



International Research Training Group 2150

**The Neuroscience of Modulating
Aggression and Impulsivity in Psychopathology**

2nd SPRING SCHOOL



April 25 – April 28, 2018

**UNIKLINIK
RWTHAACHEN**



Penn

JARA|BRAIN

Translational Brain Medicine

DFG

Deutsche
Forschungsgemeinschaft

Dear students and colleagues,

Welcome to the 2nd annual Spring School of the International Research Training Group (IRTG) 2150: *The Neuroscience of Modulating Aggression and Impulsivity in Psychopathology*.

The 1st Spring School last year in Philadelphia was an exciting one, marked by active exchange and establishing international co-operations in fascinating research projects. So far, five students from Aachen have spent their mobility period at the University of Pennsylvania, working on research projects in the teams of their American supervisors. Two students from the University of Pennsylvania have worked in Aachen in the labs of German supervisors, designing and conducting their own experiments.

The 2nd Spring School in Aachen contains a scientific program that is organized by PhD students from all participating institutions and will feature eight sessions covering topics in the scope of the IRTG. Following the sessions, thesis committee meetings will offer the chance to discuss the research projects in greater detail. We are very happy, that our Mercator fellow of the IRTG, James Blair, will join us during this event and will give a keynote lecture. An alumni session held by former IRTG members will shed light on career tracks post-graduation. The Spring School also provides students with the opportunity to plan their mobility periods and to visit the labs in Aachen and Jülich. Lastly, the City tour on Friday will let you enjoy Aachen's most famous sights.

Special thanks go to the DFG and the participating institutions: the RWTH Aachen University, Research Center Jülich, and the University of Pennsylvania. Particularly, we would like to thank all speakers for sharing their research and the organizing team for outstanding support.

We are very happy to welcome you here in Aachen and are looking forward to an exciting and stimulating Spring School!

With Best Wishes,



Ruben C. Gur



Ute Habel

IRTG2150



1st Spring School in Philadelphia 2017

Program Overview 1/2

Wednesday, April 25

3.15 pm – 3.45 pm	Coffee time
3.45 pm – 4.00 pm	Welcome and opening: Ute Habel and Ruben Gur
4.00 pm – 5.00 pm	Session 1: Disease models
5.00 pm – 5.45 pm	Keynote lecture: Danilo Bzdok
6.00 pm	Welcome reception and dinner

Thursday, April 26

9.00 am – 10.00 am	Session 2: Neurofeedback
10.00 am – 11.00 am	Session 3: Brain stimulation
11.00 am – 11.30 am	Coffee break
11.30 am – 12.15 pm	Keynote lecture: James Blair (Mercator fellow)
12.15 pm – 1.15 pm	Session 4: Methods
1.15 pm – 1.30 pm	Photo session
1.30 pm – 2.30 pm	Lunch break
2.30 pm – 4.00 pm	Student thesis committee meetings
4.00 pm – 5.30 pm	Student thesis committee meetings
7.00 pm	Students' evening / Supervisor dinner

Program Overview 2/2

Friday, April 27

9.00 am – 10.00 am	Supervisors meeting
10.00 am – 10.30 am	Coffee break
10.30 am – 11.45 am	Session 5: Development and brain networks
11.45 am – 12.45 pm	Session 6: Animal models
12.45 pm – 1.45 pm	Lunch break
1.45 pm – 2.30 pm	Alumni session
2.30 pm – 4.00 pm	Student thesis committee meetings
4.30 pm – 6.00 pm	City tour / IRTG board meeting
7.00 pm	Farewell dinner

Saturday, April 28

9.00 am – 10.15 am	Session 7: Brain and pathology
10.15 am – 11.15 am	Session 8: Aggression and impulsivity
11.15 am – 11.45 am	Coffee break
11.45 am – 12.30 pm	Keynote lecture: Ted Brodtkin
12.30 pm – 1.00 pm	Synopsis and final remarks
1.00 pm – 2.00 pm	Lunch break
2.00 pm – 3.30 pm	Student thesis committee meetings

Wednesday, April 25

3.15 pm Coffee time

3.45 pm Welcome and opening: Ute Habel and Ruben Gur

4.00 pm Session 1: Disease models

Chair:
Micha Keller

Cedric Xia (PENN)

Imaging-genetics of schizophrenia in a large developmental population of youth

Teresa Melanie Karrer (RWTH)

Data-guided screening of impaired mental domains in schizophrenia

Jeremy Lefort-Besnard (RWTH)

Patterns of schizophrenia symptoms: Hidden structure in the PANSS questionnaire

Philipp Honrath (RWTH)

