

Dear students and colleagues,

Welcome to the 6th annual Spring School of the International Research Training Group (IRTG) 2150: The Neuroscience of Modulating Aggression and Impulsivity in Psychopathology.

After the long break due to the pandemic, we are happy to announce that we are back to the offline format and can all meet in person in Philadelphia again. It has been a very long time since personal contacts and exchange between IRTG members have been possible. The 6th Spring School in Philadelphia follows the tradition of mutual scientific exchange between the partner universities. Doctoral students from all participating institutions will organize the scientific program for this Spring School, which covers the IRTG theme.

The second cohort of PhD students of the IRTG is approaching the end of their funding time and hopefully also the defense and we already welcome a few newcomers of the third generation of students. We all hope that this generation of students will have a smoother start than the last one, not anticipating stressful times that evaluations can bring and more importantly without heavy restrictions of the pandemic. On the other hand, a special praise of this second generation that went through all this resiliently and successfully overcame all obstacles.

Thesis committee meetings will hence either enable fruitful discussions of the planned research projects in detail or may be more focused on thesis completion. For the new students or those who have not planned the mobility period yet, we would emphasize to use the opportunity within the committee meetings to plan mobility periods and visits in Aachen and Philadelphia.

As usual, keynote lectures are highlights of the Spring School and we are happy to announce Ran Barzilay (UPENN) and Michael McCloskey (Temple University) and our associated PI David Mehler (RWTH) who will further enrich the program. Besides, the alumni session with former IRTG members from the RWTH Aachen University and the University of Pennsylvania will shed light on career tracks after graduation.

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 findings and the organizing team for outstanding support.

We are very happy to welcome you here in Philadelphia and are looking forward to an exciting and stimulating Spring (Autumn) School!

With Best Wishes,



Ruben C. Gur



Ute Habel

IRTG2150



4th Spring School in Aachen 2020

Thursday, September 8

- 09.00 am – 09.15 am** Morning coffee
- 09.15 am – 09.30 am** Welcome and opening
- 09.30 am – 10.40 am** Session 1: Impulsivity
- 10.40 am – 10.50 am** Break
- 10.50 am – 11.35 am** Keynote lecture: Ran Barzilay
- 11.35 am – 11.50 am** Break
- 11.50 am – 01.05 pm** Session 2: Sensory Processing
- 01.05 pm – 01.15 pm** Photo session
- 01.15 pm – 02.00 pm** Lunch break
- 02.00 pm – 05.00 pm** Student thesis committee meetings
- 05.30 pm** Welcome reception and dinner

Friday, September 9

- 09.00 am – 10.20 am** Session 3: Hyperscanning and Neurofeedback
- 10.20 am – 10.30 am** Break
- 10.30 am – 11.15 am** Keynote lecture: Michael McCloskey
- 11.15 am – 11.30 am** Break (IRTG Board Meeting)
- 11.30 am – 12.30 pm** Alumni Session
- 12.30 pm – 01.30 pm** Lunch break
- 01.30 pm – 04.30 pm** Student thesis committee meetings
- 05.00 pm** Farewell dinner

Saturday, September 10

- 09.00 am – 09.30 am** Supervisors' meeting
- 09.30 am – 10.00 am** Keynote lecture: David Mehler
- 10.00 am – 11.45 am** Session 4: Aggression and Methods
- 11.45 am – 12.00 pm** Final Remarks

Thursday, September 8

09:00 am Morning coffee

09:15 am Welcome and opening: Ute Habel and Ruben Gur

09.30 am Session 1: Impulsivity

Chair:
Lucia Hernández

- 09:30 Sara Boccadoro (RWTH)**
Aggression in health: from neuropsychological correlates to meta-analytic evidence
- 09:45 Alina Henn (RWTH)**
Framing effects, skin conductance responses and personality traits - influencing variables on risk-taking within a modified version of the balloon analog risk task
- 10:00 Dario Müller (RWTH)**
Consequences of prefrontal brain stimulation on impulsivity – a simultaneous tDCS-fMRI study
- 10:10 Sophie Niestroj (RWTH)**
Social Information processing, victimization and its relationship to developmental psychopathology
- 10:20 Abrar Riaz (RWTH)**
Delineating the activity and functional connectivity of locus coeruleus in impulsive traits using ultra high field functional imaging
- 10:25 Maria Frenzel (RWTH)**
The interplay between mismatch responses, impulsivity and glutamate/GABA concentrations in schizophrenia, an EEG/fMRI and MR-spectroscopic study
- 10:30 Sarah Friedrich (RWTH)**
The influence of gender identity and sexual orientation on voice-gender perception

