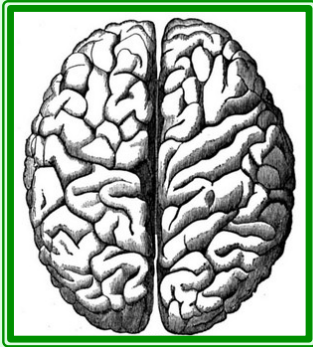


# Making and breaking the left-right axis: Laterality in development and disease



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Satellite Symposium of the  
Society for Developmental Biology 72nd Annual Meeting  
17<sup>th</sup> International Congress of Developmental Biology

June 15 – 16<sup>th</sup>, 2013

Hyatt Regency Hotel  
Cancun, Mexico

Organizers: Marnie Halpern and Oliver Hobert

Keynote Address: Lesley Rogers, Emeritus Professor  
University of New England, Australia

Participants:

Zhirong Bao, Sloan Kettering  
Martin Blum, Hohenheim  
Rebecca Burdine, Princeton  
Tamara Caspary, Emory  
Chiou-Fen Chuang, Cincinnati  
Joshua Gamse, Vanderbilt  
Kat Hadjantonakis, Sloan Kettering  
Cecilia Lo, Pittsburgh  
David McClay, Duke  
Nanette Nascone-Yoder, North Carolina State  
Dominic Norris, MRC Harwell

Stephane Noselli, Inst. Valrose Biologie, Nice  
Olivier Pourquie, IGBMC, Strasbourg  
Joel Rothman, UC Santa Barbara  
Yukio Saijoh, Utah  
Sebastian Shimeld, Oxford  
Zhaoxia Sun, Yale  
Laura Vandenberg, Tufts  
Steve Wilson, Univ. College London  
Bill Wood, Colorado  
Christopher Wright, Vanderbilt  
H. Joseph Yost, Utah



**Additional speakers will be selected from Abstracts.  
Graduate students and post-doctoral associates are  
strongly encouraged to apply.**

\$50 Faculty  
\$30 Post-doc/Student

To submit abstracts or request travel assistance  
e-mail to [sdbL-Rsatsymp@ciwemb.edu](mailto:sdbL-Rsatsymp@ciwemb.edu)

Register at  
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# ***Making and breaking the left-right axis: Laterality in development and disease***

Co-organizers: Marnie Halpern and Oliver Hobert

**June 15, 2013**

**Registration in Estrellas B, Talks in Sol, Luna, Mar**

**8:30 am**

**Introduction and goals of symposium    Oliver Hobert**

**Session 1    Establishing L-R asymmetry in invertebrates    chair: Oliver Hobert**

- 8:40    Bill Wood    *Timing and mechanism of handedness choice in C. elegans embryos*
- 9:04    Joel Rothman    *Behavioral handedness, bilaterally asymmetric apoptosis and organ handedness are independent of left-right embryonic chirality in C. elegans males*
- 9:28    Zhirong Bao    *Actin-based cytokinetic twist breaks left-right symmetry in C. elegans*
- 9:52    Stephane Noselli    *Role of Adominal-B and planar cell polarity in controlling left-right asymmetry establishment and morphogenesis in drosophila*

**10:15 – 10:30 am    Coffee Break**

- 10:30    Sebastian Shimeld    *Evolution of left-right asymmetry in the lophotrochozoa*
- 10:54    David McClay    *Right-left asymmetry in the sea urchin embryo*

**Session 2    Nodals and nodes    chair: Nanette Nascone-Yoder**

- 11:18    Chris Wright    *L-R asymmetry and nodal dynamics in frog embryos*
- 11:36    José António Belo    *The dynamic right-to-left translocation of Cerl2 is involved in the regulation and termination of nodal activity in the mouse node*
- 11:54    Yuji Mishina    *BMP signaling through ACVR1 is essential to establish a left-right asymmetry at the mouse node through cell cycle regulation*
- 12:12    Michelle Collins    *A role for Claudin-10 in left-right axis patterning*
- 12:30    Leonor Saude    *N-cadherin locks left-right asymmetry by ending the leftward movement of Hensen's node cells*

**12:45 – 2:00 pm    Buffet Lunch Provided (Restaurant O)**

**Session 3    Breaking the brain    chair: Tamara Caspary**

- 2:00    Oliver Hobert    *Embryonic priming of a miRNA locus predetermines postmitotic neuronal left-right asymmetry in C. elegans*
- 2:24    Chiou-Fen Chuang    *Sensory diversity in the olfactory system: left-right neuronal asymmetry*
- 2:48    Joshua Gamse    *Out of left field: an unexpected role for ribosome biogenesis in the formation of the left-sided parapineal organ*
- 3:12    Steve Wilson    *From genes to circuit function in the development of brain asymmetry*
- 3:36    Marnie Halpern    *Connectivity and behavioral consequences of epithalamic L-R asymmetry*

**4:00 – 4:15 pm    Coffee Break**

**Session 4**    **Cilia and flow****chair: Rebecca Burdine**

- 4:15    Martin Blum    *Presumed early determinants in the frog *Xenopus* act in the context of leftward flow*
- 4:39    Tamara Caspary    *Mechanism of laterality defects in Joubert Syndrome and related disorders*
- 5:03    Dominic Norris    *Cilia, flow sensing, and polycystins: how the embryo determines left from right*
- 5:27    Magdalena Cardenas-Rodriguez    *CCDC28B is a novel protein involved in ciliogenesis that modulates mTORC2 function and interacts with SIN1 to control cilia length*
- 5:45    Zhaoxia Sun    *Zebrafish models of primary ciliary dyskinesia*

**6:10 – 8:30 pm**            **Dinner break (Dinner on your own)****8:30 – 11:00 pm**            **Keynote Address (Followed by social hour)****Lesley Rogers**            ***Laterality from bees to human beings: Its function, evolution, development and causation*****June 16, 2013**            **Talks in Sol, Luna, Mar****Session 5**    **From early cues to tissue patterning****chair: Chris Wright**

- 9:00    Laura Vandenberg    *Very early events in left-right patterning of *Xenopus laevis* embryos*
- 9:24    Nanette Nascone-Yoder    *Organ laterality is generated by Pitx2-mediated left-right asymmetries in epithelial morphogenesis*
- 9:48    Natasza Kurpios    *Organ-specific vascular development of the midgut is driven by the left-right signaling pathway*
- 10:06    Olivier Pourquié    *Retinoic acid and embryonic symmetry*

**10:30 – 10:45 am**            **Coffee Break**

- 10:45    Yukio Saijoh    *Dynamic cell rearrangement driving early heart tube formation and looping*
- 11:09    Kat Hadjantonakis    *The gut endoderm relays left-right patterning information from the node to the lateral plate in the mouse embryo*

**Session 6**    **Organogenesis and disease****chair: Marnie Halpern**

- 11:35    Rebecca Burdine    *TGF $\beta$  signaling pathways cooperate to instruct asymmetric cardiac morphogenesis*
- 11:59    Eduardo Pulgar    *Opposing tensile forces and migratory behaviour drive tissue convergence during zebrafish laterality organ development*
- 12:17    Cecilia Lo    *Role of the cilia in congenital heart disease and left-right patterning*
- 12:41    Shiaulou Yuan    *The congenital heart disease gene, GALNT11, glycosylates Notch to orchestrate cilia type and left-right asymmetry*
- 12:59    H. Joseph Yost    *Gene regulatory networks, left-right patterning and complex congenital heart disease*

**2:30 pm ICDB/SDB/LASDB meeting begins**