

Richard James McKenney

University of California - Davis
145 Briggs Hall
Davis, CA 95616
T: XXX-XXX-XXX
E: rjmckenney@ucdavis.edu

Education

Columbia University, New York, NY

- 2010 Doctor of Philosophy (*with distinction*), Pathobiology & Molecular Medicine
- 2007 Master of Philosophy, Pathobiology & Molecular Medicine
- 2007 Master of Arts, Pathobiology & Molecular Medicine

Xavier University, Cincinnati, OH

- 2002 Bachelor of Science, Biology

Research Experience

- 2011-Present **Postdoctoral Fellow**, Dept. of Pharmacology, UCSF.
Advisor: Ronald D. Vale, Ph.D.
- 2004-2010 **Graduate Student**, Dept. of Pathology and Cell Biology,
Columbia University.
Advisor: Richard B. Vallee, Ph.D.
Thesis title: *Mechanochemical Regulation of Cytoplasmic Dynein
by LIS1 and NudE*
- 2002-2004 **Laboratory Technician**, Dept. of Pathology and Cell Biology,
Columbia University. Advisor: Richard B. Vallee, Ph.D.
- 1999-2002 **Undergraduate Researcher**, Dept. of Molecular Genetics,
University of Cincinnati. Advisor: Peter J. Stambrook, Ph.D.

Research Publications

1. Ori-McKenney KM, **McKenney RJ**, Huang HH, Li T, Meltzer S, Jan LY, Vale RD, Wiita AP, Jan YN. *Phosphorylation of β -Tubulin by the Down Syndrome Kinase, Mini-brain/DYRK1a, Regulates Microtubule Dynamics and Dendrite Morphogenesis.* **Neuron**, 90, 1-13 (2016).

2. **McKenney, RJ**, Huynh, W, Vale, RD, Sirajuddin, M. (2016). *Tyrosination of α -tubulin controls the initiation of processive dynein-dynactin motility*. **The EMBO J**. Mar 11. Epub ahead of print.
3. **McKenney, RJ**, Huynh, W, Tanenbaum, ME, Bhabha, G, and Vale, RD (2014). *Activation of cytoplasmic dynein motility by dynactin-cargo adapter complexes*. **Science**. Jul 18;345(6194): 337-41. PMID: 25035494.
 - Faculty of 1000: Rated “Very Good” <http://f1000.com/prime/718496492>
 - Perspective Article: Allan, V. (2014). *One, two, three, cytoplasmic dynein is go!* **Science**. Jul 18;345(6194):271-2.
 - Perspective Article: Cianfrocco, MA and Leschziner, AE (2014). *Traffic control: adaptor proteins guide dynein–cargo takeoff*. **The EMBO Journal**. Sep 1;33(17):1845-6.
 - Perspective Article: Dodding, MP (2014). *Backseat drivers: Cargo adaptors and dynactin activate cytoplasmic dynein motility*. **Cell Research**. Aug. 22.
4. Tanenbaum ME*, Vale RD, **McKenney RJ*** (2013). *Cytoplasmic Dynein Crosslinks and Slides Antiparallel Microtubules Using Its Two Motor Domains*. **eLife**. (*equal contribution). Sep 3;2:e00943. PMCID: PMC3762337.
 - Faculty of 1000: Rated “Very Good” <http://f1000.com/prime/718101795>
5. Kunwar, A., Tripathy, SK, Xu, J, Mattson, MK, Anand, P, Sigua, R, Vershinin, M, **McKenney, RJ**, Yu CC, & Gross, SP (2011). *Mechanical stochastic tug-of-war models cannot explain bidirectional lipid-droplet transport*. **PNAS**, 108(47), 18960-18965. PMID: 22084076.
6. Yi, JY, Ori-McKenney, KM, **McKenney, RJ**, Vershinin, M, Gross, SP, & Vallee, RB (2011). *High-resolution imaging reveals indirect coordination of opposite motors and a role for LIS1 in high-load axonal transport*. **Journal of Cell Biology**, 195(2), 193–201. PMID: 22006948.
7. **McKenney, RJ**, Weil, SJ, Scherer, J, & Vallee, RB (2011). *Mutually Exclusive Cytoplasmic Dynein Regulation by NudE-Lis1 and Dynactin*. **Journal of Biological Chemistry**, 286(45), 39615–39622. PMID: 21911489.
8. **McKenney, RJ***, Vershinin, M*, Kunwar, A, Vallee, RB, & Gross, SP (2010). *LIS1 and NudE induce a persistent dynein force-producing state*. **Cell**, 141(2), 304–314. PMID: 20403325 (*equal contribution).
 - Faculty of 1000: Rated “Very Good” <http://f1000.com/prime/3110957>
9. Stehman, SA, Chen, Y, **McKenney, RJ**, & Vallee, RB (2007). *NudE and NudEL are required for mitotic progression and are involved in dynein recruitment to kinetochores*. **Journal of Cell Biology**, 178(4), 583–594. PMID: 17682047.
10. Suzuki, SO, **McKenney, RJ**, Mawatari, S-Y, Mizuguchi, M, Mikami, A, Iwaki, T,

Goldman, JE, Canoll, P, & Vallee RB. (2007). *Expression patterns of LIS1, dynein and their interaction partners dynactin, NudE, NudEL and NudC in human gliomas suggest roles in invasion and proliferation. Acta Neuropathologica*, 113(5), 591–599. PMID: 17221205.