10:40 am Break

10.50 am Keynote lecture: Ran Barzilay
Exposome as key to understand and predict suicidal behavior in youth

Chair:
Lennart Frahm

11:35 am Break

11.50 am Session 2: Sensory Processing

**Chair:
Linda Orth**

11:50 Luisa Maulitz (RWTH)
Psychological characteristics, pain perception and voxel-based brain morphology of women with chronic pelvic pain in the presence and absence of endometriosis

12:00 Heather Green (PENN)
Maturation of primary sensory neural activity in infants

12:10 Hamzah Baagil (RWTH)
Risk tolerance in Parkinson's Disease

12:25 Julia Ebert (RWTH)
Automatic multi-label segmentation of the spinal cord in neurodegenerative diseases

12:35 Friederike Seifert (RWTH)
Detection of semiochemical cues in the mouse accessory olfactory system

12:50 Guannan Shen (PENN)
Maturation of auditory neural processes and acoustic-radiation white matter in young children

01:05 pm Photo session

01:15 pm Lunch break

02:00 - 05:00 pm Student thesis committee meetings

05:30 pm Welcome reception and dinner

Friday, September 9

09.00 am **Session 3: From Hyperscanning to Neurofeedback**

Chair:
Dario Müller

- 09:00** **Lucia Hernández (RWTH)**
Studying the intra- and inter-brain underpinnings of cooperation, dominance, and aggression in siblings
- 09:15** **Julia Koch (RWTH)**
Neural correlates of real time sibling interaction on the Taylor Aggression Paradigm
- 09:20** **Semiha Apaydin (RWTH)**
Parent-child biobehavioral synchrony: A longitudinal study
- 09:25** **Linda Orth (RWTH)**
Frontostriatal circuitry as a target for fMRI-based neurofeedback
- 09:35** **Camellia Ibrahim (RWTH)**
Increasing resilience using real time fMRI neurofeedback
- 09:45** **Felix Stöhr (RWTH)**
Resting-state functional MRI analyses of supplementary motor areas in depression and schizophrenia: relation to negative symptoms and lack of motivation
- 09:55** **Arezoo Taebi (RWTH)**
Mechanistic and clinical effects of the regulation of inhibitory control networks via real-time fMRI neurofeedback in heavy smokers
- 10:05** **Panagiotis Fotiadis (PENN)**
Biological substrates of structure-function coupling in the human brain

10:20 am Break

10.30 am **Keynote lecture: Michael McCloskey**
Intermittent Explosive Disorder

Chair:
Camellia Ibrahim

11:15 am Break and IRTG Board Meeting

11.30 am Alumni Session

**Chair:
Semiha Apaydin**

11:30 **Julia Kate Brynildsen**
PostDoc, Department of Bioengineering, School of Engineering and Applied Sciences, University of Pennsylvania

12:00 **Han-Gue Jo**
Assistant Professor, School of Computer Information and Communication Engineering, Kunsan National University, Gunsan, South Korea

12:30 pm Lunch break

13:30 - 04:30 pm Student thesis committee meetings

05:00 pm Farewell dinner

Saturday, September 10

09.00 am Supervisors meeting (German and American Supervisors)

Keynote lecture: David Mehler

09.30 am *Models and markers put so closed-loop tests: scoping clinical use cases for neurofeedback training*

Chair:
Felix Stöhr

10.00 am Session 3: Aggression and Psychopathology

Chair:
Hamzah Baagil

- 10:00** **Adina Sommer (RWTH)**
Aggression in alcohol-dependent patients in a social and non-social provocation context
- 10:05** **Franziska Göttgens (RWTH)**
Aggression and impulsivity in alcohol dependence
- 10:15** **Samantha Perlstein (PENN)**
Effective treatments for childhood callous-unemotional traits: a systematic review and four meta-analyses
- 10:30** **Katharina Otten (RWTH)**
Maturation of visual cortex neural responses during infancy
- 10:45** **Lennart Frahm (RWTH)**
Assessing robustness of ALE results via subsampling
- 10:55** **Erik Röcher (RWTH)**
Deep learning MRI quality assurance
- 11:05** **Ting-Yat Wong (PENN)**
Dynamic patterns of symptoms and functioning in predicting deliberate self-harm in patients with first-episode schizophrenia-spectrum disorder over 3 years
- 11:20** **Leon Weninger (RWTH)**
The information content of brain states is explained by structural constraints on state energetics
- 11:35** **Martin Gell (RWTH)**
Prediction of behavior from neuroimaging in the age of big consortia: The burden of measurement reliability

