Christopher B. O'Connell

Curriculum Vitae

PERSONAL DATA

Place of Birth: North Adams, MA
Citizenship: United States

CURRENT POSITION

Director of the Advanced Light Microscopy Facility
University of Connecticut

CONTACT

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EDUCATION

2006	Yale University, Ph.D. in Cell Biology
1997	College of the Holy Cross, B.A. in Biology

PROFESSIONAL & RESEARCH EXPERIENCE

2015-present	Director, Advanced Light Microscopy Facility University of Connecticut
2015-2015	Senior Product Manager, Advanced Biosystems Nikon Instruments, Inc.
2011-2015	Super Resolution Systems Product Manager Nikon Instruments, Inc.
2006-2011	Postdoctoral Fellow Wadsworth Center, Division of Translational Medicine Research with Alexey Khodjakov, Ph.D.
2000-2006	Ph.D. Student Yale University, Department of Cell Biology Research with Mark S. Mooseker, Ph.D.
1997-2000	Research Assistant University of Massachusetts Medical School Department of Physiology Research with Yu-li Wang, Ph.D.

EXTERNAL FUNDING

2018	STED Super Resolution Microscope for a Core Facility; NIH S10OD023618; $999,637
2006-2009	Ruth L. Kirschstein National Research Service Award; NIH GM077911; $138,768

AWARDS AND HONORS

2014	Nikon S.P.R.I.N.G. Award (Employee Recognition) Nikon Instruments, Inc.
2010	Postdoctoral Travel Award American Society for Cell Biology
2009	Robert J. Colinas Postdoctoral Award Wadsworth Center, Albany, NY

COURSES TAUGHT

2012, 2014-2015	Vendor Faculty, Analytical & Quantitative Light Microscopy Marine Biological Laboratory, Woods Hole, MA
2012-2014	Vendor Faculty, Physiology Course Marine Biological Laboratory, Woods Hole, MA

PUBLICATIONS

1. Ng, E.L., A.L. Reed, **C.B. O'Connell**, and N.N. Alder. 2023. Using live cell STED imaging to visualize mitochondrial inner membrane ultrastructure in neuronal cell models. *J Vis Exp*. 196:10.3791/65561.
2. Ma, X., J.-Q. Li, **C. O'Connell**, T.-H. Fan, and Y. Lei. 2018. Integrated Experimental and Modeling Study of Enzymatic Degradation Using Novel Autofluorescent BSA Microspheres. *Langmuir ACS J. Surf. Colloids*. 34:191–197. doi:10.1021/acs.langmuir.7b03057.
3. Magidson, V., J. He, J.G. Ault, **C.B. O'Connell**, N. Yang, I. Tikhonenko, B.F. McEwen, H. Sui, and A. Khodjakov. 2016. Unattached kinetochores rather than intrakinetochore tension arrest mitosis in taxol-treated cells. *J. Cell Biol*. 212:307–319. (Featured in the Journal of Cell Biology "In Focus").
4. Magidson, V., R. Paul, N. Yang, J.G. Ault, **C.B. O'Connell**, I. Tikhonenko, B.F. McEwen, A. Mogilner, and A. Khodjakov. 2015. Adaptive changes in the kinetochore architecture facilitate proper spindle assembly. *Nat. Cell Biol.* 17:1134–1144.
5. Burke, M.C., F.-Q. Li, B. Cyge, T. Arashiro, H.M. Brechbuhl, X. Chen, S.S. Siller, M.A. Weiss, **C.B. O'Connell**, D. Love, C.J. Westlake, S.D. Reynolds, R. Kuriyama, and K.-I. Takemaru. 2014. Chibby promotes ciliary vesicle formation and basal body docking during airway cell differentiation. *J. Cell Biol.* 207:123–137. (Featured in the Journal of Cell Biology "In This Issue," Cover Image).

6. Laevsky, G.S., and **C.B. O'Connell**. 2013. Comparative and practical aspects of localization-based super-resolution imaging. *Curr. Protoc. Cytom. Editor. Board J Paul Robinson Manag. Ed. Al*. Chapter 2:Unit2.20.

7. **O'Connell, C.B.**, A. Khodjakov, and B.F. McEwen. 2012. Kinetochore flexibility: creating a dynamic chromosome-spindle interface. *Curr. Opin. Cell Biol.* 24:40–47.

8. Yang, F., L. Hu, C. Chen, J. Yu, **C.B. O'Connell**, A. Khodjakov, M. Pagano, and W. Dai. 2012. BubR1 is modified by sumoylation during mitotic progression. *J. Biol. Chem.* 287:4875–4882.