11. Bahassi, EM, Myer, DL, **McKenney, RJ**, Hennigan, RF, & Stambrook, PJ (2006). *Priming phosphorylation of Chk2 by polo-like kinase 3 (Plk3) mediates its full activation by ATM and a downstream checkpoint in response to DNA damage. Mutation research*, 596(1-2), 166–176. PMID: 16481012.

Oral Presentations

- February 2015 Invited speaker at Biophysical Society National Meeting
Motility Subgroup Session
Title: *Multiplex Regulation of Cytoplasmic Dynein Controls Intracellular Motility.*
- December 2014 Selected speaker at NIH Earl Stadtman Research Symposium on
Cell Biology
Title: *Multiplex Regulation of Cytoplasmic Dynein Controls Intracellular Motility.*
- September 2014 Invited speaker at Conference on Cell Physics, Saarland
University, Saarbrücken, Germany.
Title: *BicD2 and Dynactin Convert a Non-Processive Cytoplasmic Dynein to an Ultra-Processive Motor*
- July 2014 Invited speaker at Gordon Research Conference on Muscles and
Molecular Motors.
Title: *Activation of cytoplasmic dynein motility by dynactin-cargo adapter complexes.*
- May 2014 Selected speaker at Bay Area Postdoc Research Symposium
Title: *Regulation of Cytoplasmic Dynein Motility.*
- October 2013 Speaker at UCSF Research in Progress (R.I.P.S.) Seminar Series.
Title: *It Takes Three To Tango: Regulation of Cytoplasmic Dynein Motility by Dynactin and BicD2.*
- July 2009 Selected speaker at the 8th International Conference on AAA
Proteins
Title: *Novel Force Regulation of the Dynein AAA+ Motor by LIS1 and NudE.*

Book Chapters and Reviews

Vallee, RB, **McKenney, RJ** & Ori-McKenney, KM Multiple modes of cytoplasmic dynein regulation. *Nature Cell Biology* 14, 224–230 (2012). PMID: 22373868.

RJ McKenney and RB Vallee. *Two Decades of Cytoplasmic Dynein: From Fast to Forceful*, in: L. Amos and K. Hirose (Ed.), *The Dynein Handbook*. pp. 27-41. (2012).

KM Ori-McKenney, **RJ McKenney**, RB Vallee, *Studies of Lissencephaly and Neurodegenerative Disease Reveal Novel Aspects of Cytoplasmic Dynein Regulation*, in: S.M. King (Ed.), *Dyneins*. pp. 440-453. (2012).

Funding

2015-2019 NIH K99/R00 Pathway to Independence Award, National Institute of Neurological Disorders and Stroke: 1K99NS089428

2011-2014 NIH Ruth L. Kirschstein NRSA Postdoctoral Fellowship, National Institute of General Medical Sciences: 1F32GM096484

Awards and Honors

2009 Student travel award to the Biophysical Society Annual Meeting

2006 Student travel award to the Biophysical Society Discussions On Molecular Motors Workshop.

Professional Organizations

2006-Present Member, Biophysical Society

2007-Present Member, American Society For Cell Biology

Mentorship

- Close mentorship of graduate students, both as a senior graduate student during doctoral training (3 students) and as a postdoctoral scientist (2 students).
- Panelist for UCSF Office of Career and Professional Development's "Planning Your Postdoc" panel series.

Scientific Contribution

Reviewer/Referee for the following journals:

The Journal of Cell Biology, Nature Cell Biology, PLOS One, Nature Reviews Molecular Biology, PNAS, Molecular Biology Of The Cell, Nature Structural & Molecular Biology, Neuron, The EMBO Journal, Traffic.

References

Dr. Ronald D. Vale, Ph.D.
Postdoctoral Advisor
Professor and Chair, HHMI/UCSF
MC220, Room N312
600 16th Street
San Francisco, CA 94158-2517
Phone: 415-476-6380
Email: ron.vale@ucsf.edu

Dr. Gregg G. Gundersen, Ph.D.
Professor, Columbia University
630 West 168th Street, P&S 15-409
New York, NY 10032
Phone: 212-305-3708
E-mail: ggg1@columbia.edu

Dr. Richard Vallee, Ph.D.
PhD Advisor
Professor, Columbia University
630 West 168th Street, P&S 15-409
New York, NY 10032
Phone: 212-342-0546
E-mail: rv2025@columbia.edu

Dr. Yuh-Nung Jan, Ph.D.
Professor, HHMI/UCSF
1550 4th Street, RH-484A
San Francisco, CA 94158
Phone: 415-476-8752
E-mail: YuhNung.Jan@ucsf.edu