BIOGRAPHICAL SKETCH

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NAME	POSITION TITLE
Sherry, David M.	Associate Professor
eRA COMMONS USER NAME dsherry1	

EDUCATION/TRAINING *(Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)*

INSTITUTION AND LOCATION	DEGREE *(if applicable)*	YEAR(s)	FIELD OF STUDY
University of Kansas, Lawrence, KS	BS	1979-1984	Cell Biology
University of Florida, Gainesville, FL	Ph.D.	1984-1989	Neuroscience
SUNY-Stony Brook, Stony Brook, NY	Postdoc.	1989-1992	Retinal circuitry
Cornell U Medical College, New York, NY	Postdoc.	1993-1994	Synaptic regeneration
U Med. & Dent. New Jersey, Newark, NJ	Postdoc.	1994-1995	Synaptic regeneration

A. Personal Statement

A rapidly developing area of interest is cell migration and its regulation. We are pursuing studies of growth factors and other signals in regulating the transition of cells from differentiated, quiescent phenotypes to migratory phenotypes. In particular we are interested in the signals that regulate the acquisition of a polarized migratory phenotype and determine the mode of migration (e.g., coordinated migration by cell ensembles vs. individual cell migration; directed vs. random migration). These studies encompass a wide range of topics including reorganization of cytoskeleton and other intracellular components, navigation, adhesion, signaling, trafficking, and proliferation. Specific projects focus on the transition of smooth muscle cells from a normally differentiated and quiescent phenotype to a migratory phenotype, such as occurs during normal or pathological angiogenesis.

A second, long-standing area of interest in the lab is anatomical and synaptic architecture in the central nervous system. These studies investigate the exquisite organization and specificity of connections between nerve cells, how this architecture develops and is affected by insult, and its capacity for repair. Most of our previous work has utilized the retina as a model system, but other areas of the central nervous system are also of interest.

Technical approaches employed in the lab integrate anatomical, pharmacological and molecular methods to manipulate and visualize signaling processes, cytoskeletal dynamics and cell behavior. Approaches include shRNA and pharmacological treatments to manipulate expression or activity of specific proteins, expression of fluorescent reporters and biosensors, live cell imaging to directly visualize cellular behaviors, and immunolabeling at the light, confocal, and electron microscopic levels.

B. Positions and Honors.

Positions

1995-2001 Assistant Professor, University of Houston, College of Optometry.
2001-2006 Associate Professor, University of Houston, College of Optometry.
2005-2006 Associate Professor (joint appointment), University of Houston, College of Pharmacy.
2007- Associate Professor, University of Oklahoma Health Sciences Center, Dept Cell Biology.
2007- Associate, Oklahoma Center for Neuroscience, University of Oklahoma Heath Sciences Center.
2009- Adjunct Associate Professor, University of Oklahoma Health Sciences Center, Dept Pharmaceutical Sciences.
2013- Associate Director for Curriculum Development, Oklahoma Center for Neuroscience, University of Oklahoma Health Sciences Center, Oklahoma City, OK.

Awards and Honors

1987-1988	Predoctoral Fellowship, Center for Neurobiological Sciences, University of Florida.
1988-1990	Individual National Research Service Award, Predoctoral Fellowship, NIMH.
1990-1992	Individual National Research Service Award, Postdoctoral Fellowship, NEI.
1993-1994	David Warfield Fellowship in Ophthalmology, New York Academy of Medicine.
2000	Outstanding Graduate Faculty Award, University of Houston College of Optometry
2000	Outstanding Teaching Faculty Award, University of Houston College of Optometry
2004	FASEB/MARC Travel Fellowship, Grant Writing Workshop, Tucson, AZ
2004	Invited Talk at the XVI International Congress of Eye Research, Sydney, Australia.
2008-2011	NIH fellowship review panel ZRG1-F03B, ad hoc member
2013-	AHA Cardiovascular Development 2 Review Panel, ad hoc member.

C. Selected peer-reviewed publications (selected from 49 total).

Sherry DM, Yazulla S. 1993. Goldfish bipolar cells and axon terminal patterns: a Golgi study. J Comp Neurol. 329:188-200.

Sherry DM, Yazulla S. 1993. GABA and glycine in retinal amacrine cells: combined Golgi impregnation and immunocytochemistry. Phil Trans Roy Soc Lond, Ser B. 342:295-320.

Sherry DM, St. Jules RS Jr, Townes-Anderson E. 1996. Morphologic and neurochemical target selectivity of regenerating adult photoreceptors *in vitro*. J Comp Neurol 376:476-488.

Townes-Anderson E, St. Jules RS Jr, **Sherry DM**, Lichtenberger J, Hassanain M. 1998. Micromanipulation of retinal neurons by optical tweezers. Mol Vision 4:1-12.

Yang H, Standifer KM, **Sherry DM**. 2002. Synaptic protein expression by regenerating photoreceptors. J Comp Neurol. 443:275-288.

Wang MM, Janz R, Belizaire R, Frishman LJ, **Sherry DM**. 2003. Differential distribution and developmental expression of synaptic vesicle protein 2 isoforms in the mouse retina. J Comp Neurol. 460:106-122.

Sherry DM, Wang MM, Bates J, Frishman LJ. 2003. Expression of vesicular glutamate transporter 1 in the mouse retina reveals temporal ordering in development of rod vs. cone and ON vs. OFF circuits. J Comp Neurol. 465:480-498.