11.45 am Final Remarks

Student thesis committee meetings

Thursday, September 8

02.00 pm - 02.45 pm

Student	Supervisor RWTH	Supervisor RWTH	Supervisor PENN
Sophie Niestroj	Kerstin Konrad	PostDoc	Ted Brodtkin
Arezoo Taebi	Klaus Mathiak	Simon Eickhoff	Joe Kable
Sara Boccadoro	Irene Neuner	Ute Habel	Adrian Raine
Friederike Seifert	Marc Spehr	Dorit Merhof	Julie Blendy

02.45 pm - 03.30 pm

Erik Röcher	Klaus Mathiak	Dorit Merhof	Konrad Kording
Hamzah Baagil	Kathrin Reetz	Simon Eickhoff	Raquel Gur
Semiha Apaydin	Kerstin Konrad	Lisa Wagels	Ted Brodtkin
Abrar Riaz	Jon Shah	Ute Habel	J. Christopher Edgar

03.30 pm - 04.15 pm

Julia Ebert	Kathrin Reetz	Dorit Merhof	Konrad Kording
Katharina Otten	Kerstin Konrad	Lisa Wagels	Rebecca Waller
Camellia Ibrahim	Klaus Mathiak	Ute Habel	Adrian Raine
Maria Frenzel	PostDoc	David Mehler	Raquel Gur

04.15 pm - 05.00 pm

Felix Stöhr	Klaus Mathiak	Kerstin Konrad	Ruben Gur
Julia Koch	Lisa Wagels	Ute Habel	Ted Brodtkin
Lucia Hernández	Lisa Wagels	Ute Habel	Rebecca Waller

Student thesis committee meetings

Friday, September 9

01.30 pm - 02.15 pm

Student	Supervisor RWTH	Supervisor RWTH	Supervisor PENN
Martin Gell	Simon Eickhoff	Michael Hanke	Ted Satterthwaite
Lennart Frahm	Simon Eickhoff	Michael Hanke	Ted Satterthwaite
Dario Müller	Ute Habel	Jon Shah	Ted Brodtkin
Adina Sommer	Lisa Wagels	Ute Habel	James Blair

02.15 pm - 03.00 pm

Linda Orth	Irene Neuner	PostDoc	Raquel Gur
Alina Henn	Ute Habel	Simon Eickhoff	Ted Satterthwaite
Leon Weninger	Dorit Merhof	Kathrin Reetz	Danielle Bassett
Sarah Friedrich	Ute Habel	Simon Eickhoff	Rebecca Waller

03.00 pm - 03.45 pm

Luisa Maulitz	Ute Habel	Marc Spehr	Raquel Gur
Panagiotis Fotiadis	Simon Eickhoff	Kathrin Reetz	Danielle Bassett

03.45 pm - 04.30 pm

Franziska Göttgens	Ute Habel	David Mehler	Julie Blendy
Samantha Perlstein	Kathrin Reetz	Kerstin Konrad	Rebecca Waller

Locations

All sessions will take place in [Houston Hall](#) (Ben Franklin Room HH218, 2nd Floor)

