

KEYSTONE SYMPOSIA

on Molecular and Cellular Biology

Neurocircuitry of Social Behavior (S1)

September 4-7, 2022 • Daejeon Convention Center • Daejeon, South Korea

Scientific Organizers: Hee-Sup Shin, Larry Young, Hailan Hu and Carmen Sandi

Developed in collaboration with the Institute for Basic Science, IBS

Scholarship Deadline: June 7, 2022 / Abstract Deadline: July 15, 2022 / Discounted Registration Deadline: July 5, 2022

SUNDAY, SEPTEMBER 4

Arrival and Registration

MONDAY, SEPTEMBER 5

Welcoming Remarks (Organizers) (8:30 am Start)

Social Recognition (Recognizing Others, Social Memory Engram)
(8:45 am Start)

Teruhiro Okuyama, University of Tokyo, Japan
Social Memory Engram in the Hippocampus

Gloria Choi, Massachusetts Institute of Technology, USA
Cortical Dysfunction and Social Behaviors

Eunji Kong, Institute for Basic Science, South Korea
Short Talk: Dynamic Neural Representation of Social Identity in the Hippocampus

Social Communication (10:20 am Start)

Lisa Stowers, The Scripps Research, USA
Leveraging Olfaction to Study Social Behavior in the Mouse

Erich D. Jarvis, HHMI/Rockefeller University, USA
Brain Pathways for Vocal Learning and Spoken Language

Poster Session 1 (12:30 pm Start)

Workshop 1 (2:30 pm Start)

Redas Dulinkas, University of Zurich, Switzerland
Social-stimulus Responsive Neurons in the Mouse Basal Amygdala-nucleus Accumbens Pathway

Meghan Flanigan, University of North Carolina Chapel Hill, USA
Serotonin 5HT_{2c} Receptor-Containing Neurons in the Lateral Habenula Promote Binge Drinking-induced Deficits in Social Recognition in Female Mice

Hio-Been Han, KIST, South Korea
Social Gathering Reduces Escaping-related Signaling of Basolateral Amygdala Under Naturalistic Threat

Ziyan Huang, University of Tokyo, Japan
Neural Representation of Multifaceted Behavioral States during Observational Fear

Yiseon Jeon, KAIST, Institute for Basic Science, South Korea
Chronic Social Isolation Impairs the Maturation of Parvalbumin-positive Neurons in the Left Orbitofrontal Cortex that Shapes Sociability in Female Mice

Seungmoon Jung, Institute for Basic Science, South Korea
Thalamic Circuits for Cortical Control of Social Fear Transmission

Yoon Kyong Kim, Daegu Gyeongbuk Institute of Science and Technology, South Korea
Modulate Auditory Discrimination Performance of Autism Spectrum Disorder Mice Triggered by Optogenetic Activation of Medial Prefrontal Cortex to Primary Auditory Cortex Circuit

Jeongyeon Lee, Daegu Gyeongbuk Institute of Science and Technology, South Korea
The Rodent Dorsomedial Prefrontal Cortex Reflects Social Context during Naturalistic Social Behavior

Social Motivation and Decision Making (Social Reward, Social Preference) (5:00 pm Start)

Robert C. Malenka, Stanford University School of Medicine, USA
A Role for Nucleus Accumbens Serotonin in Promoting Sociability

Kay M. Tye, The Salk Institute, USA
Neurocircuitry of Social Homeostasis

Steve W.C. Chang, Yale University, USA
Prefrontal and Amygdalar Mechanisms of Primate Social Interaction

Jihoon Kim, Daegu Gyeongbuk Institute of Science and Technology, South Korea
Short Talk: Suprachiasmatic VIP Neurons Shape Circadian Priority of Social Instincts

Lyle Kingsbury, University of California, Los Angeles, USA
Short Talk: Cortical Representations of Conspecific Sex Shape Social Behavior

TUESDAY, SEPTEMBER 6

Social Bonding, Parental Behaviors and Sexual Dimorphic Behaviors (8:30 am Start)

Nirao Shah, Stanford University, USA
Remote Presentation: Social Attachment/Dimorphic Sexual Behaviors

Larry J. Young, Emory University School of Medicine, USA
The Neural Mechanisms and Circuitry of Pair Bonding Behaviors in Monogamous Voles: Implications for Autism

Robert C. Froemke, New York University School of Medicine, USA
Oxytocin and Mouse Maternal Behavior

Ismail Ahmed, New York University, USA
Short Talk: New Tools for Optical Control of Oxytocin Signaling and Social Behavior

Qi Zhang, Tsukuba University, Japan
Short Talk: Genetic Instability of Brain Oxytocin Receptor (Oxtr) Expression Generates Diversity in Brain OXTR Distribution and Social Behaviors

Career Roundtable (3:00 pm Start)

Larry J. Young, Emory University School of Medicine, USA

Hitoshi Okamoto, RIKEN Center for Brain Science, Japan

Jee Hyun Choi, Korea Institute of Science and Technology, South Korea

Eunee Lee, Yonsei University, College of Medicine, South Korea

Social Hierarchy, Dominance, Aggression (5:00 pm Start)

