

Frontiers in Developmental Biology: Concepts, Techniques and Model Organisms

A Satellite Short Course of the Fourth International Meeting of the Latin American Society of Developmental Biology (LASDB)

Instituto Leloir, Buenos Aires, Argentina
October 23 – November 1, 2008

Organizing Committee

Chair: Eric Wieschaus, Princeton University, USA. SDB 2007-2008 President

Local Organizer: Pablo Wappner, Instituto Leloir, Buenos Aires, Argentina

Co-Organizer: Ida Chow, Executive Officer, SDB, Bethesda, USA

Instructors

- Miguel Allende, Universidad de Chile, Santiago, Chile
- Manuel Aybar, Universidad Nacional de Tucumán, Argentina
- Richard Behringer, University of Texas M. D. Anderson Cancer Center, Houston, TX, USA
- Nibia Berois-Domenech, Universidad de la Republica-Facultad de Ciencias, Montevideo, Uruguay
- Siobhan Brady, Duke University, Durham, NC, USA
- Marianne Bronner-Fraser, California Institute of Technology, Pasadena, CA, USA
- Nora Calcaterra, Universidad Nacional del Rosario, Argentina
- Ida Chow, Society for Developmental Biology, Bethesda, MD, USA
- Scott Fraser, California Institute of Technology, Pasadena, CA, USA
- Cathy Krull, University of Michigan, Ann Arbor, MI, USA
- Guillermo Lanuza, Instituto Leloir, Buenos Aires, Argentina
- Ruth Lehmann, The Skirball Institute/ Howard Hughes Medical Institute, NYU School of Medicine, New York, NY, USA
- Roberto Mayor, University College of London, London, United Kingdom
- Luis Mayorga, Universidad Nacional de Cuyo, Argentina
- Javier Palatnik, Universidad Nacional del Rosario, Argentina
- Luis Quesada-Allué, Instituto Leloir, Buenos Aires, Argentina
- Juan Riesgo Escovar, Universidad Nacional Autonoma de Mexico-Juriquilla, Mexico
- Rolando Rivera-Pomar, Universidad Nacional de la Plata, la Plata, Argentina
- Alejandro Sanchez-Alvarado, University of Utah, Salt Lake City, UT, USA
- Billie Swalla, University of Washington, Seattle, WA, USA
- Pablo Visconti, University of Massachusetts, Amherst, MA, USA
- Pablo Wappner, Instituto Leloir, Buenos Aires, Argentina
- Eric Wieschaus, Princeton University/ Howard Hughes Medical Institute, Princeton, NJ, USA
- Marcelo Yanovsky, Universidad de Buenos Aires, Argentina

Students

- Victoria E. Abraira - Harvard University, Boston, USA
- Cecilia Aguirre - Universidad de Buenos Aires, Buenos Aires, Argentina
- Erica F. Andersen - University of Wisconsin, Madison, USA
- Francisco Javier Carmona Aldana - Universidad Nacional Autónoma de México, Juriquila, México
- Hozana Andrade Castillo - Universidade de São Paulo, São Paulo, Brasil
- Jonah Cool - Duke University, Durham, USA
- Claudio Cortés Rodríguez - Universidad de Chile, Santiago, Chile
- Juliana A. Candido da Silva - Universidade São Paulo, Ribeirão Preto, Brasil
- Sarah Fineberg - University of Iowa, Iowa City, USA
- Diego Galagovsky - Fundación Instituto Leloir, Buenos Aires, Argentina
- Stewart Gillmor - University of Pennsylvania, Philadelphia, USA
- Érika M. A. Negreiros Gonçalves - Universidade Federal de Rio de Janeiro, Rio de Janeiro, Brasil
- Otto C. Guedelhofer IV - University of Utah, Salt Lake City, USA
- Michelle T. Juárez - University of California San Diego, La Jolla, USA
- Lukasz Kowalik - Rockefeller University, New York, USA
- Hana Paula Masuda - Universidade Federal do ABC, Santo André, Brasil
- David McKean - University of Colorado Health Science Center, Denver, USA
- Fernando Meijide - Universidad de Buenos Aires, Buenos Aires, Argentina
- Daniel Prieto Mena - Universidad de la Republica, Montevideo, Uruguay
- Diego Raul Revinski - Universidad de Buenos Aires, Buenos Aires, Argentina
- Griselda Rodriguez Martinez - Universidad Nacional Autónoma de México, Mexico City, México
- Marian Rodriguez Osuna - Universidad Central de Venezuela, Caracas, Venezuela
- Marco Andrés Romero Carvajal - Pontificia Universidad Católica del Ecuador, Quito, Ecuador
- Ankur Saxena - California Institute of Technology, Pasadena, USA
- Ashley W. Seifert - University of Florida, Gainesville, USA
- Christina Shoemaker - University of Texas, Austin, USA
- Anamaria Sudarov - Memorial Sloan Kettering Cancer Center, New York, USA
- Rowena Suriben - University of California, San Francisco, USA
- Ahmet Zehir - Tulane University, New Orleans, USA
- Alejandro Antonio Zúñiga Prado - Universidad de Chile, Santiago, Chile

