

# Thomas A. Leonard, PhD

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## Research Experience

- 2012 – present Junior Group Leader, Max F. Perutz Laboratories, Medical University of Vienna, Austria
- 2005 – 2011 Postdoctoral Fellow, National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK/NIH)  
'Structure and Allosteric Activation of Protein Kinase C.'  
Advisor: Dr. James H. Hurley
- 2001 – 2005 PhD student, MRC Laboratory of Molecular Biology (LMB), Cambridge, U.K.  
'Bacterial chromosome segregation.'  
Advisor: Dr. Jan Löwe
- 2000 Summer Student, R&D Genetics, AstraZeneca, U.K.

## Education

- 2001 – 2005 PhD, University of Cambridge  
'Bacterial chromosome segregation: structural and functional studies of the Soj-SpoJ system.'  
Advisor: Jan Löwe, Structural Studies Division
- 1998 – 2001 BSc (Hons) Biochemistry with Medical Biochemistry, University of Bristol, U.K.  
(First Class Honours)

## Honours and Awards

- 2006 NIDDK Nancy Nossal Fellowship (James H. Hurley, National Institutes of Health (NIH), U.S.A.)

2006 EMBO Long Term Fellowship (James H. Hurley, NIH, U.S.A.)

### Teaching/Mentoring Experience

2015 – present Lecture Series: Molecular Medicine I  
2014 – present Lecture Series: Methods in Molecular Biology and Biochemistry  
2013 – present Practical course: Spectroscopic Methods in Molecular Biology  
2013 – present Introductory Course in Cell Signaling: ‘Unraveling the molecular basis of lipid-activated signal transduction.’  
2012 VBC PhD Lecture Series: ‘Structural Biology of Lipid-Activated Signal Transduction’  
2012 – present Group Leader, Max F. Perutz Laboratories, Vienna Biocenter  
2010 Mentor, Summer Internship Program, NIH, U.S.A.  
2003 – 2005 Undergraduate Tutor, Biology of Cells, Corpus Christi College, University of Cambridge, U.K.

### Peer Review Activities

Journals Cell; Science; Biochemistry; PLoS One; PLoS Biology; Nature Structural and Molecular Biology; Chemical Reviews; Acta Cryst D; Nature Communications

### Presentations and Seminars

2015 Invited speaker, FASEB meeting on ‘Protein Kinases and Protein Phosphorylation’, Itasca IL, U.S.A.  
2012 Invited speaker, Institut Pasteur, Paris, France.  
‘Lipids Turn on Protein Kinases.’  
2011 Invited speaker, Vanderbilt University, Nashville TN U.S.A.  
2011 Invited speaker, Stony Brook University, NY U.S.A.  
2011 Invited speaker, Princeton University, NJ U.S.A.  
2011 Poster presentation, Keystone Meeting on ‘Evolution of Protein Phosphorylation’, Keystone, CO, USA.  
‘Crystal Structure and Allosteric Activation of Protein Kinase C.’  
2006, 2010 Short talk, EMBO Fellows Meeting, Salk Institute, San Diego  
‘Structure and Allosteric Regulation of Protein Kinase C.’  
2004 Seminar speaker, LMB Symposium, Cambridge, U.K.  
‘Bacterial chromosome segregation: Structure and DNA binding of the Soj dimer - a conserved biological switch.’

- 2004                    Poster presentation at Keystone meeting on 'Bacterial chromosomes'.  
                              'Crystal structures of the chromosome segregation proteins Soj and Spo0J.'
- 2002                    Poster presentation at EMBO Young Investigator's PhD course, EMBL,  
                              Heidelberg.

## Publications

- Truebestein, L., Elsner, D.J., Fuchs, E., **Leonard, T.A.** (2015). A molecular ruler regulates cytoskeletal remodelling by the Rho kinases. *Nature Communications* (in press, doi: 10.1038/ncomms10029).
- Lučić, I., Truebestein, L., **Leonard, T.A.** (2015). Novel features of DAG-activated PKC isozymes reveal a conserved 3-D architecture. *Journal of Molecular Biology* (in press, doi: 10.1016/j.jmb.2015.11.001).
- Gutierrez-Uzquiza, A., Colon-Gonzalez, F., **Leonard, T.A.**, Canagarajah, B.J., Wang, H., Mayer, B., Hurley, J.H., Kazanietz, M.G. (2013). Coordinated activation of the Rac-GAP  $\beta$ 2-chimaerin by an atypical proline-rich domain and diacylglycerol. *Nature Communications* 4:1849 (doi: 10.1038/ncomms2834).
- Yang, H., Tong, J., **Leonard, T.A.**, Im Y.J. (2013). Structural determinants for phosphatidylinositol recognition by Sfh3 and substrate-induced dimer-monomer transition during lipid transfer cycles. *FEBS Lett.* 5;587(11):1610-6 (doi: 10.1016/j.febslet.2013.04.009).
- Leonard, T.A.** C2 domain proteins. *Encyclopedia of Metalloproteins*. (2013). (doi 10.1007/978-1-4614-1533-6). Book chapter.
- Leonard, T.A.**, Hurley, J.H. (2011). Regulation of protein kinases by lipids. *Curr Opin Struct Biol* 21, 785-791. Review.
- Leonard, T.A.**, Rozycki, B., Saidi, L.F., Hummer, G., Hurley, J.H. (2011). Crystal structure and allosteric activation of Protein Kinase C  $\beta$ II. *Cell* 144 (1), 55-66.  
(Comment on: Kazanietz, M.G., Lemmon, M.A. (2011). Protein Kinase C regulation: C1 meets C-tail. *Structure* 19 (2) 144-146).
- Wu, Y., Sommers, J.A., Suhasini, A.N., **Leonard, T.A.**, Deakyne, J.S., Mazin, A.V., Shin-ya, K., Kitao, H., Brosh, R.M. (2010). Fanconi Anemia Group J Mutation Abolishes its DNA Repair Function by Uncoupling DNA Translocation from Helicase Activity or Disruption of Protein-DNA Complexes. *Blood* 116(19) 3780-91.
- Oliva M.A., Halbedel S., Freund S.M., Dutow P., **Leonard T.A.**, Veprintsev D.B., Hamoen L.W., Löwe J. (2010). Features critical for membrane binding revealed by DivIVA crystal structure. *EMBO J.* 29(12):1988-2001
- Leonard, T.A.**, Hurley, J.H. (2007). Two Kinase Family Dramas. *Cell* 129 (6), 1037-1038. Preview.

**Leonard, T.A.,** Møller-Jensen, J., Löwe, J. (2005). Towards understanding the molecular basis of bacterial DNA segregation. *Philos Trans R Soc Lond B Biol Sci.* 360 (1455), 523-35. Review.

**Leonard, T.A.,** Butler, P.J.G., Löwe, J. (2005). Bacterial chromosome segregation: Structure and DNA binding of the Soj dimer – a conserved biological switch. *EMBO J.* 24(2), 270-82.

**Leonard, T.A.,** Butler, P.J.G., Löwe, J. (2004). Structural analysis of the chromosome segregation protein Spo0J from *Thermus thermophilus*. *Molecular Microbiology* 53(2), 419-432.