

# 5<sup>th</sup> Annual iGluR Retreat

August 7-9, 2017



# Yale

## Monday August 7<sup>th</sup>, 2017

(option) 6:10 meet at the Omni Hotel lobby to walk to BAR

Welcome Reception at BAR

Time: 6:30-9:00

Location: 254 Crown St, New Haven, CT 06511 (Phone: (203) 495-8924)

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## Tuesday August 8<sup>th</sup>, 2017

@The Anylan Center (TAC), 300 Cedar Street, New Haven, CT06520

All talks will be held in room N107 and posters will be presented at the TAC lobby

(option) 8:15 meet at the Omni Hotel lobby to walk to the Yale TAC building

8:30-9:00 Registration at the TAC lobby and posters setting up

9:00-9:10 Opening Remarks

### Session 1: Chair: Maria Kurnikova (Carnegie Mellon University)

9:10-9:40 **Stuart Cull-Candy (University College London)** *"Reflections on Jim and glutamate receptors 30yrs on – plus a patchwork of recent experiments on CP-AMPARs"*

9:40-10:10 **Alexander Sasha Sobolevsky (Columbia University)** *"Elucidation of AMPA receptor-stargazin complexes by cryo-electron microscopy"*

10:10-10:30 **Irene Riva (Leibniz-Forschungsinstitut für Molekulare Pharmakologie (FMP))** *"Control of AMPA receptor activity by the extracellular loops of auxiliary subunits."*

10:30-11:00 Coffee break / Poster

### Session 2: Chair : Li Niu (University at Albany, SUNY)

11:00-11:30 **Gabriela Popescu (University at Buffalo, SUNY)** *"Glycinergic NMDA receptors mediate pH-dependent neuronal excitability"*

11:30-12:00 **Pablo E Castillo (Albert Einstein College of Medicine)** *"Unconventional NMDA receptor functions in the hippocampus"*

12:00-12:20 **Joongkyu Park (Yale University)** *"Towards controlling a substrate for NMDAR-dependent LTP"*

Lunch and Poster 12:20-1:20

Group Photo 1:20-1:30

### Session 3: Chair: Terunaga Nakagawa (Vanderbilt University)

1:30-2:00 **David Bredt (Janssen Research and Development LLC)** *"Getting a handle on neuropharmacology by targeting receptor-associated proteins"*

2:00-2:30 **Lonnie Wollmuth (Stony Brook University)** *"Gating motifs in NMDA receptors targeted by disease mutations "*

2:30-2:50 **Maddy Wilcox (University of Pittsburgh)** *"Drug access to the NMDAR pore through a putative hydrophobic pathway"*

2:50-3:50 Poster session with Presenters

**Session 4: Chair: Katherine Roche (NIH/NINDS)**

3:50-4:20 **Steve Traynelis (Emory University)** *"Structurally-inspired models of glutamate receptor function"*

4:20-4:50 **Lu-Yang Wang (University of Toronto)** *"Delayed expression of activity-dependent gating switch in synaptic AMPARs at a central synapse"*

4:50-5:20 **Jim Howe (Yale University)** *"Thirty years of iGluRs: past, present, and future"*

(Option) 5:40 Walk to Union league

Dinner at Union League

Location: 1032 Chapel St A, New Haven, CT 06510, New Haven, CT

Time: 6:00

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## Wednesday August 9<sup>th</sup>, 2017

@ Room N107 of The Anylan Center (TAC), 300 Cedar Street, New Haven, CT06520

(option) 8:30 meet at the Omni Hotel lobby to walk to the Yale TAC building

**Session 5 Chair: Kasper B. Hansen (University of Montana)**

9:00-9:30 **Tony Auerbach (University at Buffalo, SUNY)** *"Agonist binding"*

9:30-10:00 **Derek Bowie (McGill University)** *"Defective excitatory and inhibitory circuits of the Fragile-X brain"*

10:00-10:20 **Jessica Nuwer (Albany Medical College)** *"Characterizing the GABA(A) theta subunit"*

10:20-10:40 Coffee

**Session 6 Chair: Jette Sandholm Kastrup (University of Copenhagen)**

10:40-11:00 **Céline Auger (CNRS)** *"Information coding by postsynaptic receptors at parallel fibre to Purkinje cell synapses in the cerebellum."*

11:00-11:30 **Masaki Fukata (National Institute for Physiological Sciences (NIPS)**

**National Institutes of Natural Sciences (NINS)** *"Local palmitoylation machinery in the postsynaptic nanodomain organization"*