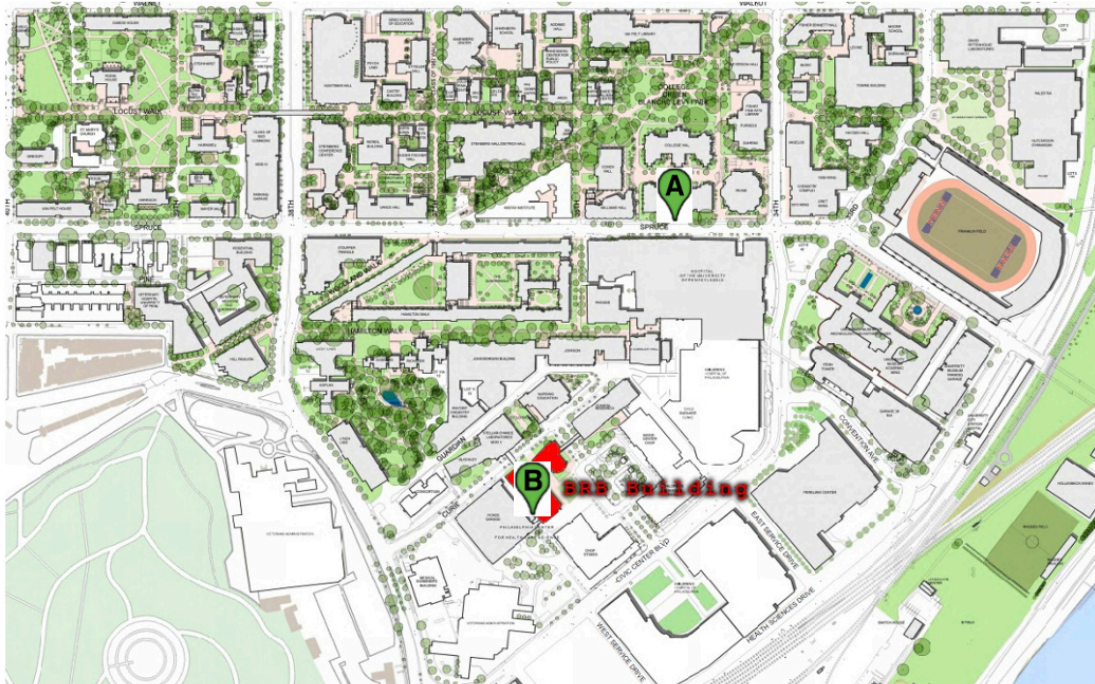
Welcome reception: Biomedical Research Building



Houston Hall
3417 Spruce Street
Philadelphia, PA 19104



Biomedical Research Building (BRB)
14th Floor Faculty Lounge
421 Curie Boulevard
Philadelphia, PA 19104



Biomedical Research Building - [Google map link](#)

Locations

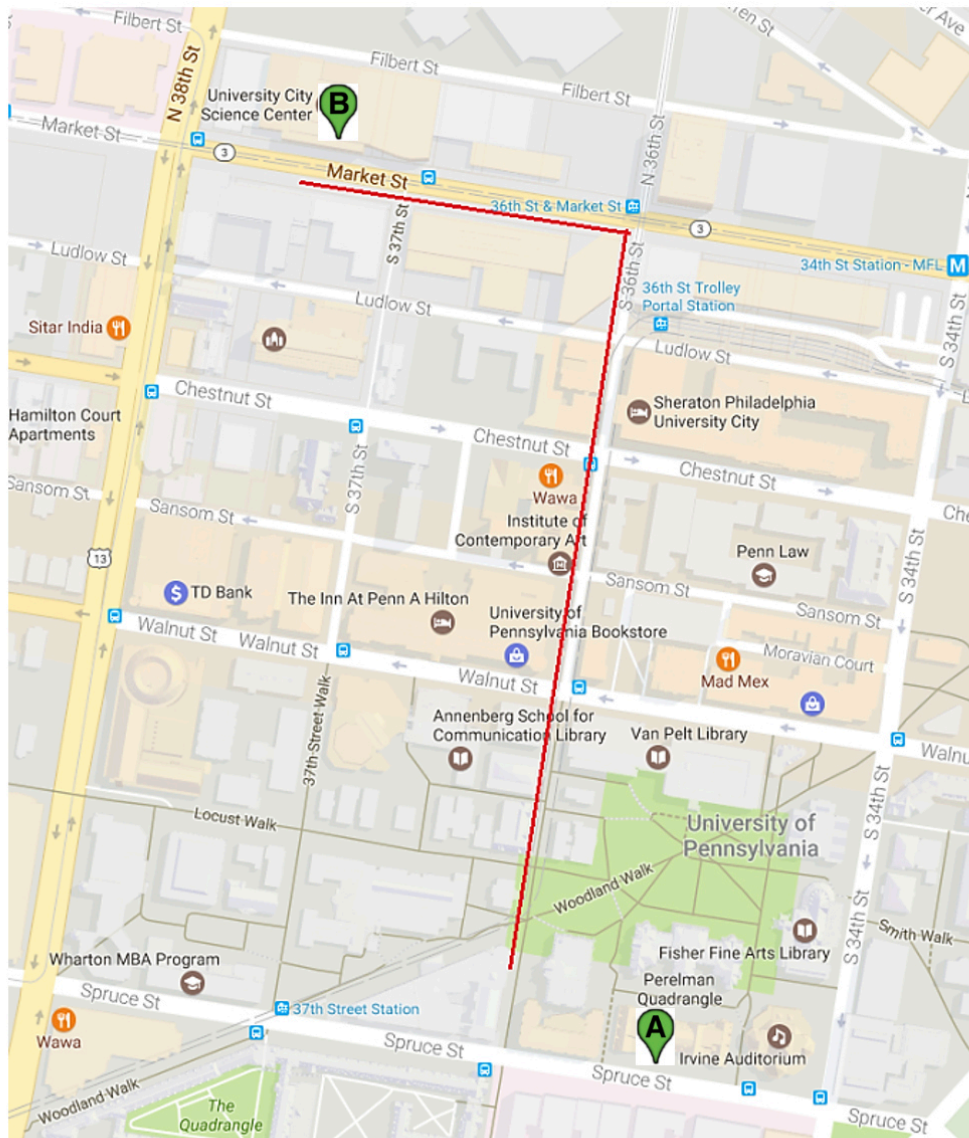
Farewell dinner: [Han Dynasty](#) (old tradition already!) University City



