

# Ana Hočevar Brezavšček

## Curriculum Vitae

Center for Studies in Physics and Biology  
The Rockefeller University  
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Date of birth 9th November 1983 (Ljubljana, Slovenia)  
Citizenship Slovenia (EU)

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### Education

- August 2013 **Methods in Computational Neuroscience Summer School**, *Marine Biological Laboratory*, Woods Hole, Massachusetts, USA.
- 2012 **Ph.D. in Physics**, *University of Ljubljana, Faculty of Mathematics and Physics*, Ljubljana, Slovenia.  
Supervisor: Dr. Primož Ziherl
- February 2011–  
July 2011 **Visiting graduate student**, *University of Pennsylvania*, Philadelphia, Pennsylvania, USA.  
Supervisor: Prof. Dr. Randall Kamien
- June 2010 **Complex Systems Summer School 2010**, *Santa Fe Institute*, Santa Fe, New Mexico, USA.
- 2009 **Master's examination in Physics**, *University of Ljubljana, Faculty of Mathematics and Physics*, Ljubljana, Slovenia (summa cum laude, GPA: 10/10).
- 2007 **B.Sc. in Physics**, *University of Ljubljana, Faculty of Mathematics and Physics*, Ljubljana, Slovenia (cum laude, GPA: 9.75/10).  
Title: Structure of sheet-like lipid vesicle aggregates, Supervisor: Dr. Primož Ziherl

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### Academic positions

- 2012–present **Raymond and Beverly Sackler Fellow**, *Rockefeller University*, New York, NY, USA.
- 2007–2013 **Assistant Researcher**, *Jozef Stefan Institute*, Ljubljana, Slovenia.
- 2008–2012 **Teaching Assistant**, *University of Ljubljana, Faculty of Mathematics and Physics*, Ljubljana, Slovenia.

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### Employment

- 2012–present **Raymond and Beverly Sackler Fellow**, *Center for Studies in Physics and Biology*, Rockefeller University, New York, NY, USA.
- 2007–2012 **Young Researcher**, *Jozef Stefan Institute, Department of Theoretical Physics (Theoretical Biophysics Group)*, Ljubljana, Slovenia.
- 2004 **Summer Research Internship**, *Jozef Stefan Institute, Department of Condensed Matter Physics*, Ljubljana, Slovenia.  
Supervisor: Dr. Denis Arčon

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## Teaching

- Fall 2013 **New York Academy of Sciences Afterschool STEM Mentoring Program**, *teaching science to 4th through 8th graders, Isaac Newton Math and Science Middle School, New York City, NY.*
- 2008–2011 **Laboratory I**, *teaching undergraduate classes, University of Ljubljana, Faculty of Mathematics and Physics, Ljubljana, Slovenia.*
- 2008–2011 **Laboratory II**, *teaching undergraduate classes, University of Ljubljana, Faculty of Mathematics and Physics, Ljubljana, Slovenia.*

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## Schools, Conferences, Workshops . . .

- August 2013 **Methods in Computational Neuroscience 2013 Summer School**, Woods Hole, Massachusetts, USA.
- February 2013 **Computational and Systems Neuroscience (COSYNE) 2013**, Salt Lake City, Utah, USA.
- December 2012 **Through the looking glass: a glimpse into the geometry and topology of materials**, Princeton, New Jersey, USA.  
Invited Talk: Space-filling problems in simple animal tissues
- July 2012 **62nd Lindau Nobel Laureate Meeting**, Lindau, Germany.
- February 2012 **APS March Meeting 2012**, Boston, Massachusetts, USA.  
Contributed Talk: A model of epithelial invagination driven by collective mechanics of identical cells
- February 2012 **Quantissue 2012: Quantitative Models in Cell and Developmental Biology**, Barcelona, Spain.  
Contributed Talk: A model of epithelial invagination driven by collective mechanics of identical cells  
Poster: Periodic three-dimensional assemblies of polyhedral lipid vesicles
- September 2011 **European Conference on Complex Systems 2011**, Vienna, Austria.  
Poster: Periodic three-dimensional assemblies of polyhedral lipid vesicles
- June 2011 **International Conference on Biological Physics 2011**, UCSD, La Jolla, California, USA.  
Poster: Ordered bulk aggregates of lipid vesicles
- March 2011 **APS March Meeting 2011**, Dallas, Texas, USA.  
Contributed talk: Ordered bulk aggregates of lipid vesicles
- December 2010 **5th Christmas Biophysics Workshop**, Ptuj, Slovenia.  
Contributed talk: Periodic three-dimensional assemblies of lipid vesicles
- October 2010 **Biophysics of Membrane Transformations**, Physikzentrum Bad Honnef, Bad Honnef, Germany.  
Poster: Universality of structure of living and inanimate planar tilings  
Poster: Ordered bulk aggregates of lipid vesicles
- September 2010 **Physics meets Biology 2010**, St. Catherine's College, Oxford, UK.  
Poster: Degenerate polygonal tilings in simple animal tissues  
Poster: Geometry of bulk lipid vesicle aggregates
- July 2010 **International Soft Matter Conference**, Granada, Spain.  
Poster: Morphometry and structure of natural random tilings  
Poster: Geometry of bulk lipid vesicle aggregates
- June 2010 **Complex Systems Summer School 2010**, Santa Fe Institute, Santa Fe, New Mexico, USA.

