



15th International Symposium on Chromaffin Cell Biology
Mérida, Yucatán, México November 12-16, 2009

Scientific Program

Thursday, November 12

15:00 Registration opens

17:30 Registration closes

17:30-17:45 Transportation to Mérida city downtown

18:00-18:20 Welcome address and Inaugural Ceremony (Macay Museum, downtown Mérida):

18:20-19:30 Inaugural lecture “The ancient Maya from Yucatán. An introduction to their culture and archaeological sites”. Archaeologist **Tomás Gallareta Negrón**. Instituto Nacional de Antropología, Centro Yucatán (Macay Museum, downtown Mérida):

19:30-22:30 Welcome reception cocktail with Traditional Trova Yucateca music. Macay Museum Garden Court, downtown Mérida).

22:30 Transportation to Hyatt Hotel

Friday, November 13

8:30-10:00 First Plenary Lecture (Sponsored by Leica/Aspelab) **Stanko Stojilkovic**. Program in Developmental Neuroscience, NICHD, National Institutes of Health, USA. *Signaling by purinergic P2X receptors in the pituitary gland* (Chichen Itzá I, II).

10:00-11:30 Morning Session 1: Chromaffin granules and exocytosis. Organizer and Chairman: **Ricardo Borges**. rborges@ull.es (Chichen Itzá I, II)

1) **Ricardo Borges**. Universidad de La Laguna, Tenerife. Spain. *Intravesicular factors controlling exocytosis*

2) **Javier Álvarez** Instituto de Biología y Genética Molecular, Valladolid, Spain. *Chromaffin granules as calcium source for motion and exocytosis*

3) **Seung H. Yoo**. Inha University College of Medicine, Korea. *IP₃ receptors in chromaffin secretory vesicles and its relation to chromogranins*



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4) **Masumi Inoue.** University of Occupational and Environmental Health, Kitakyushu, Japan. *Gaba is stored in chromaffin granules and functions as paracrine in adrenal chromaffin cells.*

11:30-12:00 Coffee Break

12:00-13:30 *Morning Session 2: Molecular basis of compensatory endocytosis in chromaffin cells.* Organizer: Stéphane Gasman gasman@neurochem.u-strasbg.fr (Chichen Itzá I, II).

1) **Ana-María Cárdenas** (Universidad de Valparaíso, Chile). *The partners of dynamin synaptophysin and the calcium channel β -subunit regulate the mode of retrieval of chromaffin granule*

2) **Corey Smith** (Case Western Reserve University, Cleveland, USA) *The activity-dependent shift in molecular mechanism for compensatory endocytosis*

3) **Fernando D. Marengo** (Universidad de Buenos Aires, Argentina). *Rapid recovery of releasable vesicles and formation of non releasable endosomes after compensatory endocytosis and excess retrieval.*

4) **Stéphane Gasman** (Institut des Neurosciences Cellulaires et Intégratives, Strasbourg, France). *Membrane lipid organization regulates selective recycling of secretory granules.*

13:30 -15:00 Lunch (Hotel Regency Merida)

15:00-17:00 *Afternoon session 1: The chromaffin cell as a stress transducer: Genetic, transcriptional and cellular aspects.* Organizer: Lee Eiden eidenl@mail.nih.gov (Chichen Itzá I, II)

1) **Lee Eiden:** (NIH, Bethesda, MD 20892, USA). *PACAP- Mater Integrator of the Stress Response?*

2) **Dona Wong:** (Dept. Psychiatry, Harvard Medical School, USA) *Regulation of PNMT Gene Transcription Mediates Short- and Long-term catecholamine homeostasis in stress*

3) **Esther Sabban:** (Basic Sciences Building New York Medical College, USA), *The Stress Transcriptome: Psychogenic Stress and Cellular Plasticity*

4) **William Tank:** (University of Rochester Medical Center), *Regulation of Tyrosine Hydroxylase in Central and Peripheral Stress Responses*

5) **Daniel O'Connor:** *Catecholamines and Cardiovascular Regulation: Genomic Signatures of Normal and Pathogenic Responses to Stress*

17:00-17:30 Coffee Break



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17:30-19:30 Afternoon session 2A: Molecular mechanisms of vesicle docking and priming. Organizer: Uri Ashery uriashery@gmail.com (Chichen Itzá I)

