BIOGRAPHICAL SKETCH

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NAME	POSITION TITLE
Robert G. Thorne	Assistant Professor

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 Washington, Seattle	B.Sc.	1990	Chemical Engineering
University of Minnesota, Minneapolis	Ph.D.	2002	Pharmaceutics
New York University School of Medicine, New York	Postdoctoral	2002-2008	Physiology/Neuroscience

A. Positions and Honors

Employment

1991-1993 Research Assistant, University of Minnesota Graduate School
1995-1997 Research & Teaching Assistant, University of Washington School of Medicine, School of Dentistry and Department of Biological Structure
1997-2002 Research Assistant, Alzheimer's Research Center, Regions Hospital, St. Paul, MN
2002-2008 Assistant Research Scientist, Dept. of Physiology & Neuroscience, NYU School of Medicine
2008-2010 Instructor (Faculty Member), Dept. of Physiology & Neuroscience, NYU School of Medicine
2010-Present Assistant Professor, Division of Pharmaceutical Sciences, University of Wisconsin-Madison
2010-Present Assistant Professor & Trainer, Center for Neuroscience & Neuroscience Training Program, University of Wisconsin-Madison

Honors

1993 Best poster (M.S. Session), 1st Annual Biomedical Engineering Spring Symposium, Univ. of Minnesota
1997 Exceptional teaching service (Award for teaching assistant), Univ. of Washington School of Dentistry.
1999 Best poster (Drug Delivery), 6th Annual Biomedical Engineering Spring Symposium, Univ. of Minnesota
1999 Best poster (Overall), 6th Annual Biomedical Engineering Spring Symposium, Univ. of Minnesota
2004 Best poster (Physiology and Pathophysiology of the Blood-CSF Barrier Session), Gordon Research Conference (Barriers of the CNS), Tilton, NH
2005 Poster Award, 6th Conference on Cerebral Vascular Biology, Munster, Germany.
2006 Postdoctoral Fellow Paper Award (1st Place for Thorne & Nicholson. *PNAS* 103:5567-5572, 2006), NYU Postdoctoral Association/Sackler Institute, New York, NY
2008 Poster Award (Top three), Gordon Research Conference (Barriers of the CNS), Tilton, NH

Peer Review Activity

Journal Referee: *Biopharmaceutics & Drug Disposition, Current Pharmaceutical Design, Experimental Neurology, Journal of Controlled Release, Journal of Neuroimmunology, Journal of Neuroscience; Journal of Pharmaceutical Sciences, Molecular Pharmaceutics*

Ad hoc grant reviewer: Michael J. Fox Foundation for Parkinson's Research, Rapid Response Innovation Awards (RRIA) program (2008 – present)

Advisory committee member: Michael J. Fox Foundation for Parkinson's Research, Linked Efforts to Accelerate Parkinson's Solutions (LEAPS) project (2008 – present)

B. Selected peer-reviewed publications (in chronological order)

Thorne, R.G., C.R. Emory, T.A. Ala, W.H. Frey, II. Quantitative analysis of the olfactory pathway for drug delivery to the brain. ***Brain Research*** 692 (1-2): 278-282 (1995).

Frey, W.H. II, J. Liu, X.Q. Chen, **R.G. Thorne**, J.R. Fawcett, T.A. Ala, Y-E. Rahman. Delivery of ^{125}I-NGF to the brain via the olfactory route. ***Drug Delivery*** 4: 87-92 (1997).

Liu, X.F., J.R. Fawcett, **R.G. Thorne**, T.A. DeFor and W.H. Frey II. Intranasal administration of insulin-like growth factor-1 bypasses the blood-brain barrier and protects against focal cerebral ischemic damage. ***Journal of the Neurological Sciences*** 187 (1-2): 91-97 (2001).

Liu, X.F., J.R. Fawcett, **R.G. Thorne**, and W.H. Frey II. Non-invasive intranasal insulin-like growth factor-I reduces infarct volume and improves neurologic function in rats following middle cerebral artery occlusion. ***Neuroscience Letters*** 308 (2): 91-94 (2001).

Thorne, R.G. and W.H. Frey II. Delivery of neurotrophic factors to the central nervous system: Pharmacokinetic considerations [Review]. ***Clinical Pharmacokinetics*** 40 (12): 907-946 (2001).

Ross, T.M., P.M. Martinez, J.C. Renner, **R.G. Thorne**, L.R. Hanson, and W.H. Frey II. Intranasal administration of interferon beta bypasses the blood-brain barrier to target the central nervous system and cervical lymph nodes: a non-invasive treatment strategy for multiple sclerosis. ***Journal of Neuroimmunology*** 151 (1-2): 66-77 (2004).

Thorne, R.G., G.J. Pronk, V. Padmanabhan, and W.H. Frey II. Delivery of insulin-like growth factor-I to the rat brain and spinal cord along olfactory and trigeminal pathways following intranasal administration. ***Neuroscience*** 127 (2): 481-496 (2004).

Thorne, R.G., S. Hrabetova, and C. Nicholson. Diffusion of epidermal growth factor in rat brain extracellular space measured by integrative optical imaging. ***Journal of Neurophysiology*** 96 (6): 3471-3481 (2004).

Thorne, R.G., S. Hrabetova, and C. Nicholson. Diffusion measurements for drug design [Correspondence]. ***Nature Materials*** 4 (10): 713 (2005).

Thorne, R.G. and C. Nicholson. *In vivo* diffusion analysis with quantum dots and dextrans predicts the width of brain extracellular space. ***Proceedings of the National Academy of Sciences USA*** 103 (14): 5567-5572 (2006).

Thorne, R.G., L.R. Hanson, T.M. Ross, D. Tung and W.H. Frey II. Delivery of interferon-β to the monkey nervous system following intranasal administration. ***Neuroscience*** 152 (3): 785-797 (2008).

Thorne, R.G., A. Lakkaraju, E. Rodriguez-Boulan, and C. Nicholson. *In vivo* diffusion of lactoferrin in brain extracellular space is regulated by interactions with heparan sulfate. ***Proceedings of the National Academy of Sciences USA*** 105 (24): 8416-8421 (2008).

C. Past Research Support

5 R01 NS28642-18 Charles Nicholson (PI) 08/01/1990-06/30/2009
NIH/NINDS
Title: Diffusion of Substances through the Brain
Goal: Quantitative analysis of the diffusion of macromolecules through brain extracellular space.
Role: Investigator