Frontiers in Developmental Biology: Concepts, Techniques and Model Organisms

Satellite Short Course of the Fourth International Meeting of the Latin American Society for Developmental Biology

October 23 – November 1, 2008. Fundación Instituto Leloir, Buenos Aires, Argentina

Organizers: Eric Wieschaus, Pablo Wappner and Ida Chow

Thursday – 10/23/08

9:00 – 17:00

Arrival and Registration

17:00 – 17:30

Introductory Remarks by Organizers and Dignitaries

17:30 – 18:15

Eric Wieschaus, Princeton University, Princeton, NJ

“The biology of cell shape change in the early Drosophila embryo”

18:15 – 19:00

Richard Behringer, University of Texas M.D. Anderson Cancer Center, Houston, TX

“Developmental mechanisms of organ formation in the mouse”

19:00 – 20:00

Opening Reception

Friday – 10/24/08

9:30 – 10:15

Roberto Mayor, University College London, London, United Kingdom

“Role of Wnt signalling in neural crest development: from induction to migration”

10:15 – 11:00

Juan Riesgo-Escovar, Universidad Nacional Autónoma de México-Juriquilla, Mexico

“How aqaetzalli and ferritin affect the embryonic nervous system”

11:00 – 11:15

Coffee Break

11:15 – 12:00

Ruth Lehmann, Skirball Institute / HHMI, New York, NY

“Migration in vivo: How germ cells find their niche”

12:00 – 12:45

Pablo Wappner, Instituto Leloir, Buenos Aires, Argentina

“Modulation of Drosophila development by external stimuli”

12:45 – 14:00

Lunch at Leloir Institute

14:00 – 14:45

Siobhan Brady, Duke University, Durham, NC

“A systems approach to understanding root development”

14:45 – 16:00

Practical Session

· *Cell Migration* (Lehmann)

16:00 – 18:00

Poster Session I with coffee

Odd number posters presentation

18:00 – 21:00

Practical Sessions

- *Drosophila* Group A (Wieschaus, Wappner, Riesgo-Escovar)
- *Xenopus* Group B (Aybar, Mayor)

21:00

Dinner in town

Saturday – 10/25/08

9:00 – 12:00

Practical Sessions

- *Drosophila* Group A (Wieschaus, Wappner, Riesgo-Escovar)
- *Xenopus* Group B (Aybar, Mayor)

12:00 – 13:00

Practical Session

- *Cell Migration* (Lehmann)

13:00 – 14:00

Lunch at Leloir Institute

14:00 – 16:00

Round Table I

“Advantages and limitations of different model organisms in developmental biology research”

Panelists: Roberto Mayor, Cathy Krull, Eric Wieschaus

16:00 – 16:15

Coffee Break

16:15 – 17:00

Nibia Berois-Domenech, Universidad de la República, Montevideo, Uruguay

“Facing harsh environment through developmental plasticity: annual fish embryo”

17:00 – 20:00

Practical Sessions

- *Drosophila* Group B (Wieschaus, Wappner, Riesgo-Escovar)
- *Xenopus* Group A (Aybar, Mayor)

20:00

Dinner in town

Sunday – 10/26/08

9:00 – 15:15

Extra-curricular activities – City tour

15:15 – 16:00

Cathy Krull, University of Michigan-Ann Arbor, MI

“Out on a limb: Axon pathfinding in the periphery”

16:00 – 16:45

Billie Swalla, University of Washington, Seattle, WA

“Twisted tunicates, lucky lancelets and hopeful hemichordates: What do they tell us about the evolution of chordates?”