Risk factors of suicidal ideation in Huntington's disease

5.00 pm

Danilo Bzdok

Segregation and integration in the default mode network

Chair:
Cedric Xia

6.00 pm Welcome reception and dinner

Thursday, April 26

9.00 am Session 2: Neurofeedback

Chair:
Susanne Stichel

Halim Ibrahim Baqapuri (RWTH)

Implementation of VR Infrastructure for neurofeedback in impulsive behaviors

Simon Kohl (RWTH)

Modulation of theory of mind and attention by neurofeedback

Micha Keller (RWTH)

Physiological self-regulation before and after real-time fMRI neurofeedback:
Modulating the brain-heart-axis

Jana Zweerings (RWTH)

Impaired voluntary control of the emotion regulation network in PTSD: probing
self-regulation with real-time fMRI

10.00 am Session 3: Brain stimulation

Chair:
Philippa Hüpen

Carmen Weidler (RWTH)

Consequences of prefrontal brain stimulation on neural correlates of aggression

Paul Wallheinke (RWTH)

Consequences of prefrontal transcranial direct current stimulation (tDCS) on
aggression and impulsivity in alcohol dependent patients

Lena Hofhansel (RWTH)

The effect of prefrontal neurostimulation on emotion regulation in a group of
criminal offenders

Leandra Nolte (RWTH)

Modulation of risk taking in criminal offenders by prefrontal transcranial direct
current stimulation

11.00 am Coffee break

11.30 am

James Blair

Neuro-cognitive systems underpinning antisocial behavior
and the impact of maltreatment and substance abuse on
their development

Chair:
Laura Bell

12.15 pm Session 4: Methods

**Chair:
Alexandru Puiu**

Kamyar Khaledi (RWTH)

Development and applications of a novel technique in structural and functional human brain imaging

Simon Koppers (RWTH)

Diffusion signal harmonization – A spherical approach

Julius Maximilian Kernbach (RWTH)

Segregation and integration in the default mode network: A population brain-imaging study

Andrew Murphy (PENN)

Explicitly linking regional activation and functional connectivity: Community structure of weighted networks with continuous annotation

1.15 pm Photo session

1.30 pm Lunch break

2.30 pm Student thesis committee meetings

4.00 pm Student thesis committee meetings

7.00 pm Students' evening / Supervisor dinner

Friday, April 27

9.00 am Supervisors meeting (German and American Supervisors)

10.00 am Coffee break

10.30 am Session 5: Development and brain networks

Chair:
Linda Yu

Ting-Yat Wong (RWTH)

Externalizing behavior in youth and young adults: The Philadelphia Neurodevelopmental Cohort

Anne Park (PENN)

Stress and functional connectivity in children and adolescents

Ursula Tooley (PENN)

Environmental influences on connectivity across development

Chang-Hao Kao (PENN)

Functional brain network reconfiguration during learning in a dynamic environment

Susanne Stickel (RWTH)

Cumulative cortisol exposure in the third trimester correlates with postpartum mothers' neural response to emotional interference

11.45 am Session 6: Animal models

Chair:
Carmen Weidler

Kate Brynildsen (PENN)

Impact of genetic variants on opioid dependence

Max Nagel (RWTH)

The semiochemical repertoire of wild versus inbred mice

Julia Mohrhardt (RWTH)

Encoding innate aggression in the mouse vomeronasal organ

Ramya Rama (RWTH)

Differential serotonergic modulation of layer 5 neuron activity in rat prefrontal cortex

12.45 pm Lunch break

1.45 pm Alumni session

Chair:
Jeremy Lefort-
Besnard

Christina Pawliczek

Aggression and impulsivity: From theory to practice

Jonathan Repple

Career opportunities for psychiatrists: Clinician scientist

Yuhan Chen

Development of infant brain MEG responses to social stimuli

2.30 pm Student thesis committee meetings

4.30 pm City tour / IRTG board meeting

7.00 pm Farewell dinner

Saturday, April 28

9.00 am Session 7: Brain and pathology

Chair:
Teresa Melanie
Karrer

Lisa Yankowitz (PENN)

Brain morphology in autism

Rebecca Paetow (RWTH)

Neurophysiological responses during regulation of negative emotions in criminal offenders

Linda Yu (PENN)

Model-based decision-making in individuals with VMPFC-damage

Marcel Leclerc (RWTH)

Source-monitoring in schizophrenia

Cathy van den Bossche (RWTH)

Perception of nonverbal behaviour in patients with depression

10.15 am Session 8: Aggression and impulsivity

Chair:
Jana Zweerings

Philippa Hüpen (RWTH)

