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

Completed 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, 2019	Assistant Professor – Chemistry 216 – Magnetic Resonance University of California, Davis
2018, 2019	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

Teaching (continued):

2009	Teaching Assistant – Introductory Biochemistry Laboratory – 300 Level Chemistry Department, Florida State University
2006	Teaching Assistant – Proteins I: Structure and Function – 300 Level Biochemistry Department, University of Vermont College of Medicine

Professional Activities:

2006 – Present	Member: *Biophysical Society*
2016 – Present	Reviewer: *Nature Protocols*
2016 – Present	Reviewer: *Journal of Magnetic Resonance*
2018 – Present	Member: *American Chemical Society*
2019 – Present	Elected Member: *User Committee of the National High Magnetic Field Laboratory*
2020 – Present	Reviewer: *Nature Communcations*
2020 – Present	Reviewer: *Proceedings of the National Academy of Sciences USA*
2020 – Present	Reviewer: *Chemical Science*

Invited Presentations:

2020	American Chemical Society National Meeting, San Francisco, California
2020	Experimental Nuclear Magnetic Resonance Conference, Baltimore, Maryland
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:

2019	FASEB Scientific Research Conference: The Protein Aggregation Conference: From Structure to In Vivo Sequelae, Snowmass Village Colorado
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

Conference Proceedings (continued):

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. Gao, Y., Lipton, A.S., Wittmer, Y., Murray, D.T., and Mortimer, J.C. (2020) A grass-specific cellulose–xylan interaction dominates in sorghum secondary cell walls. *Nat. Comm.* 11, 6081.
2. Sysoev, V.O., Kato, M., Sutherland, L., Hu, R., McKnight, S.L. and Murray, D.T. (2020) Dynamic structural order of a low-complexity domain facilitates assembly of intermediate filaments. *Proc. Nat. Acad. Sci. USA.* 117, 23510-23518.
3. Murray, D.T. and Tycko, R. (2019) Side Chain Hydrogen-Bonding Interactions within Amyloid-like Fibrils Formed by the Low-Complexity Domain of FUS: Evidence from Solid State Nuclear Magnetic Resonance Spectroscopy. *Biochemistry*. 59, 364-378.
4. Murray, D.T., Zhou, X., Kato, M., Xiang, S., Tycko, R., and McKnight, S.L. (2018) Structural characterization of the D290V mutation site in hnRNPA2 low-complexity-domain polymers. *Proc. Nat. Acad. Sci. USA.* 115, E9782-E9791.
5. 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.* 171, 615-627.
6. 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. *Proc. Nat. Acad. Sci. USA.* 114, 9104-9109.
7. 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.
8. 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.
9. 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.
10. 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.
11. Cross, T.A., Murray, D.T., and Watts, A. (2013) Helical membrane protein conformations and their environment. *Eur. Biophys. J.* 42, 731-755.
12. 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.

Peer-Reviewed Publications (Continued):

13. 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.