16:45 – 17:00

Coffee Break

17:00 – 20:00

Practical Sessions

- *Tunicates* Group A (Swalla)
- *Xenopus* Group B (Aybar, Mayor)

20:00

Dinner in town

Monday – 10/27/08

9:00 – 12:00

Practical Sessions

- *Drosophila* Group B (Wieschaus, Wappner, Riesgo-Escovar)
- *Xenopus* Group A (Aybar, Mayor)

12:00 – 12:45

Marianne Bronner-Fraser, Caltech, Pasadena, CA

“Development and evolution of the vertebrate neural crest”

12:45 – 14:00

Lunch at Leloir Institute

14:00 – 17:00

Practical Sessions

- *Lamprey* Group B (Bronner-Fraser)
- *Xenopus* Group A (Aybar, Mayor)

17:00 – 19:00

Poster Session II *with coffee*

Even number posters presentation

19:00 – 19:45

Miguel Allende, Universidad de Chile, Santiago, Chile

“mRNA expression pattern during development in zebrafish”

19:45 – 20:30

Nora Calcaterra, Universidad Nacional de Rosario, Rosario, Argentina

“Craniofacial development of zebrafish”

20:30

Dinner in town

Tuesday – 10/28/08

9:00 – 12:00

Practical Sessions

- *Local fish* Group A (Berois-Domenech)
- *Zebrafish* Group B (Calcaterra, Allende)

12:00 – 12:45

Alejandro Sanchez Alvarado, University of Utah, Salt Lake City, UT

“Regeneration: Development in the adult”

12:45 – 14:00

Lunch at Leloir Institute

14:00 – 16:00

Round table II

“Education in developmental biology”

Panelists: Ida Chow, Eric Wieschaus, Nibia Berois-Domenech, Juan Riesgo-Escovar

16:00 – 16:15

Coffee Break

16:15 – 17:00

Pablo Visconti, University of Massachusetts, Amherst, MA

“Fertilization”

17:00 – 20:00

Practical Sessions

- *Local fish* Group B (Berois-Domenech)
- *Zebrafish* Group A (Calcaterra, Allende)

20:00

Dinner in town

Wednesday – 10/29/08

9:00 – 12:00

Practical Sessions

- *Planarian* Group A (Sanchez Alvarado)
- *Bioinformatics* Group B (Brady)

12:00 – 12:45

Luis Mayorga, Universidad Nacional de Cuyo, Argentina

“Membrane fusion during the acrosomal exocytosis in human sperm”

12:45 – 14:00

Lunch at Leloir Institute

14:00 – 17:00

Practical Sessions

- *Planarian* Group B (Sanchez Alvarado)
- *Bioinformatics* Group A (Brady)

17:00 – 17:30

Coffee Break

17:30 – 20:30

Practical Sessions

- *Fertilization* Group 1 (Visconti, Mayorga)
- *Mouse* Group 2 (Lanuza, Behringer)
- *Zebrafish - advanced* Group 3 (Calcaterra, Allende)

20:30

Dinner in town

Thursday – 10/30/08

9:00 – 9:45

Rolando Rivera-Pomar, Universidad Nacional de la Plata, La Plata, Argentina

“Triatoma development”

9:45 – 12:45

Practical Sessions

- *Fertilization* Group 1 (Visconti, Mayorga)
- *Mouse* Group 2 (Lanuza, Behringer)
- *Zebrafish - advanced* Group 3 (Calcaterra, Allende)

12:45 – 14:00

Lunch at Leloir Institute

14:00 – 14:45

Javier Palatnik, Universidad Nacional de Rosario, Argentina

“Control of plant development by microRNAs”

14:45 – 17:45

Practical Sessions

- *Fertilization* Group 1 (Visconti, Mayorga)
- *Mouse* Group 2 (Lanuza, Behringer)

- *Zebrafish - advanced* Group 3 (Calcaterra, Allende)

17:45 – 18:15

Coffee Break

18:15 – 20:45

Practical Session

- *Unconventional insects* Group A (Rivera-Pomar)

20:45

Dinner in town

Friday – 10/31/08

9:00 – 9:45

Pablo Cerdán, Instituto Leloir, Buenos Aires, Argentina
“*Regulation of flowering time*”