- 1) **Edward Stuenkel**, (University of Michigan Medical School, USA): *Visualizing Molecular Dynamics in the Exocytotic Pathway*
- 2) **Jens Rettig**, (Dept. of Physiology Saarland University Homburg, Germany): *Which proteins mediate the priming of LDCVs in adrenal chromaffin cells?*
- 3) **Claire Desnos**, (Institut de Biologie Physico-Chimique, Paris, France): *Granule motion and docking: respective roles of Myrip and MyosinVa.*
- 4) **Uri Ashery**, (Dept. Neurobiochemistry Tel Aviv University, Israel): *Do chromaffin cells have neuronal-like release sites?*

17:30-19:30 Afternoon session 2B Genetic and clinical breakthroughs in chromaffin cells. Organizer: Youssef Anouar youssef.anouar@univ-rouen.fr, (Uxmal I)

- 1) **Nicolas Vitale** (Univ L. Pasteur, Inst Neurosc Cellul Intégr France): *The Coffin-Lowry syndrome-associated protein RSK2 and neurosecretion.*
- 2) **Daniel O'Connor** (California University, USA): *Naturally occurring genetic variants in chromogranin A (CHGA): Significance for autonomic function, blood pressure and renal disease.*
- 3) **Youssef Anouar** (Université de Rouen, France): *Expression of trophic peptides and their receptors in benign and malignant pheochromocytomas.*
- 4) **Saravana Murthy** (NICHD, National Institutes of Health, USA): *Carboxypeptidase E as a biomarker predicting metastasis in pheochromocytomas*
- 5) **Graeme Eisenhofer** (University of Dresden, Germany): *Biochemical diagnosis and treatment of pheochromocytomas and paragangliomas*

19:30-21:00 Second Plenary Lecture. (Sponsored by Coordinación de la Investigación Científica, UNAM). **Alberto Darszon**. Instituto de Biotecnología, UNAM, Campus Cuernavaca, México. *Role of calcium channels on motility, secretion and acrosome reaction of mammalian sperm* ((Chichen Itzá I, II).

Saturday, November 14

8:30-10:00 Third Plenary Lecture (Sponsored by Alta Tecnología en Laboratorios/Olympus). **Jacopo Meldolesi**. Scientific Institute San Rafael, Milan Italy: *The comprehensive role of REST in PC12: effects on signalling cascades, neurosecretion and neurite outgrowth* (Chichen Itzá I, II).



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10:00-11:30 Morning Session 3: Exocytosis and Lipids. Organizer: Nicolas Vitale vitalen@neurochem.u-strasbg.fr. Chairman: Ury Ashery (Chichen Itzá I, II).

- 1) **Sylvette Chasserot-Golaz** (Institut des Neurosciences, Strasbourg, France): *Relationship between Annexin A2 and PIP2 clusters at exocytotic sites in chromaffin cells.*
- 2) **Frédéric Meunier** (University of Queensland, Brisbane, Australia): *Dissecting the contribution of $ptdins(4,5)P_2$ in exocytosis*
- 3) **Nicolas Vitale** (Univ L. Pasteur, ,Strasbourg, France): *Regulation of phosphatidic acid synthesis at the exocytotic site: implication of GTPases and kinases.*
- 4) **Jens Coorsen** (University of Calgary, Canada): *Integrating studies of lipids and proteins to identify components critical for calcium-triggered membrane fusion.*

11:30-12:00 Coffee Break

12:00-13:30 Morning Session 4: SNARE mediated exocytosis. Organizer: Luis M. Gutiérrez luisguti@umh.es (Chichen Itzá I, II)

- 1) **Ronald W. Holz**, (University of Michigan, Ann Harbor,USA). *Localized plasma membrane topological changes upon exocytosis visualized by polarized-total internal reflection microscopy.* holz@umich.edu
- 2) **Robert Chow**. (University of Southern California. Los Angeles, USA). *The complexity of complexin.* rchow@usc.edu
- 3) **Manfred Lindau**, (Cornell University, Ithaca. USA). *The role of SNAREs in fusion pore formation.* ml95@cornell.edu
- 4) **Luis M. Gutiérrez**, (Universidad Miguel Hernández, Alicante, Spain). *SNARE cluster organization and dynamics.* luisguti@umh.es

13:30 -15:00 Lunch (Hotel Regency Merida)

15:00-17:00 Poster viewing session 1 (posters with **odd** numbers. Regency Room I),

17:00-17:30 Coffee Break

17:30-19:30 Afternoon session 3A Chromogranin: functions in physiology and pathology. Organizers: Youssef Anouar and Peng Loh youssef.anouar@univ-rouen.fr (Chichen Itzá I).