Sherry DM, Mitchell R, Standifer KM, du Plessis B. 2006. Distribution of plasma membrane-associated syntaxins 1 through 4 indicates distinct trafficking functions in the synaptic layers of the mouse retina. BMC Neurosci 7:54. *PMCID: PMC1555595*

Phillips MJ, Otteson DC, **Sherry DM**. 2010. Progression of neuronal and synaptic remodeling in the *rd10* mouse model of *Retinitis pigmentosa*. J. Comp Neurol. 518:2071-2089*. PMCID: PMC2881548*

Wan Q-F, Zhou Z-Y, Thakur P, Vila A, **Sherry DM**, Janz R, Heidelberger R. 2010. SV2 acts via presynaptic calcium to regulate neurotransmitter release. Neuron. 66:884-895. *PMCID: PMC2913707*

Sherry DM, Murray A, Hoffhines A, Kanan Y, Arbogast KL, Fleisler SJ, Burns ME, Moore KL, Al-Ubaidi MR. 2010. Lack of protein tyrosine sulfation disrupts photoreceptor outer segment morphogenesis, retinal function and retinal anatomy. Eur J Neurosci. 32:1461-1472. *PMCID: PMC3058723*

Rush JS, Quinalty LM, Engelman L, **Sherry DM**, Ceresa BP. 2012. Endosomal accumulation of the activated epidermal growth factor receptor (EGFR) induces apoptosis. J Biol Chem 287:712-722. *PMCID: PMC3249126*

Wiechmann AF, **Sherry DM**. 2012. Melatonin receptors are anatomically organized to modulate transmission specifically to cone pathways in the retina of *Xenopus laevis*. J Comp Neurol. 520:1115-1127. *PMC Journal - In Process*

Howard E, Crider BJ, Updike DL, Bullen EC, Parks EE, Haaksma CJ, **Sherry DM**, Tomasek JJ. 2012. MMP-2 expression by fibroblasts is suppressed by the myofibroblast phenotype. Exp Cell Res 18:1542-1553. *PMC Journal - In Process*

Sherry DM, Kanan Y, Hamilton R, Hoffhines A, Arbogast KL, Fliesler SJ, Naash MI, Moore KL, Al-Ubaidi MR. 2012. Differential developmental deficits in retinal function in the absence of either protein tyrosine sulfotransferase-1 or -2. PLoS One. 7:e39702.

Sherry DM, Blackburn BA. 2013. P-Rex2, a Rac-guanine nucleotide exchange factor, is expressed selectively

in ribbon synaptic terminals of the mouse retina. BMC Neurosci. 14:70. *PMC Journal - In Process*

Wu F, Li R, Umino Y, Kaczynski TJ, Sapkota D, Li S, Xiang M, Fliesler SJ, **Sherry DM**, Gannon M, Solessio E, Mu X. 2013. Onecut1 is essential for horizontal cell genesis and retinal integrity. J Neurosci. 33:13053-13065. *PMC Journal - In Process*

D. Research Support

ACTIVE:

Institutional Research Support (David Sherry, PI) 1/07-1/14
OUHSC
The remainder of these funds are committed to salary and benefits for my technician, Nicole Stratton. These funds will be exhausted in early 2014.

American Heart Association, Grant-in-Aid (Eric Howard, PI; David Sherry, Co-I) 7/13-6/15
The role of Gem in smooth muscle cell survival and migration.
This award examines the molecular regulation of the small GTPase, Gem, and its function in regulating survival and migration by vascular smooth muscle cells. My role is to perform immunolabeling, image analysis and microscopic analyses of cell migration and proliferation in the presence or absence of Gem. There is no scientific overlap between this award and the current application.

DOD (Kelly M. Standifer, PI; David Sherry, Co-I) 1/11-12/14
DM102301. CDMRP/DMRDP - Fiscal Year 2010 Basic Research Award
Molecular mechanism of chronic pain and its modulation by post-traumatic stress disorder and Nociceptin/Orphanin FQ.
This award explores the functions of PTSD and the endogenous opioid Nociceptin/OFQ in the modulation of chronic pain. My role on the project is to assist with immunolabeling and analysis of brain tissue.

R01 GM092874 NIH/NIGMS (Brian Ceresa, PI; David Sherry, Co-I) 9/10-8/13
Regulation of EGFR signaling by the endocytic pathway.
This award explores Epidermal Growth Factor Receptor signaling at various stages along the endocytic pathway. My role on the project is to assist with confocal and electron microscopy.

PENDING:

14GRNT18500022 (David Sherry, PI) Submitted 7/17/13
American Heart Association, Grant-in-Aid
Coordinated polarization by vascular smooth muscle cells
This award examines the role of Wnt5a/planar cell polarity signaling and mitosis in coordinating the migratory polarization of vascular smooth muscle cells for coordinated, directed migration in angiogenesis.

RECENTLY COMPLETED:

HR10-012S (David Sherry, PI) 8/12-8/13
OCAST-Regular Health Research Program
Regulation of EGF-Mediated Corneal Wound Healing
The major goals of this project were to delineate the function and trafficking of EGF receptors in the corneal epithelium during wound healing responses.

R01 GM092874 NIH/NIGMS (Brian Ceresa, PI; David Sherry, Co-I) 9/10-8/13
Regulation of EGFR signaling by the endocytic pathway.
This award explores Epidermal Growth Factor Receptor signaling at various stages along the endocytic pathway. My role on the project was to assist with confocal and electron microscopy.

Research Grant (David Sherry, PI) 7/12-6/13
College of Medicine Alumni Association (COMAA)
Wnt5a/planar cell polarity signaling in polarization of migratory cells
This exploratory award established a potential role for Wnt5a and planar cell polarity signaling as a determinant of migratory polarization by VSMCs and their mode of collective vs. individual migration.

HR08-149S (David Sherry, PI) 9/08-8/12
OCAST-Regular Health Research Program
Reelin Signaling Regulates Synaptic Architecture
The major goals of this project were to delineate the role of Reelin signaling in regulating the dendritic and synaptic architecture of the A2 amacrine cell and retinal rod circuitry.