9:45 – 12:45

Practical Sessions

- *Arabidopsis* Group A (Yanovsky, Palatnik, Cerdán)
- *Chick* Group B (Krull)

12:45 – 14:00

Lunch at Leloir Institute

14:00 – 16:00

Round Table III

“*Evolution of developmental mechanism: genes and signaling pathways*”

Panelists: Billie Swalla, Miguel Allende, Marianne Bronner-Fraser, Rolando Rivera-Pomar

16:00 – 16:15

Coffee Break

16:15 – 17:00

Luis Quesada-Allué, Instituto Leloir, Argentina
“*Insect metamorphosis*”

17:00 – 20:00

Practical Sessions

- *Arabidopsis* Group B (Yanovsky, Palatnik, Cerdán)
- *Chick* Group A (Krull)

20:00

Dinner in town

Saturday – 11/01/08

9:00 – 9:45

Marcelo Yanovsky, Universidad de Buenos Aires, Buenos Aires, Argentina
“*Signaling circuits controlling circadian and seasonal rhythms in plants*”

9:45 – 11:45

Round Table IV

“*Communication of results and paper writing*”

Panelists: Ruth Lehmann, Richard Behringer, Marcelo Yanovsky

11:45 – 12:15

Concluding Remarks and Awards Presentations

The students will be divided in two groups, **A** and **B**, each composed of 15 students. Some of the practical modules will be only for Group A or only for group B (see the scheme depicted below).

For some of the practical modules, students will be divided in three groups: **Group 1** (Fertilization) , **Group 2** (Mouse), **Group 3** (Zebra fish *advanced*).

Therefore each student has to choose whether to be included in group A or B and also to say if he or she would like to belong to group 1,2 or 3. Please let us know your first choice option (i.e. "I would like to be **A3**"). We will do our best to attend everyone's choices but of course this might be not possible in every case.

Schedule for Group A

	Friday	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday
9 - 13		<u>Drosophila</u> <u>2</u> (Wieschhaus, Riesgo, Wappner)		<u>Xenopus</u> <u>2</u> (Mayor, Aybar)	<u>Local Fish</u> (Berois-Domenech)	<u>Planaria</u> (Sanchez-Alvarado)	Groups 1, 2 and 3	<u>Chick</u> (Krull)
14 - 17	<u>Cell Migration</u> (Lehmann)	<u>Cell Migration</u> (Lehmann)				<u>Bioinformatics</u> (Brady)	Groups 1, 2 and 3	
17 - 20	<u>Drosophila</u> <u>1</u> (Wieschhaus, Riesgo, Wappner)	<u>Xenopus</u> <u>1</u> (Mayor, Aybar)	<u>Tunicates</u> (Swalla)	<u>Xenopus</u> <u>3</u> (Mayor, Aybar)	<u>Zebra fish</u> (Calcaterra, Allende)	Groups 1, 2 and 3	<u>Unconventional Insects</u> (Rivera-Pomar)	<u>Arabidopsis</u> (Yanovsky, Palatnik, Cerdán)

Schedule for Group B

	Friday	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday
9 - 13		<u>Xenopus</u> <u>2</u> (Mayor, Aybar)		<u>Drosophila</u> <u>2</u> (Wieschhaus, Riesgo, Wappner)	<u>Zebra fish</u> (Calcaterra, Allende)	<u>Bioinformatics</u> (Brady)	Groups 1, 2 and 3	<u>Arabidopsis</u> (Yanovsky, Palatnik, Cerdán)
14 - 17	<u>Cell Migration</u> (Lehmann)	<u>Cell Migration</u> (Lehmann)				<u>Planaria</u> (Sanchez-Alvarado)	Groups 1, 2 and 3	
17 - 20	<u>Xenopus</u> <u>1</u> (Mayor, Aybar)	<u>Drosophila</u> <u>1</u> (Wieschhaus, Riesgo, Wappner)	<u>Xenopus</u> <u>3</u> (Mayor, Aybar)	<u>Lamprey</u> (Bronner-Fraser)	<u>Local Fish</u> (Berois-Domenech)	Groups 1, 2 and 3	<u>Unconventional Insects</u> (Rivera-Pomar)	<u>Chick</u> (Krull)