Multimodal neural responsivity to risk and reward in impulsive decision making

Alexandru Puiu (RWTH)

Shared and distinct neural mechanisms of healthy response inhibition and provoked aggression: results from an ALE meta-analysis

Eli Cornblath (PENN)

Sex differences in network controllability as a predictor of executive function in youth

Laura Bell (RWTH)

Visual and auditory impulsivity and attention deficits in children with hearing impairment or Attention-Deficit/Hyperactivity Disorder

11.15 am Coffee break

11.45 am **Ted Brodtkin**
Using genetic tools to dissect the neurobiology of
aggressive and affiliative behaviors

Chair:
Ramya Rama

12.30 pm **Synopsis and final remarks**

1.00 pm **Lunch break**

2.00 pm **Student thesis committee meetings**

Student thesis committee meetings 1/2

Thursday, April 26

Student	Supervisor RWTH	Supervisor PENN	Third Member
2.30 pm – 3.15 pm			
Cedric Xia	Danilo Bzdok	Ted Satterthwaite	Sina Radke
Julia Mohrhardt	Marc Spehr	Joe Kable	Mikhail Votinov
Carmen Weidler	Ute Habel	Julie Blendy	Lisa Wagels
Micha Keller	Klaus Mathiak	J. Christopher Edgar	Barbara Schulte Holthausen
3.15 pm – 4.00 pm			
Jeremy Lefort-Besnard	Danilo Bzdok	Danielle Bassett	Lisa Wagels
Lena Hofhansel	Ute Habel	Adrian Raine	Mikhail Votinov
Halim Ibrahim Baqapuri	Klaus Mathiak	Ruben Gur	Han-Gue Jo
Kamyar Khaledi	Jon Shah	J. Christopher Edgar	Benjamin Clemens
4.00 pm – 4.45 pm			
Simon Koppers	Dorit Merhof	J. Christopher Edgar	Barbara Schulte Holthausen
Julius Maximilian Kernbach	Danilo Bzdok	Ted Satterthwaite	Elisa Kreienkamp
Andrew Murphy	Klaus Mathiak	Danielle Bassett	Han-Gue Jo
Rebecca Paetow	Ute Habel	Adrian Raine	Benjamin Clemens
4.45 pm – 5.30 pm			
Jana Zweerings	Klaus Mathiak	Bruce Turetsky	Elisa Kreienkamp
Philipp Honrath	Kathrin Reetz	Raquel Gur	Barbara Schulte Holthausen
Teresa Karrer	Danilo Bzdok	Danielle Bassett	Han-Gue Jo
Paul Wallheinke	Ute Habel	Julie Blendy	Sina Radke
Simon Kohl	Kerstin Konrad	J. Christopher Edgar	Benjamin Clemens

Student thesis committee meetings 2/2

Friday, April 27

Student	Supervisor RWTH	Supervisor PENN	Third Member
2.30 pm – 3.15 pm			
Anne Park	Kerstin Konrad	J. Christopher Edgar	Han-Gue Jo
Chang-Hao Kao	Klaus Mathiak	Joe Kable	Benjamin Clemens
Max Nagel	Marc Spehr	Julie Blendy	Mikhail Votinov
Ting-Yat Wong	Thomas Nickl-Jockschat	Ruben Gur	Elisa Kreienkamp
3.15 pm – 4.00 pm			
Ursula Tooley	Kerstin Konrad	J. Christopher Edgar	Barbara Schulte Holthausen
Ramya Rama	Dirk Feldmeyer	Ted Brodtkin	Mikhail Votinov
Susanne Stickel	Ute Habel	Steven Siegel	Lisa Wagels
Kate Brynildsen	Marc Spehr	Julie Blendy	Sina Radke

