brain axis communication for biopsychosocial concepts will be organized. Next, trainees will be divided into 6 groups to work on specific research questions that will afterwards be presented and discussed in the overall group.

## 5.8 Practical Course “Venture into scientific Marburg”

Lecturers and awardees will go from the Castle to Marburg by public bus. Dinner will be served on return to the castle. A guided tour of the Moulagensammlung (collection of wax-moulages of skin diseases) of the Dermatology Department of the University of Marburg will be offered and one-by-one interactions between lecturers and awardees during exploration of the city of Marburg will be fostered.

## 5.9 Practical course “Impact of skin diseases on brain homeostasis and plasticity and vice versa”

Awardees will be divided into 3 groups of maximum 15 trainees each and one supervisor. After an introductory talk on a given skin disease by the supervisor (one hour), the awardees will work on a “homework” (one hour) that will be presented to and discussed with the other members of the group (20 minutes per group; 5 students per group).

The “homework” will be given by the supervisors two days prior to the course, with specific recommendations to the awardees about what is expected:

- a. The awardees have to propose a scientific question related to the supervisor’s presentation (only one very specific question)  
*(Which scientific question related to the talk would you be interested in solving?)*
- b. The awardees are asked to propose experiment(s) to answer their scientific question  
*(How would you experimentally try to answer it?)*

During the discussion, the following points should be addressed:

- Originality and relevance of the question
- Feasibility to answer it
- Was the hypothesis clear?
- Is the experiment proposed appropriated to answer the question formulated?



- Is the methodology already available or is it necessary to develop a “new” technique?
- Are all experimental groups included?
- What about controls?
- Which results are expected?
- Are collaborations with scientists from different disciplines needed for your proposal?
- Does the answer to the question open new ones?

Eventually, additional points could include:

- How many people are needed to do this (these) experiment(s)?
- What about cost and time schedule?

### 5.10 Meet the PIs

Semi-structured informal interaction between lecturers/organizers and awardees will be fostered:

- a) During the breaks in the morning sessions, lecturers could be approached after his/her presentation at the “Meet the PIs of the day” table in the poster area.
- b) Within the frame of excursions to local sites in Giessen and Marburg.
- c) During the “Meet the PI to discuss career experiences, wishes, and options” evening session, where (when the weather allows it) the castles garden will be used to foster interaction of 1-2 PIs per table with 3-6 awardees in 15 minute group interactions.

### 5.11 Practical Course “Methods Swap”

Awardees will be asked to fill in a form until 15.08.2023 giving brief information about methods in which they are experienced and those that they would like to learn. The forms will be printed by the organizers and posted on poster boards at the castle. During the session, matches, interactions between participants, and exchange of information will be fostered in a semi-structured workshop.

### 5.12 Feedback

On the last day of the School, all participants will be asked to fill in a short feedback form and provide it to the organizers.

### 5.13 Closing Address

With a discussion and closing address chaired by the hosts, everybody will be invited to the farewell social evening on the last day of the school.

## 6 Selection of venue

### 6.1 The castle “Rauischholzhausen”

First mentioned between 750 and 779, this castle is a Justus Liebig University Giessen conference center. It has the charm of an old castle, and is fully equipped to foster close formal and informal interactions during scientific trainings between all participants. Besides the main castle building with its lecture halls, dining halls, and bedrooms, there are additional buildings for accommodation, social rooms, and a beautiful park surrounding the castle (<https://www.uni-giessen.de/about/rhh>).

### 6.2 Internet access at the castle

In general, there is internet access provided at the castle by the university. However, due to the thick walls within the castle, VLAN access may vary greatly, resulting in limited internet access, even if you have arranged for a private hotspot. Access data of public VLAN: SSID – ugitag, Username – wlan-rrh, Password: 0815gastrhh.

## 7 Organization and application

The call is open to trainees (PhD students, postdoctoral fellows, young group leaders) in the field of PNI, but also in other fields that address biopsychosocial interactions and the interaction between neuro-endocrine-immune pathways and health. Trainees with residence in EU or European Training Foundation countries are of particular interest for this European PNI Network (EPN) training event. Participants from overseas may have to cover additional travel costs. Participation of trainees at several schools is possible – the selection committee will award trainees according to the criteria given below.

Required application documents include a brief CV (maximum two pages including up to 10 scientific communications [peer review publications/conference presentations/invited talks] and scientific fields of interest), two letters of reference by researchers/lecturers and a brief letter of motivation (maximum 500 words).

Selection is focused on motivated and best qualified young trainees (scientific communications and degree of advancement of own research), who show the highest potential to benefit from and contribute to the autumn school. The aim is to cover multidisciplinary (psychoneuroimmunology, neuroscience/neuroimmunology and target organs), and a balanced mixture of nationalities and gender.

## 8 Travel

Awardees and PIs are asked to organize their travel as early as possible so as to ensure reasonable travel costs. If needed, please contact the organizers for advice.



### 8.1 Nearest travel hubs

The nearest airport is Frankfurt, the nearest train station is Marburg (around 16 km), the second nearest is Giessen (around 32 km). Travel expenses for lecturers and trainees are covered by the school. For respective budgets, please communicate directly with Prof. Dr. Eva Peters (eva.peters@eva-peters.com).

### 8.2 Arrival transport to the castle provided by the School

If arriving by plane, you can take the train from the airport to Marburg or Giessen. The up-to-date schedule for train rides from the airport to Giessen can be found here: <https://www.bahn.com/en> and via the Deutsche Bahn Navigation App <https://apps.apple.com/us/app/db-navigator/id343555245>.

To ensure save arrival at Castle Rauischholzhausen from the airport, we will arrange additional bus transfers if necessary (e.g. rail reconstructions), which will also stop at the Mathematikum closed to the train station in Giessen. We will announce more details on the transfer from the airport closer to the actual event, including where the bus would be waiting at the airport.

### 8.3 Departure transport from the castle provided by the School

After the departure breakfast, a bus transfer stopping at Giessen train station and at Frankfurt Airport will be organized by the School and leaving at 10:00 o'clock. The bus ride is free of charge for trainees and PIs and takes around 1 hour to Giessen and an additional 1,5 hours to the airport.

### 8.4 Taxi transport

If a private taxi transfer would be required for special needs, you can order a taxi via: Taxi Transfer Company SPARCAR, Mobil: +49 (0) 176 619 05 256, Fon: +49 (0) 641 4941243, [www.sparcar-giessen.de](http://www.sparcar-giessen.de) or Transfer Company SPARCAR, telephone + 49 (0) 6421 999988: <http://sparcar-marburg.de>

## 9 Lecturers at the 2<sup>nd</sup> Autumn School

We are glad to announce that leading scientists within the field of PNI and skin research have accepted to contribute to the EPN Autumn School. Lecturers are asked to employ interactive formats such as student response devices / clicker systems, case examples or other formats chosen by the speakers (group work, quiz, etc.) to promote lively teaching. Trainees will be taught by preeminent PNI/skin/life style researchers mainly recruited from experts within Europe to foster further interactions.