

**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**

23 Thursday	24 Friday	25 Saturday	26 Sunday	27 Monday	28 Tuesday	29 Wednesday	30 Thursday	31 Friday	1 Saturday
	<p>9.30 - 10.15 Mayor</p> <p>10.15 - 11 Riesgo-Escovar</p> <p>Coffee break</p> <p>11.15 - 12 Lehmann</p> <p>12 - 12.45 Wappner</p>	<p>9-12</p> <p><b><u>Drosophila</u></b> Group A <i>(Wieschhaus, Riesgo, Wappner)</i></p> <p><b><u>Xenopus</u></b> Group B <i>(Mayor, Aybar)</i></p> <p>12 - 13 <b><u>Cell Migration</u></b> <i>(Lehmann)</i></p>		<p>9 - 12</p> <p><b><u>Drosophila</u></b> Group B <i>(Wieschhaus, Riesgo, Wappner)</i></p> <p><b><u>Xenopus</u></b> Group A <i>(Mayor, Aybar)</i></p> <p>12 - 12.45 Bronner-Fraser</p>	<p>9 - 12</p> <p><b><u>Local Fish</u></b> Group A <i>(Berois-Domenech)</i></p> <p><b><u>Zebra fish</u></b> Group B <i>(Calcaterra, Allende)</i></p> <p>12 - 12.45 Sanchez Alvarado</p>	<p>9 - 12</p> <p><b><u>Planaria</u></b> Group A <i>(Sanchez-Alvarado)</i></p> <p><b><u>Bioinformatics</u></b> Group B <i>(Brady)</i></p> <p>12 - 12.45 Mayorga</p>	<p>9 - 9.45 Rivera-Pomar</p> <p>9.45 - 12.45</p> <p><b><u>Fertilization</u></b> <i>(Visconti, Mayorga)</i> G1</p> <p><b><u>Mouse</u></b> <i>(Behringer, Lanuza)</i> G2</p> <p><b><u>Zebra fish</u></b> <b><u>-advanced-</u></b> G3</p>	<p>9 - 9.45 Yanovsky</p> <p>9.45 - 12.45 <b><u>Arabidopsis</u></b> Group A <i>(Yanovsky, Palatnik, Cerdán)</i></p> <p><b><u>Chick</u></b> Group B <i>(Krull)</i></p>	<p>9 - 9.45 Cerdán</p> <p>9.45 - 11.45 <b><u>Round Table IV</u></b> "Communication of results and paper writing"</p> <p>11.45 - 12.15 <b><u>Closing remarks</u></b></p>

### 12.45 - 14 Lunch

	<p>14 - 15 <b><u>Cell Migration</u></b> <i>(Lehmann)</i></p> <p>15-17.30 <b><u>Poster Session I</u></b> <i>with coffee</i></p> <p>17.30 - 20.30 <b><u>Drosophila</u></b> Group A <i>(Wieschhaus, Riesgo, Wappner)</i></p> <p><b><u>Xenopus</u></b> Group B <i>(Mayor, Aybar)</i></p>	<p>14 - 16 <b><u>Round Table I</u></b> "Evolution of developmental mechanism: genes and signaling pathways"</p> <p>Coffee break</p> <p>16.15 - 17 Berois-Domenech</p> <p>17 - 20 <b><u>Drosophila</u></b> Group B <i>(Wieschhaus, Riesgo, Wappner)</i></p> <p><b><u>Xenopus</u></b> Group A <i>(Mayor, Aybar)</i></p>	<p>15.15 - 16 Krull</p> <p>16 - 16.45 Swalla</p> <p>Coffee break</p> <p>17 - 20 <b><u>Tunicates</u></b> Group A <i>(Swalla)</i></p> <p><b><u>Xenopus</u></b> Group B <i>(Mayor, Aybar)</i></p>	<p>14 - 17</p> <p><b><u>Lamprey</u></b> Group B <i>(Bronner-Fraser)</i></p> <p><b><u>Xenopus</u></b> Group A <i>(Mayor, Aybar)</i></p> <p>17 - 19 <b><u>Poster Session II</u></b> <i>with coffee</i></p> <p>19 - 19.45 Allende</p> <p>19.45 - 20.30 Calcaterra</p>	<p>14 - 16 <b><u>Round Table II</u></b> "Education in developmental biology"</p> <p>Coffee break</p> <p>16.15 - 17 Visconti</p> <p>17 - 20 <b><u>Local fish</u></b> Group B <i>(Berois-Domenech)</i></p> <p><b><u>Zebra fish</u></b> Group A <i>(Calcaterra, Allende)</i></p>	<p>14 - 17</p> <p><b><u>Planaria</u></b> Group B <i>(Sanchez-Alvarado)</i></p> <p><b><u>Bioinformatics</u></b> Group A <i>(Brady)</i></p> <p>Coffee break</p> <p>17.30 - 20.30 <b><u>Fertilization</u></b> <i>(Visconti, Mayorga)</i> G1</p> <p><b><u>Mouse</u></b> <i>(Behringer, Lanuza)</i> G2</p> <p><b><u>Zebra fish</u></b> <b><u>-advanced-</u></b> G3</p>	<p>14 - 14.45 Palatnik</p> <p>14.45 - 17.45</p> <p><b><u>Fertilization</u></b> <i>(Visconti, Mayorga)</i> G1</p> <p><b><u>Mouse</u></b> <i>(Behringer, Lanuza)</i> G2</p> <p><b><u>Zebra fish</u></b> <b><u>-advanced-</u></b> G3</p> <p>Coffee break</p> <p>18.15 - 20.45 <b><u>Unconventional insects</u></b> Group A <i>(Rivera-Pomar)</i></p>	<p>14 - 16 <b><u>Round Table III</u></b> "Advantages and limitations of different model organism in developmental biology research"</p> <p>Coffee break</p> <p>16.15 - 17 Quesada-Allué</p> <p>17 - 20 <b><u>Arabidopsis</u></b> Group B <i>(Yanovsky, Palatnik, Cerdán)</i></p> <p><b><u>Chick</u></b> Group A <i>(Krull)</i></p>
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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)