

**Curriculum Vitae**  
**Madeline A. Lancaster**

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**Name:** Madeline A. Lancaster

**Current contact info:**

**Street1:** Institute of Molecular Biotechnology of the Austrian Academy of Science (IMBA)

**Street2:** Dr. Bohrgasse 3

**City:** Vienna    **Country:** Austria    **Zip code:** 1030

**Email:** [madeline.lancaster@imba.oeaw.ac.at](mailto:madeline.lancaster@imba.oeaw.ac.at)

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**Academic Background/Education:**

2004                      B.A., Biochemistry, Occidental College, Los Angeles, CA

2010                      Ph. D., Biomedical Sciences, University of California, San Diego, La Jolla, CA

2010-Present            Post-doctoral position, IMBA, Vienna, Austria

**Awards/Honors/Fellowships:**

Trustee Scholarship, Occidental College, 2000-2004

Dean's List, Occidental College, 2001-2004

Graduated Cum Laude, Occidental College 2004

NIH Summer Undergraduate Research Program, University of Utah, Department of Chemistry, 2002

NIH Travel Grant for American Chemical Society Meeting, New Orleans, 2003

Pharmacology Summer Undergraduate Research Fellow, University of California, San Diego, 2003

NIH/NIGMS funded UCSD Genetics Training Program (T32 GM08666), University of California, San Diego, 2005-2008

Bear Necessities Pediatric Cancer Foundation, received 1 of 2 nationally awarded dissertation grants, 2009

ARCS (Achievement Rewards for College Scientists) Foundation Scholar and Beyster Family Foundation Fellow, 2009

Outstanding dissertation honorable mention, UCSD, 2010

EMBO post-doctoral fellowship, 2011

Helen Hay Whitney Foundation post-doctoral fellowship, 2011-2013

Marie Curie International Incoming Fellowship, 2013-Present

**Research Experience:**

2002 – 2004: Occidental College, Department of Biology

Undergraduate researcher in the lab of Professor Jens Franck working on selection of RNA with reductase enzymatic activity

Summer 2002: University of Utah, Department of Chemistry

NIH funded Summer Undergraduate Research Program: Worked in the lab of Professor Peter Beal on posttranscriptional modification of glutamate receptor subunit B mRNA

Summer 2003: UCSD School of Medicine, Department of Pharmacology

Summer Undergraduate Research Fellow: Worked in the lab of Professor Paul Insel on gene expression changes with adenylyl cyclase overexpression in human umbilical vein endothelial cells

Fall 2004: University of California, San Diego, Howard Hughes Medical Institute

Rotation student in the lab of Professor Michael Geoff Rosenfeld working on identifying protein-protein interactions with the transcriptional corepressor proteins TBL1 and TBLR1 in the NCOR/SMRT complex

Winter 2005: University of California, San Diego, Howard Hughes Medical Institute  
Rotation student in the lab of Professor Lawrence Goldstein working to identify factors involved in APP cleavage and neuronal axon transport using a Drosophila model

2004-2010: University of California, San Diego, Howard Hughes Medical Institute  
Doctoral student in the lab of Professor Joseph Gleeson working on thesis project to examine signaling at the primary cilium and its implications in the human genetic disorder Joubert syndrome

2010-Present: Institute of Molecular Biotechnology of the Austrian Academy of Sciences  
Post-doctoral position in the lab of Professor Juergen Knoblich working on cell fate decisions in the mammalian neocortex using an in vitro mouse and human neural rosette model system.

## Teaching/Training Experience:

2002-2004: Occidental College  
Teaching assistant: General Chemistry; Introduction to Cellular and Molecular Biology; Biochemistry  
2005: University of California, San Diego  
Teaching assistant: Introduction to Genetics  
2005: University of California, San Diego  
Trained a summer NIH SURF undergraduate research fellow.  
2008: University of California, San Diego  
Trained a rotating BMS graduate student during fall quarter  
2008-2010: University of California, San Diego  
Training an undergraduate research assistant and HHMI summer fellow

## Publications

Valente EM, Silhavy JL, Brancati F, Barrano G, Krishnaswami SR, Castori M, Lancaster MA, Boltshauser E, Boccone L, Al-Gazali L, Fazzi E, Signorini S, Louie CM, Bellacchio E; International Joubert Syndrome Related Disorders Study Group; Bertini E, Dallapiccola B, Gleeson JG. *Mutations in CEP290, which encodes a centrosomal protein, cause pleiotropic forms of Joubert syndrome.* **Nature Genetics.** 2006., 38(6): 623-5.