- 1) **Peng Loh** (Cellular Neurobiology, N.I.H. Bethesda, Md,USA) *Serpinin signalling for the stimulation of PN-1 transcription and DCG formation*
- 2) **Sushil Mahata** (University of California, San Diego,USA) *Insights into chromogranin A functions from the gene knockout model*



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- 3) **Maité Montero** (University of Rouen, France) *Frog chromogranin A promotes sorting of peptide hormones to mobile secretory granules in constitutively and regulated secreting cells*
- 4) **David Machado** (University of la Laguna, Tenerife, Spain) *On the role of chromogranins in the storage and exocytosis in chromaffin cells.*
- 5) **Jennifer M. Pocock (UK)** *Chromogranin A and glial activation in neurological disorders.*

17:30-19:30 Afternoon session 3B Chromaffin Cell Development and Medullo-Cortical Interactions. Organizer and Chairman: Klaus Unsicker ku39@anat.uni-freiburg.de (Uxmal I).

- 1) **Carmen Birchmeier**, (Max-Dellbrück-Center, Berlin, Germany): *INSM1(IA-1) is a crucial component in the transcriptional network that controls differentiation of the sympatho-adrenal lineage*
- 3) **Klaus Unsicker** (Freiburg Univ. Germany). *Recent advances in understanding the development of the sympathoadrenal (SA) cell lineage.*
- 4) **Monika Ehrhart-Bornstein**, Dresden (Germany). *Progenitor/Stem cells in the adrenal medulla*
- 5) **Stefan Bornstein**, (Dresden University, Germany). *Medullary signaling towards the cortex and cortical signalling towards the medulla.*

19:30-21:00 Leica/Aspelab Workshop Robert Dunakin. (Leica Microsystems, USA). *From Microscopy to Nanoscopy: the latest in Confocal Microscopy.* (Chichen Itzá I, II)

Recent developments and innovation in confocal microscopy will be discussed such as the White Light Laser, Acousto-Optical Beam Splitter (AOBS), Spectral detector (SP), Tandem scanner, and Stimulated Emission Depletion (STED). The Leica TCS SP5 Confocal platform provides extreme flexibility, sensitivity and applicability for single and multi-user facilities. Examples of applications will be discussed.

Sunday November 15

8:00-14:00 Excursion to Uxmal

14:00-15:00 Lunch (Hotel Regency Merida)

15:00-17:00 Poster viewing session 2 (posters with **even** numbers, Regency Room I).



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17:00-17:30 Coffee Break

17:30-19:30 Afternoon session 4A **Chromogranin/secretogranin peptides**. Organizers: Bruno Tota and Sushil Mahata. smahata@ucsd.edu (Chichen Itzá I).

- 1) **Angelo Corti**, (San Raffaele Scientific Institute, Milan, Italy). *Chromogranin A in cell adhesion and migration: functional role and molecular mechanisms.*
- 2) **Reiner Fischer-Colbrie**, (Medical University of Innsbruck, Innsbruck, Austria) *Secretoneurin and angiogenesis.*
- 3) **Vance Trudeau**, (University of Ottawa, Ottawa, Canada). *Neuroendocrine and paracrine regulation luteinizing hormone by secretoneurin*
- 4) **Guida M. Portela-Gomes**, (University of Lisbon, Portugal). *Chromogranin - secretogranins in neuroendocrine tumors. Immunohistochemical analysis of chromogranins A and B and secretogranins II and III.*
- 5) **Bruno Tota**, (University of Calabria, Calabria, Italy). *One precursor (CGA) and two derived cardioactive peptides, i.e. vasostatin and catestatin: convergence on myocardial and coronary functions.*
- 6) **Sushil K. Mahata**, (University of California, San Diego, USA). *Cardiovascular actions of catestatin.*

17:30-19:30 Afternoon session 4B: **Pharmacological and toxicological modulation of calcium signaling and exocytosis**. Organizer: Remco Westerink. r.westerink@uu.nl (Uxmal I).

- 1) **David Pubill** (University of Barcelona, Spain.): *Involvement of nicotinic receptors in MDMA-induced toxicity and cytosolic calcium increases in PC12 cells.*
- 2) **Laura Hondebrink** (Institute for Risk Assessment Sciences, Utrecht University, Utrecht, The Netherlands.): *Effects of amphetamine on neurotransmitter release in PC12 and chromaffin cells.*
- 3) **Frederic Meunier** (University of Queensland, Australia.): *Control of exocytosis by 3-phosphorylated phosphoinositides: Dynamic role of Ca²⁺.*
- 4) **Remco Westerink** (Institute for Risk Assessment Sciences, Utrecht University, Utrecht, The Netherlands.): *PC12 cells as model system to study modulation of calcium signaling and exocytosis by environmental pollutants.*
- 5) **Michael Heien** (Department of Chemistry, Penn State University, USA.): *The fraction of catecholamine released during vesicle exocytosis is about 50% and is altered by pharmacology.*

19:30-21:00 ATL/Olympus Workshop (Chichen Itzá I, II)



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21:00 **Walter Dixon's Party.** (Hyatt Hotel Pool Area. If rain: Restaurant Peregrina at the Hyatt Hotel). Featuring cheerful members of the ISCCB community singing along with a Mexican Mariachi band.