11:30-noon **Roger Nicoll (UCSF)** *"AMPA receptor subunit requirements for homeostatic plasticity"*

Closing Remarks

### Acknowledgement

Department of Pharmacology and the chair, Yossi Schlessinger

Department of Neuroscience and the chair, Pietro DeCamilli

Department of Cellular and Molecular Physiology and the chair, Michael Caplan

Yale School of Medicine

Charlene Bloch and Members in Tomita lab

Jim Howe

Organized by Susumu Tomita

## Poster

**Johansen Amin**      **Stony Brook University**

*Gating motifs in the M4 segment targeted by disease-associated mutations*

**Laura Domicевичa**      **University of Oxford**

*Investigation of structural features of the glutamate receptor auxiliary protein stargazin.*

**Camilo Ferrer**      **Stony Brook University**

*Development of glutamatergic synapses onto Parvalbumin-expressing interneurons during the visual critical period*

**Karla Frydenvang**      **University of Copenhagen**

*Two bicyclic glutamate analogues show nanomolar affinity at GluK3*

**Yuko Fukata**      **National Institute for Physiological Sciences (NIPS), National Institutes of Natural Sciences (NINS), Japan**

*Assessment of palmitoylation status and cycles on PSD-95 in neurons and in vivo*

**Thom Hughes**      **University of Montana**

*New fluorescent tools to identify stressed cells and interrogate second messenger signaling in neurodegeneration.*

**Erik Larson**      **McGill**

*Mouse model of Fragile X syndrome has deficient inhibitory GABAergic plasticity*

**Gary Lacobucci**      **State University of New York at Buffalo**

*Ca<sup>2+</sup>/calmodulin mediates strong negative coupling of NMDA receptor gating*

**Pablo Lituma**      **Einstein**

*Unconventional NMDA receptor functions in the hippocampus.*

**Miranda McDaniel**      **Emory University**

*Exploring the Function of NMDA Receptors with Non-Identical GluN2 Subunits*

**Samaneh Mesbahi-Vasey**      **Carnegie Mellon University**

*Molecular dynamics study of AMPA receptor in resting and activated states*

**Teru Nakagawa**      **Vanderbilt University**

*Engineering transmembrane elements of AMPA receptor induces opposing gating modulation by auxiliary subunits*

**Chamali Narangoda**      **Carnegie Mellon University**

*A Molecular Dynamics Study of the Binding of AMPAR Non-competitive Inhibitors*

**Jessica Nuwer**      **Albany Medical College**

*Characterizing the GABA(A) theta subunit*

**Matthew Phillips**      **University of Pittsburgh**

*Characteristics of NMDA receptor channel block by the novel polycyclic amines RL-202 and RL-208.*

**Matthew Sipple**      **Cornell University**

*TBA*

**Weinan Sun**      **Janelia Research Campus**

*Allosteric interactions between NMDA receptor subunits shape the developmental shift in channel properties*

**Poster continued**

**Sharon Swanger**      **Emory University**

*GluN2 subunit-selective modulation of NMDA receptors in the thalamus*

**Edward Twomey**      **Columbia University**

*Structures of AMPA Receptor-Auxiliary Subunit Complexes Revealed by Cryo-EM*

**Maddy Wilcox**      **University of Pittsburgh**

*Drug access to the NMDAR pore through a putative hydrophobic pathway*

**Maria Yelshansky**      **Columbia university**

*Perampanel, GYKI and CP-465022 noncompetitively inhibit AMPA receptors by binding Ion Channel Extracellular Collar Region*

**Feng Yi**      **University of Montana**

*Properties of triheteromeric NMDA receptors containing two distinct GluN1 isoforms.*

**Wenjun Zheng**      **SUNY at Buffalo**

*Probing the Structural Dynamics of the NMDA Receptor Activation by Coarse-Grained Modeling*

## Map

**Omni Hotel:** 155 Temple St, New Haven, CT 06510, Phone: (203) 772-6664

**Yale The Anylan Center (TAC) building:** 300 Cedar Street, New Haven, CT06520

**BAR:** 254 Crown St, New Haven, CT 06511, Phone: (203) 495-8924

**Union League:** 1032 Chapel St A, New Haven, CT 06510, Phone:(203) 562-4299

Tip in New Haven.

Coffee places on Chapel street

Some shuttles from Airports arrive to Yale Phelps Gate (closer to OMNI hotel) or Yale Medical School.

Bars at the Omni hotel 1<sup>st</sup> floor (Wine bar, Beer place) and in front of the Omni hotel.

