

Curriculum Vitae

Tobias Bollenbach
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Personal

Date of birth: September 13, 1978 (in Göttingen, Germany)
 Nationality: German

Research

Since Nov 10 Assistant Professor, Institute of Science and Technology Austria, Klosterneuburg, Austria
 Sep 06 - Oct 10 Postdoctoral fellow in the Kishony Laboratory, Department of Systems Biology, Harvard Medical School, Boston, MA, USA
 Sep 05 - Jul 06 Postdoctoral fellow in the Jülicher group, Max Planck Institute for the Physics of Complex Systems (MPIPKS), Dresden, Germany
 Jul 05 - Aug 05 Guest scientist in the Sano Laboratory, University of Tokyo, Japan
 Nov 02 - Jun 05 PhD in physics at the MPIPKS and the University of Dresden
 Grade: summa cum laude (with distinction). Adviser: Frank Jülicher
 Thesis title: Formation of morphogen gradients
 Sep 01 - Jul 02 Master of Science in physics at Michigan State University (MSU) in East Lansing, MI, USA
 Grade: 4.0 (very good). Adviser: Wolfgang Bauer
 Thesis title: Numerical study of rotating core collapse supernovae

Education

Sep 01 - Jul 02 Graduate studies in physics at Michigan State University (MSU)
 Jul 00 Bachelor of Science ("Vordiplom") in physics at the University of Göttingen, Germany.
 Grade: 1.0 (very good)
 Oct 98 - Jul 01 Undergraduate and graduate studies in physics at the University of Göttingen

Fellowships & Distinctions

Since Jun 11 Member of the Young Academy ("Junge Akademie") at the German National Academy of Sciences Leopoldina and the Berlin-Brandenburg Academy of Sciences and Humanities
 Aug 07 - Jul 09 Postdoctoral fellowship of the Alexander von Humboldt Foundation ("Feodor-Lynen-Forschungsstipendium")
 Jun 07 Postdoctoral fellowship of the German Academic Exchange Service (DAAD) (not taken)
 Jun 06 Postdoctoral fellowship of the DAAD for a project at the University of California, San Diego (not taken)
 Jul 05 - Aug 05 REES (Research Experience for European Students) fellowship of JISTEC (Japan International Science and Technology Exchange Center)
 Nov 03 - Jun 05 PhD fellowship of the German National Scholarship Foundation ("Studienstiftung des deutschen Volkes")
 Mar 00 - Oct 02 Fellowship of the German National Scholarship Foundation

Teaching

Spring 2011 Organizer of the lecture "Current and Classic Quantitative Biology" at the IST Austria graduate school
 Jun 08 - Aug 08 Research supervisor for the Undergraduate Summer Research Internship Program at the FAS Center for Systems Biology at Harvard University
 Oct 04 - Feb 05 Teaching assistant for theoretical electromagnetism ("Theoretische Elektrodynamik"),

Apr 03 – Jul 03 University of Dresden, winter semester 2004/2005, 2 hours per week (“SWS”)
Teaching assistant for basic physics lab (“Physikalisches Grundpraktikum”), University of
Dresden, summer semester 2003, 2 hours per week (“SWS”)

Selection committee and referee service

- Referee for a range of international high profile journals, including
 - Proceedings of the National Academy of Sciences of the United States of America
 - Molecular Systems Biology
 - Physical Review Letters
 - EMBO Journal
 - Biophysical Journal
- Member of the selection committee of the German National Scholarship Foundation (‘Studienstiftung des deutschen Volkes’).