- May 2010 **Particulate Matter: Does Dimensionality Matter**, Dresden, Germany.  
Poster: Degenerate polygonal tilings in simple animal tissues
- December 2009 **4th Christmas Biophysics Workshop: Soft Matter Meets Biological Physics**, Leibnitz, Austria.  
Contributed talk: Morphometry and structure of natural random tilings
- December 2009 **1st Paris Interdisciplinary PhD Symposium – From sparse entities to crowded environments: numbers in living systems**, Paris, France.  
Poster: So different, yet so similar: statistics of various natural tilings
- September 2009 **Physics of Cells: From the Edge to the Heart**, Primošten, Croatia.  
Poster: Degenerate polygonal tilings in simple animal tissues  
Poster: Universality of structure of living and inanimate planar tilings  
Poster: Geometry of bulk lipid vesicle aggregates
- July 2009 **New Trends in Simulating Colloids: From Models to Applications**, CECAM, Lausanne, Switzerland.  
Invited talk: Statistical mechanics of nonthermal systems: cellular structures
- June 2009 **From DNA-Inspired Physics to Physics-Inspired Biology**, *The Abdus Salam International Centre for Theoretical Physics*, Miramare, Trieste, Italy.  
Poster: Degenerate polygonal tilings in simple animal tissues
- December 2008 **3rd Christmas Biophysics Workshop: Organized Molecular Systems**, Donja Stubica, Croatia.  
Contributed talk: Geometry of bulk lipid vesicle aggregates
- June 2008 **Conference and Biophysics Summer School: From Solid State to Biophysics IV**, Cavtat, Croatia.  
Poster: Structure of sheet-like vesicle aggregates
- January 2008 **International School on Biomembrane Physics: The Interface of Life**, *Indian Institute of Technology Madras*, Chennai, India.  
Short talk: Structure of planar vesicle aggregates

### Other presentations

- May 2011 **Massachusetts Institute of Technology**, Cambridge, Massachusetts, USA.  
Talk: The role of geometry in simple animal tissues
- May 2011 **Harvard University**, Cambridge, Massachusetts, USA.  
Talk: The role of geometry in simple animal tissues
- May 2011 **University of Massachusetts Amherst**, Amherst, Massachusetts, USA.  
Talk: The role of geometry in simple animal tissues
- February 2011 **University of Pennsylvania**, Philadelphia, Pennsylvania, USA.  
Talk: Periodic three-dimensional assemblies of lipid vesicles
- October 2008 **Technische Universität Wien**, Vienna, Austria.  
Talk: Degenerate polygonal tilings in simple animal tissues

### Awards and Honors

- 2013-present **Raymond and Beverly Sackler Fellow**, The Rockefeller University, New York.
- December 2009 **Best poster prize**, *1st Paris Interdisciplinary PhD Symposium – From sparse entities to crowded environments: numbers in living systems*, Paris, France.  
Poster title: So different, yet so similar: statistics of various natural tilings
- September 2009 **EMBO poster prize for an outstanding poster presentation**, *Physics of Cells: From the Edge to the Heart Conference*, Primošten, Croatia.  
Poster title: Geometry of bulk lipid vesicle aggregates

- 2007 **"Svečana listina Univerze v Ljubljani" prize**, *University ceremonial list for outstanding undergraduate students*, University of Ljubljana.
- 2002 **"Zlati maturant" award**, *the national award for excellent high school studies achievements*.
- 1998–2007 **Zois Scholarship**, *the national scholarship awarded to exceptional students*.

## Languages

Slovene	<b>Proficient</b>	<i>My native language.</i>
English	<b>Proficient</b>	<i>Speaking, reading, and writing.</i>
German	<b>Beginner</b>	<i>Speaking and reading.</i>

## Publications

- M. Rauzi, A. Hočevar Brezavšček, P. Zihelr and M. Leptin, Models of mesoderm invagination in the Drosophila embryo, *Biophys. J.* 105 (1), 3 (2013).
- M. Krajnc, N. Štrogel, A. Hočevar Brezavšček and P. Zihelr, A tension-based model of flat and corrugated simple epithelia, *Soft Matter* 9, 8368 (2013).
- A. Hočevar Brezavšček, M. Rauzi, M. Leptin, and P. Zihelr, A model of epithelial invagination driven by collective mechanics of identical cells, *Biophys. J.* 103 (5), 1069 (2012).
- A. Hočevar and P. Zihelr, Periodic three-dimensional assemblies of lipid vesicles, *Phys. Rev. E* 83, 041917 (2011).
- A. Hočevar, S. El Shawish and P. Zihelr, Morphometry and structure of natural random tilings, *EPJE* 33, 369 (2010).
- A. Hočevar and P. Zihelr, Degenerate polygonal tilings in simple animal tissues, *Phys. Rev. E* 80, 011904 (2009).