Lancaster MA, and Gleeson, JG. *The primary cilium as a cellular signaling center: lessons from disease.* **Curr. Opin. Genet. and Develop.** 2009., 19:220-229. Cover article.

Lancaster MA, Louie CM, Silhavy JL, Sintasath L, DeCambre M, Nigam SK, Willert K, Gleeson JG. *Impaired Wnt/ $\beta$ -catenin signaling disrupts adult renal homeostasis and leads to cystic kidney ciliopathy.* **Nature Medicine.** 2009, 15: 1046-1054.

Louie CM, Caridi G, Lopes VS, Brancati F, Kispert A, Lancaster MA, Schlossman AM, Otto EA, Leitges M, Gröne HJ, Lopez I, Gudiseva HV, O'Toole JF, Vallespin E, Ayyagari R, Ayuso C, Cremers FP, den Hollander AI, Koenekoop RK, Dallapiccola B, Ghiggeri GM, Hildebrandt F, Valente EM, Williams DS, Gleeson JG. *AHI1 is required for photoreceptor outer segment development and is a modifier for retinal degeneration in nephronophthisis.* **Nature Genetics.** 2010, 42(2): 175-80.

Lancaster MA, Gleeson JG. *Cystic kidney disease: the role of Wnt signaling.* **Trends Mol Med.** 2010, 16(8): 349-60. Cover article.

Lancaster MA, Schroth J, Gleeson, JG. *Subcellular spatial regulation of canonical Wnt signaling at the primary cilium.* **Nature Cell Biology.** 2011, 13(6): 702-9. Featured in News and Views.

Lancaster MA, Gopal DJ, Kim J, Saleem SN, Silhavy JL, Louie CM, Thacker BE, Williams Y, Zaki MS, Gleeson, JG. *Defective Wnt-dependent cerebellar midline fusion in a mouse model of Joubert syndrome.* **Nature Medicine.** 2011, 17(6): 726-31. Featured in News and Views.

Lancaster MA, Knoblich JA. *Spindle orientation in mammalian cerebral cortical development*. **Curr Opin Neurobiol.** 2012, 22(5): 737-46.

Lancaster MA, Renner M, Martin C-A, Wenzel D, Bicknell LS, Hurles ME, Homfray T, Penninger JM, Jackson AP, Knoblich JA. *Cerebral organoids model human brain development and microcephaly*. **Nature.** 2013, doi:10.1038/nature12517. Featured article.

### **Presentations/Abstracts:**

Spring 2003 American Chemical Society meeting in New Orleans, LA; Poster, Summer 2002 research, "Synthesis and Analysis of 2'-O-Methylated ADAR2 Substrates"

Joubert Syndrome and Related Disorders meeting in Washington, D.C.; November 2006, Poster: "Mutations in Cep290 or Ahi1 Underlie Joubert Syndrome"

Keystone symposium Wnt/beta-Catenin Signaling in Development and Disease in Keystone, CO; February 2008, Poster: "Potentiation of  $\beta$ -catenin signaling at the primary cilium by a novel Wnt pathway modulator: Joubertin"

Biomedical Sciences Program retreat, UCSD; May, 2009, Presentation: "Neuronal Cilia: From Evolutionary Remnant to Signaling Powerhouse"

Bear Necessities Pediatric Cancer Foundation, Cracking the Code with the Bear Symposium, Invited speaker, Nov. 20<sup>th</sup> 2009: "The Role of the Oncogenic Protein Ahi1 in Wnt Signaling and Proliferation in Cerebellar Development"

American Society for Cell Biology 49<sup>th</sup> annual meeting, Poster, Dec. 7<sup>th</sup> 2009: "The primary cilium as a negative regulator of canonical Wnt signaling through sequestration of Joubertin"

Gordon Research Conference on Developmental Biology, Selected speaker and poster, July 2013: "Modeling human brain development and disease in cerebral organoids"