Publications

Peer-reviewed publications

1. [Bollenbach, T.](#) and Kishony, R. (2011). Resolution of gene regulatory conflicts caused by combinations of antibiotics. **Mol Cell** 42, 413-25.
2. Plachta, N., [Bollenbach, T.](#), Pease, S., Fraser, S., and Pantazis, P. (2011). Oct4 kinetics predict cell lineage patterning in the early mammalian embryo. **Nat Cell Biol** 13, 117-123.
3. [Bollenbach, T.](#), Quan, S., Chait, R., and Kishony, R. (2009). Non-optimal microbial response to antibiotics underlies suppressive drug interactions. **Cell** 139, 707-718.
4. Swoboda, J. G. [♦], Meredith, T. C. [♦], Campbell, J., Brown, S., Suzuki, T., [Bollenbach, T.](#), Malhowski, A. J., Kishony, R., Gilmore, M. S., and Walker, S. (2009). Discovery of a small molecule that blocks wall teichoic acid biosynthesis in *Staphylococcus aureus*. **ACS Chem Biol** 4, 875-883.
5. [Bollenbach, T.](#) [♦], Pantazis, P. [♦], Kicheva, A. [♦], Bökel, C., González-Gaitán, M., and Jülicher, F. (2008). Precision of the Dpp gradient. **Development** 135, 1137-1146. [Evaluated on Faculty of 1000 Biology]
6. [Bollenbach, T.](#), Vetsigian, K., and Kishony, R. (2007). Evolution and multilevel optimization of the genetic code. **Genome Res** 17, 401-404. [Perspective]
7. Kicheva, A. [♦], Pantazis, P. [♦], [Bollenbach, T.](#) [♦], Kalaidzidis, Y., Bittig, T., Jülicher, F., and González-Gaitán, M. (2007). Kinetics of morphogen gradient formation. **Science** 315, 521-525. [Evaluated on Faculty of 1000 Biology]
8. [Bollenbach, T.](#), Kruse, K., Pantazis, P., González-Gaitán, M., and Jülicher, F. (2007). Morphogen transport in epithelia. **Phys Rev E** 75, 011901.
9. [Bollenbach, T.](#), Kruse, K., Pantazis, P., González-Gaitán, M., and Jülicher, F. (2005). Robust formation of morphogen gradients. **Phys Rev Lett** 94, 018103.
10. Kruse, K. [♦], Pantazis, P. [♦], [Bollenbach, T.](#), Jülicher, F., and González-Gaitán, M. (2004). Dpp gradient formation by dynamin-dependent endocytosis: receptor trafficking and the diffusion model. **Development** 131, 4843-4856.
11. Bauer, W., Kleine-Berkenbusch, M., and [Bollenbach, T.](#) (2003). Breaking atomic nuclei into little pieces: evidence for a phase transition. **Revista Mexicana de Física** 49, 1.

Non-peer-reviewed publications

1. [Bollenbach, T.](#) and Kishony, R. (2009). Hydroxyurea Triggers Cellular Responses that Actively Cause Bacterial Cell Death. **Mol Cell** 36, 728-729. [Preview]
2. [Bollenbach, T.](#) and Kishony, R. (2009). Quiet gene circuit more fragile than its noisy peer. **Cell** 139, 460-461. [Preview]
3. [Bollenbach, T.](#) (2005). Formation of morphogen gradients. **PhD Thesis**, University of Dresden.
4. [Bollenbach, T.](#), Strother, T., and Bauer, W. (2003). 3d supernova collapse calculations. **Proceedings of the NATO Advanced Study Institute**, Kemer, Turkey.
5. [Bollenbach, T.](#) and Bauer, W. (2002). 3d supernovae collapse calculations. Exotic Clustering, edited by S. Costa, A. Insolia, and C. Tüve. **American Institute of Physics Conference Proceedings** 644, 219-232, Melville, New York.
6. Bauer, W., [Bollenbach, T.](#), Kleine Berkenbusch, M., and Harreis, H. (2002). The percolation interpretation of the nuclear fragmentation phase transition. **Proceedings of the 18th Winter Workshop on Nuclear Dynamics**, Nassau, Bahamas, January 20-27.
7. [Bollenbach, T.](#) (2002). Numerical study of rotating core collapse supernovae, **Master's Thesis**, Michigan State University, East Lansing, MI.

Manuscripts in preparation are not listed.

[♦] Equal contribution

Invited talks

1. Seminar talk, Institute of Theoretical Physics, **Saarland University** (October 2011).
2. Conference Modeling and Microbiology, **e-science institute, University of Edinburgh**, UK (July 2011).
3. Biophysics Colloquium, **University of Linz**, Austria (January 2011).
4. Boston Area Systems and Synthetic Biology Meeting, **Harvard School of Public Health**, Boston, MA, USA (April 2010).
5. Seminar talk, Institute of Molecular Systems Biology, **ETH Zurich**, Switzerland (March 2010).
6. Seminar Series in Molecular and Cellular Biophysics, **Massachusetts Institute of Technology**, Cambridge, MA, USA (April 2009).
7. Bioinformatics Seminar, Computer Science and Artificial Intelligence Laboratory (CSAIL), **Massachusetts Institute of Technology**, Cambridge, MA, USA (March 2009).
8. Workshop Developmental Systems Biology, **European Conference on Complex Systems (ECCS)**, Dresden, Germany (October 2007).
9. Symposium Nonlinear and Anomalous Transport in Complex Systems, **German Physical Society (DPG) spring meeting (main talk)**, Regensburg, Germany (March 2007).
10. Seminar talk, **Max Planck Institute for Mathematics in the Sciences**, Leipzig, Germany (January 2006).
11. Seminar talk, Kaneko group, **University of Tokyo**, Japan (August 2005).
12. **Workshop Computational Biology in Saxony**, Dresden, Germany (December 2004).
13. Modeling Symposium, **Max Planck Institute of Molecular Cell Biology and Genetics**, Dresden, Germany (March 2004).
14. Seminar talk, **National Superconducting Cyclotron Lab**, East Lansing, MI, USA (September 2003).

Contributed conference presentations and job talks are not listed.