Monday, November 16

8:30-10:00 **Fourth Plenary Lecture (Sponsored by Leica/Aspelab).** **David S Goldstein** (National Institute of Neurological Disorders and Stroke Bethesda, MD, USA) *Adrenal responses to stress.* (Chichen Itzá I, II).

10:00-15:30 Excursions offered. (Payment required on site, ranging from 15 to 20 USD)

1) Merida city tour + Visit to Merida's Archeological Museum

or:

2) Excursion to:

a) Progreso (Beach)

b) Celustum (Beach, Natural reserve, bird watching)

c) Dzibilchaltun (Maya ruins, Cenote swimming)

d) Sotuta de Peon (Working henequen hacienda, cenote swimming)

15:00-17:00 **Afternoon session 5A: Ion channels and secretion in chromaffin cells.**
Organizer and Chairman: E. Carbone emilio.carbone@unito.it (Chichen Itzá I).

1) **Aaron Fox:** (University of Chicago, USA). *Anesthetics suppress neurotransmitter release by interacting with the release machinery*

2) **Jesús Hernández-Guijo:** (Universidad Autónoma de Madrid, Spain). *Voltage-dependent and voltage-independent modulation of Ca²⁺ channels in slices of mouse chromaffin cells.*

3) **Luis Gandia.** (Universidad Autónoma de Madrid Spain). *L-type channels regulate endocytosis in bovine chromaffin cells*

4) **Chris Lingle.** (Washington University at St. Louis. USA) *The role of BK channels in chromaffin cell repetitive firing*

5) **Andrea Marcantoni** (University of Torino, Italy). *Coupling of L- and BK-channels regulates the firing modes of mouse chromaffin cells: A study using Cav1.3 -/- mice.*



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15:00-17:00 Afternoon session 5B: Sorting, trafficking and regulated exocytosis in the secretory pathway of chromaffin cell models. Organizer: Hans-Hermann Gerdes. hans-hermann.gerdes@biomed.uib.no (Uxmal I).

1) **Masahiro Hosaka**.(Institute for Molecular and Cellular Regulation, Gunma University Japan). *Secretogranin III functions as a sorting receptor for chromogranin A and adrenomedullin in chromaffin/PC12 cells.*

2) **Hans-Hermann Gerdes**: (Dept, of Biomedicine, University of Bergen Norway) *The role of myosin Va and Rab 3 isoforms in the trafficking and maturation of secretory granules*

3) **Jacopo Meldolesi**. (Vita-Salute University & Scientific Institute San Raffaele. Milan, Italy). *Enlargeosome, a vesicle competent for regulated exocytosis expressed by high REST clones of PC12 cells.*

17:00-17:30 Coffee Break

17:30-19:30 Afternoon session 6: Ca²⁺ dependent mechanisms. Organizer and Chairman: Jamie L. Weiss j.l.weiss@sheffield.ac.uk (Chichen Itzá I, II).

1) **Jamie Weiss**, (University of Sheffield, UK): *Neuronal Calcium Sensor-1 regulation of Ca²⁺ channels.*

2) **Kevin Currie**, (Vanderbilt University, USA): *Regulation of Ca²⁺ channels and transmitter release by G protein-coupled receptors.*

3) **Zhuan Zhou**,(Peking University China): *Modulation of transmitter release by action potential codes.*

4) **Ute Becherer**, (University of Saarland Germany): *Intracellular Ca²⁺ in physiological range affects priming & docking of large dense core vesicles*

5) **Gale Craviso**, (University of Nevada School of Medicine, USA): *Ca²⁺-dependent nanosecond excitation of catecholamine release.*

19:30-20:30 Meeting of the ISCCB Advisory Board (Chichen Itzá I)

20:30-23:30 Dinner and Closing Ceremony. 1) Zhuan Zhou. Organizer of the 16th ISCCB, (Beijing, China). 2) Traditional Yucatán Dance Show (Ballet Folklórico, University of Yucatán) 2) Dancing with live music (Regency room I)