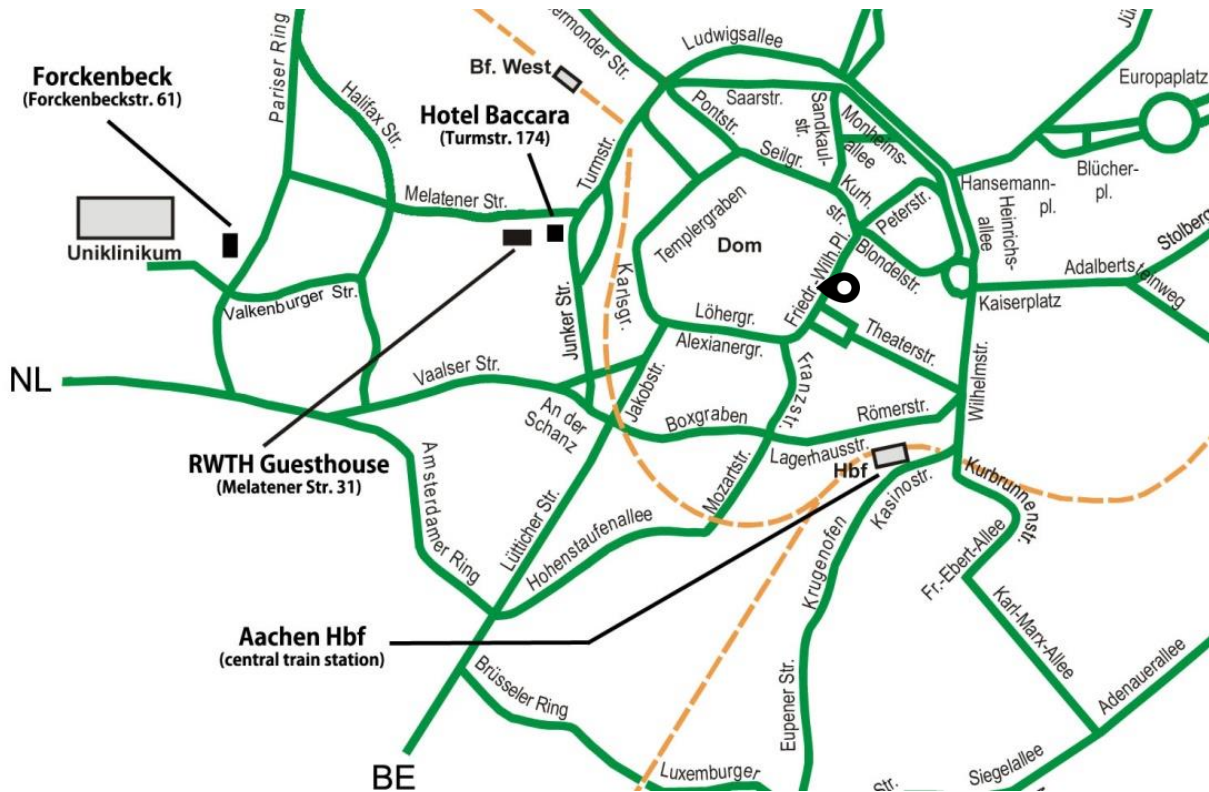
Saturday, April 28

Student	Supervisor RWTH	Supervisor PENN	Third Member
2.00 pm – 2.45 pm			
Lisa Yankowitz	Frank Schneider	J. Christopher Edgar	Han-Gue Jo
Marcel Leclerc	Ute Habel	Roy Hamilton	Elisa Kreienkamp
Linda Yu	Kathrin Reetz	Steven Siegel	Lisa Wagels
Laura Bell	Kerstin Konrad	Raquel Gur	Sina Radke
Cathy van den Bossche	Klaus Mathiak	Ruben Gur	Barbara Schulte Holthausen
2.45 pm – 3.30 pm			
Leandra Nolte	Ute Habel	Ted Brodtkin	Steven Siegel
Philippa Hüpen	Frank Schneider	Joe Kable	Benjamin Clemens
Alexandru Puiu	Herpertz - Dahlmann Beate	Bruce Turetsky	Mikhail Votinov
Eli Cornblath	Dorit Merhof	Danielle Bassett	Sina Radke

Locations

All sessions take place in the **RWTH Guesthouse** (Melatener Str. 31).

Farewell dinner (Friday) takes place at Restaurant **Forckenbeck** (Forckenbeckstr. 61).



📍 Meeting place for **City tour** (Tourist Info Elisenbrunnen, Friedrich-Wilhelm-Platz) on Friday at 4.30pm – 6.00pm.

Info



Network: mops
Login: SpringSchool
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Validity: 2018.04.25 – 2018.04.29

- 1) Connect to WiFi network “mops”
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- 3) You will be redirected to the guest login
- 4) Login in with above credentials



Scan QR-Code for automatic login when connected to “mops”.

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Spring School evaluation



Note

Note

IRTG Speakers

Prof. Ruben C. Gur, Ph.D., Department of Psychiatry, School of Medicine, University of Pennsylvania, 10 Gates Pavilion, 3400 Spruce Street, Philadelphia, USA.
gur@mail.med.upenn.edu

Prof. Dr. Ute Habel, Department of Psychiatry, Psychotherapy and Psychosomatics, Medical Faculty, RWTH Aachen, Pauwelsstr. 30, 52074 Aachen, Germany. JARA Institute Brain Structure Function Relationship (INM 10), Research Center Jülich, 52425 Jülich, Germany. uhabel@ukaachen.de



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