University of Pennsylvania
Houston Hall,
3417 Spruce Street
Philadelphia, PA 19104



Han Dynasty University City
3711 Market Street
Philadelphia, PA, 19104
Phone: (215) 222-3711



Locations

- Bus lines to UPENN go from stop (corner of Walnut St & 13th St) along Walnut Street: 21 (exit at Walnut St & 36th St) OR 42 (exit at 34th St & Spruce St).

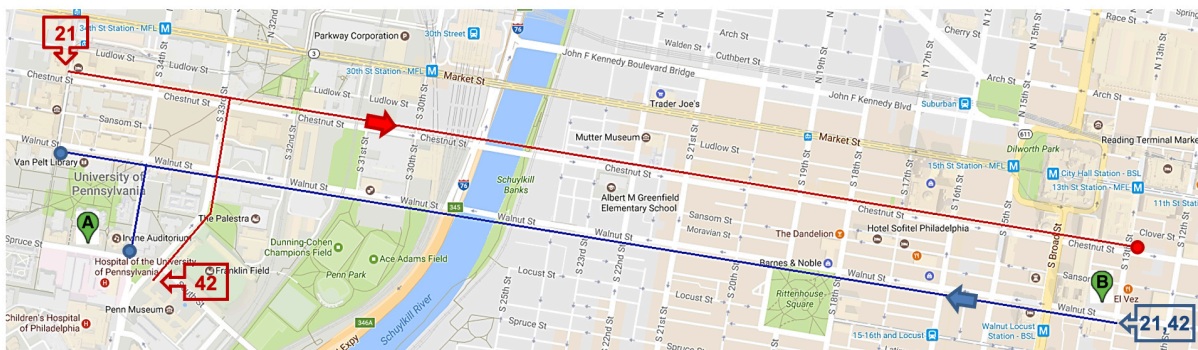
- Bus lines to [HOTEL](#) go along Chestnut St to stop Chestnut St & 13th St: 21 (from stop Chestnut St & 36th St) OR 42 (from stop 33rd St & Spruce St).



University of Pennsylvania
Houston Hall,
3417 Spruce Street
Philadelphia, PA 19104



Holiday Inn Express Midtown
1305 Walnut Street
Philadelphia, PA 19107
Phone: (215) 735-9300



Internet access

Connecting to AirPennNet-Guest

- Connect to AirPennNet-Guest as you normally would on your PC or mobile device.
- Open a web browser:

If you are not presented with a webpage detailing the Acceptable Use Policy terms and conditions for using AirPennNet-Guest upon launching your web browser, attempt to navigate to any website (i.e. google.com) and you should be redirected automatically.

- Read and accept the Acceptable Use Policy terms and conditions for using AirPennNet-Guest.
- Enter a valid e-mail address, i.e. jane.doe@gmail.com.
- Click Submit.

Connecting to Eduroam

- Visitors to Penn from other institutions that participate in eduroam should obtain configuration instructions and installation software from their home institution

IRTG2150



Spring School evaluation



Notes

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@pennmedicine.upenn.edu

Prof. Dr. Ute Habel, Department of Psychiatry, Psychotherapy and Psychosomatics, Medical Faculty, RWTH Aachen, Pauwelsstr. 30, 52074 Aachen, Germany, uhabel@ukaachen.de



www.irtg2150.rwth-aachen.de



www.jara.org/de/research/jara-brain/