

Dylan T. Murray Ph.D.

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Education and Training:

- 2018 - Present University of California, Davis, California
Assistant Professor of Chemistry
- 2014 - 2018 National Institutes of General Medical Sciences, Bethesda, Maryland
PRAT Postdoctoral Fellow
Advisor: Dr. Robert Tycko
- 2007 - 2014 Florida State University, Tallahassee, Florida
Ph.D., Molecular Biophysics
Advisor: Dr. Timothy Cross
- 1999 - 2004 State University of New York, Plattsburgh, New York
B.S., Physics, Summa Cum Laude
Advisor: Dr. John Lewis

Funding:

- 2015 - 2018 National Institute of General Medical Sciences
Structure, stability, and function of the FUS low complexity domain
Postdoctoral Research Associate Program (PRAT)
Award number: Fi2-GM117604

Awards and Honors:

- 2012 Michael Kasha Graduate Student Paper Award, Florida State University
- 2012 Congress of Graduate Students Conference Presentation Grant, Florida State University
- 2010 Travel Grant for the US-Canada Winter School on Biological Solid State NMR
- 2008 University Graduate Fellowship, Florida State University
- 2007 Keynote Speaker, Sigma Xi Research Symposium, State University of New York

Teaching:

- 2018 Assistant Professor – Chemistry 107A – Physical Chemistry for the Life Sciences
University of California, Davis
- 2014 - 2018 Instructor – Biochemistry I & II – 300 Level
FAES Graduate School, National Institutes of Health
Lead Instructor: Dr. Mitchel Ho
- 2009 Teaching Assistant – Introductory Biochemistry Laboratory – 300 Level
Chemistry Department, Florida State University

Teaching (continued):

2006 Teaching Assistant – Proteins I: Structure and Function – 300 Level
Biochemistry Department, University of Vermont College of Medicine

Professional Activities:

2016 - Reviewer: *Journal of Magnetic Resonance*
Present

2016 - Reviewer: *Nature Protocols*
Present

Invited Presentations:

2016 Cold Spring Harbor Meeting on Neurodegenerative Diseases: Biology and Therapeutics, Cold Spring Harbor, New York

2016 National Institute of Diabetes, Digestive, and Kidney Diseases Annual Scientific Conference, Bethesda, Maryland

2012 Southeastern Magnetic Resonance Conference, Raleigh, North Carolina

2012 Annual Meeting of the Biophysical Society, San Diego, California

Conference Proceedings:

2017 FASEB Scientific Research Conference: Protein Aggregation in Health and Disease, Steamboat Springs, Colorado

2016 Keystone Symposium: Common Mechanisms of Neurodegeneration, Keystone, Colorado

2016 57th Experimental Nuclear Magnetic Resonance Conference, Pittsburgh, Pennsylvania

2015 FASEB Scientific Research Conference: Molecular Mechanisms and Physiological Consequences of Protein Aggregation, West Palm Beach, Florida

2014 International Conference on Magnetic Resonance in Biological Systems, Dallas, Texas

2013 54th Experimental Nuclear Magnetic Resonance Conference, Asilomar, California

2013 Annual Meeting of the Biophysical Society, Philadelphia, Pennsylvania

2012 International Conference on Magnetic Resonance in Biological Systems, Lyon, France

2012 53rd Experimental Nuclear Magnetic Resonance Conference, Miami, Florida

2011 52nd Experimental Nuclear Magnetic Resonance Conference, Asilomar, California

2011 Annual Meeting of the Biophysical Society, Baltimore, Maryland

2010 51st Experimental Nuclear Magnetic Resonance Conference, Daytona Beach, Florida

2010 Annual Meeting of the Biophysical Society, San Francisco, California

2009 50th Experimental Nuclear Magnetic Resonance Conference, Asilomar, California

2009 Annual Meeting of the Biophysical Society, Boston, Massachusetts

2007 Annual Meeting of the Biophysical Society, Baltimore, Maryland

Peer-Reviewed Publications (Pubmed):

1. Murray, D.T., Kato, M., Lin, Y., Thurber, K.R., Hung, I., McKnight, S.L., and Tycko, R. (2017) Structure of FUS Protein Fibrils and its Relevance to Self-assembly and Phase Separation of Low-Complexity Domains. *Cell*. DOI: 10.1016/j.cell.2017.08.048
2. Walti, M.A., Schmidt, T., Murray, D.T., Wang, H., Hinshaw, J.E., and Clore, G.M. (2017) Chaperonin GroEL accelerates protofibril formation and decorates fibrils of the Het-s prion protein. *PNAS*. 114, 9104-9109
3. Murray, D.T., Griffin, J., and Cross, T.A. (2014) Detergent optimized membrane protein reconstitution in liposomes for solid state NMR. *Biochemistry*. 53, 2454-2463.
4. Murray, D.T., Li, C., Gao, F.P., Qin, H., and Cross, T.A. (2014) Membrane protein structural validation by oriented sample solid-state NMR: diacylglycerol kinase. *Biophys. J.* 106, 1559-1569.
5. Murray, D.T., Hung, I., and Cross, T.A. (2013) Assignment of oriented sample NMR resonances from a three transmembrane helix protein. *J. Magn. Reson.* 240, 34-44.
6. Das, N., Murray, D.T., and Cross, T.A. (2013) Lipid bilayer preparations of membrane proteins for oriented and magic angle spinning solid-state NMR samples. *Nat. Prot.* 8, 2256-2270.
7. Cross, T.A., Murray, D.T., and Watts, A. (2013) Helical membrane protein conformations and their environment. *Eur. Biophys. J.* 42, 731-755.
8. Murray, D.T., Das, N., and Cross, T.A. (2013) Solid state NMR strategy for characterizing native membrane protein structures. *Acc. Chem. Res.* 46, 2172-2181.
9. Murray, D.T., Lu, Y., Cross, T.A., and Quine, J.R. (2011) Geometry of kinked protein helices from NMR data. *J. Magn. Reson.* 210, 82-89.

Book Chapters:

1. Das, N., Murray, D.T., Miao, Y., and Cross, T.A. (2014) Helical Membrane Protein Strategy for Success. In *Advances in Biological Solid-State NMR: Proteins and Membrane Active Peptides*. Eds. F. Separovic and A. Naito, Royal Society of Chemistry, 320-352.