9. Magidson, V.*, **C.B. O'Connell***, J. Lončarek, R. Paul, A. Mogilner, and A. Khodjakov. 2011. The spatial arrangement of chromosomes during prometaphase facilitates spindle assembly. *Cell*. 146:555–567. ***These authors contributed equally to this work.***

10. **O'Connell, C.B.**, J. Loncarek, P. Kaláb, and A. Khodjakov. 2009. Relative contributions of chromatin and kinetochores to mitotic spindle assembly. *J. Cell Biol.* 187:43–51. (Featured in the Journal of Cell Biology "In This Issue," Faculty of 1000 "Recommended").

11. Cai, S., **C.B. O'Connell**, A. Khodjakov, and C.E. Walczak. 2009. Chromosome congression in the absence of kinetochore fibres. *Nat. Cell Biol.* 11:832–838. (Featured in Nature Cell Biology "News and Views").

12. **O'Connell, C.B.**, J. Loncarek, P. Hergert, A. Kourtidis, D.S. Conklin, and A. Khodjakov. 2008. The spindle assembly checkpoint is satisfied in the absence of interkinetochore tension during mitosis with unreplicated genomes. *J. Cell Biol.* 183:29–36. (Featured in the Journal of Cell Biology "In This Issue," Faculty of 1000 rating "Must Read").

13. **O'Connell, C.B.**, and A.L. Khodjakov. 2007. Cooperative mechanisms of mitotic spindle formation. *J. Cell Sci.* 120:1717–1722.

14. **O'Connell, C.B.**, M.J. Tyska, and M.S. Mooseker. 2007. Myosin at work: motor adaptations for a variety of cellular functions. *Biochim. Biophys. Acta*. 1773:615–630.

15. **O'Connell, C.B.**, and M.S. Mooseker. 2003. Native Myosin-IXb is a plus-, not a minus-end-directed motor. *Nat. Cell Biol.* 5:171–172. (Faculty of 1000 rating "Must Read").

16. Post, P.L., M.J. Tyska, **C.B. O'Connell**, K. Johung, A. Hayward, and M.S. Mooseker. 2002. Myosin-IXb is a single-headed and processive motor. *J. Biol. Chem.* 277:11679–11683.

17. Sheff, D., L. Pelletier, **C.B. O'Connell**, G. Warren, and I. Mellman. 2002. Transferrin receptor recycling in the absence of perinuclear recycling endosomes. *J. Cell Biol.* 156:797–804.

18. **O'Connell, C.B.**, A.K. Warner, and Y. Wang. 2001. Distinct roles of the equatorial and polar cortices in the cleavage of adherent cells. *Curr. Biol. CB*. 11:702–707.

19. Faulkner, N.E., D.L. Dujardin, C.Y. Tai, K.T. Vaughan, **C.B. O'Connell**, Y. Wang, and R.B. Vallee. 2000. A role for the lissencephaly gene LIS1 in mitosis and cytoplasmic dynein function. *Nat. Cell Biol.* 2:784–791.

20. **O'Connell, C.B.**, and Y.L. Wang. 2000. Mammalian spindle orientation and position respond to changes in cell shape in a dynein-dependent fashion. *Mol. Biol. Cell*. 11:1765–1774.

21. **O'Connell, C.B.**, S.P. Wheatley, S. Ahmed, and Y.L. Wang. 1999. The small GTP-binding protein rho regulates cortical activities in cultured cells during division. *J. Cell Biol.* 144:305–313. (Featured in the Journal of Cell Biology "In Brief").

22. Wheatley, S.P., **C.B. O'Connell**, and Y. L. Wang. 1998. Inhibition of chromosomal separation provides insights into cleavage furrow stimulation in cultured epithelial cells. *Mol. Biol. Cell*. 9:2173–2184.

GRANT REVIEW

2021	Ad hoc reviewer, NIH Shared Instrument Grant: Microscopy and Imaging ZRG1 CB-B (30)
2019	Ad hoc reviewer, NIH Shared Instrumentation Special Emphasis Panel ZRG1 CB-H (30)

INVITED TALKS

The UConn Expert Line STED System: Successes and Challenges. Abberior Instruments America User Workshop. Virtual conference, 2022.

Structured illumination microscopy: Fast super resolution for live cell imaging. The Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy (Pittcon). New Orleans, LA, 2015.

Stochastic optical reconstruction microscopy (STORM). Association of Biomolecular Resource Facilities. Palm Springs, CA, 2013.

Advances in super resolution technology and application in biomedical research. Photonics West. San Francisco, CA, 2012.

Mitotic mechanisms that prevent aneuploidy. Postdoc Appreciation Day Symposium. Wadsworth Center, Albany, NY, 2010.

Kinetochores as regulators of spindle assembly and mitotic progression. New York Capital Region Postdoctoral Association Annual Postdoc Research Day. Albany, NY, 2010.

The role of tension (centromere stretch) in the mitotic checkpoint. American Society for Cell Biology. San Francisco, CA, 2008.