Hailan Hu, Zhejiang University School of Medicine, China
Remote Presentation: Social Dominance

David J. Anderson, California Institute of Technology, USA
Neural Representations and Circuit Transformations Underlying Mating and Aggression

Scott J. Russo, Icahn School of Medicine at Mount Sinai, USA
Neural Circuit Mechanisms of Aggression Reward

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Tae-Yong Choi, Korea Brain Research Institute, South Korea
Short Talk: Different Physiological and Molecular Mechanisms in Distinct Medial Prefrontal Projections on Social Competition and Hierarchy

Poster Session 2 (7:30 pm Start)

WEDNESDAY, SEPTEMBER 7

Empathy and Prosocial Behavior (8:30 am Start)

Valeria Gazzola, Netherlands Institute for Neuroscience, Netherlands
Remote Presentation: A Cross-Species Approach to Empathy and Prosociality

Simone Shamay-Tsoory, University of Haifa, Israel
Remote Presentation: The Empathic Brain: A Two Brains Approach for Understanding the Mechanisms Underlying Empathy

Claus Lamm, University of Vienna, Austria
Shared, Yet Distinct: The Neural Mechanisms of Human Empathy

Hee-Sup Shin, Institute for Basic Science IBS, South Korea
Type-2 Theta Synchrony in the Cingulate-amygdala Circuit Drives Affective Empathy in the Mouse

Jiye Choi, Institute for Basic Science, South Korea
Short Talk: Shared ACC neural Ensembles Encoding Affective Pain and Observational Fear

Jong-Hyun Kim, Institute for Basic Science, South Korea
Short Talk: The Impact of the LC-NAergic System in Controlling Empathic Fear

Workshop 2 (2:30 pm Start)

Sejin Jeong, Korea Brain Research Institute, South Korea
A Role of Nucleus Accumbens in the Effort-reward Imbalance

Woohyun Kim, KAIST/IBS, South Korea
Suppressed Prefrontal Neuronal Firing Variability and Impaired Social Representation in IRSp53-mutant Mice

Ji Hyun Ko, University of Manitoba, Canada
Neurocircuitry Changes Induced by a Psychosocial Intervention to Promote Resilience in Public Safety Personnel

Eunee Lee, Yonsei University, College of Medicine, South Korea
Burst Firing of Parvalbumin Interneuron Encodes Social Specific Information in the mPFC

Gyu-Hwan Lee, Korea Institute of Science and Technology, South Korea
Ultrasound Vocalization Syllable-shape Specific Neural Activity Modulations Found within mPFC-BLA-NAc Activities

Maha Haseeb Rashid, Emory University, USA
Neural Circuits Underlying Social Recognition Behavior

Seree Park, Daegu Gyeongbuk Institute of Science & Technology, South Korea
Knockdown of Primary Ciliary Component Gene in Hypothalamic Paraventricular Nucleus Oxytocin Neurons Impairs Social Behavior

Social Stress and Anxiety (5:00 pm Start)

Carmen Sandi, Ecole Polytechnique Federale de Lausanne, Switzerland
Remote Presentation: Neural Circuits for Anxious Actions

Jaideep Bains, University of Calgary, Canada
Social Transmission and Buffering of Stress

Hitoshi Okamoto, RIKEN Center for Brain Science, Japan
Search for the Neural Substrate for the Internal Model which Predicts Favorable Future State, and How it is Used for Behavioral Optimization?

Rui Oliveira, ISPA, Portugal
Short Talk: Oxytocin Regulation of the Neural Circuits for Social Buffering and Social Transmission of Fear in Zebrafish Reveals its Evolutionary Conserved Role in Social Threat Detection

Meeting Wrap-Up: Outcomes and Future Directions (Organizers) (6:45 pm Start)

THURSDAY, SEPTEMBER 8

Departure



HEE-SUP SHIN
MEETING ORGANIZER

KEYSTONE SYMPOSIA

“Neuroscience research on social behavior has come of age. The driving force for this trend is the powerful combination of new tools and creative questions. Novel behavioral paradigms established in model animals entice the development of new tools, which then allow new questions posed on ‘neurocircuitry of social behavior’. During this symposium we anticipate to see many such examples in talks and posters.”

Neurocircuitry of Social Behavior

Sept 4 - 7, 2022 | In-Person & On Demand | #KSNeuroSocial23



LARRY J YOUNG
MEETING ORGANIZER

KEYSTONE SYMPOSIA

“Social neuroscience has seen tremendous growth and innovation in the past decade. This Keystone Symposium brings together a ‘Dream Team’ of speakers, each leaders in dissecting the neural circuitry of social behavior across a broad range of species. This meeting will be an unparalleled opportunity for established investigators and trainees in the field to connect and establish relationships, leaving a lasting impact on the participants and the field through enhancing collaboration and sparking innovation.”

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HAILAN HU
MEETING ORGANIZER

KEYSTONE SYMPOSIA

“As more behavioral paradigms and tools for analysis become available, now is a golden time to study social neuroscience. This meeting is the very first Keystone Symposium on the topic of social neuroscience. It will be a unique opportunity for scientists with the same interest to interact, to brainstorm, and hopefully will inspire new ideas and directions that will move the field forward.”

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