

Work Phone

Cell

Email

Summary

My objective is to establish a solid career as a scientist and professor at the forefront of biomedical research, specifically focusing on neurological and neurovascular development, pathologies, and neuropharmaceutical mechanisms of action. I have extensive hands-on experience in designing, implementing and analyzing studies devoted to enhancing our understanding of and developing pharmacological treatments for cardiovascular and neurological pathologies such as ischemic stroke, neurodevelopmental disorders, My current focus is on the neuropharmaceutical action and therapeutic potential of psychedelic plants and molecules. I have considerable experience in writing and editing scientific manuscripts, grants, and protocols, as well as both international and domestic experience in teaching and training future health professionals and researchers.

Academic Credentials

Aug 2008 – May 2013

Doctor of Philosophy Bioengineering; University of Illinois at Chicago, Chicago, IL
Thesis: Involvement of Central Endothelin B Receptors in Focal Cerebral Ischemia

Aug 2006 – May 2008

Master of Science Biomedical Sciences; Northwestern University, Downers Grove, IL
Thesis: Cardiovascular Effects of Endothelin B Receptor Agonist IRL-1620

Aug 1999 – May 2003

Bachelor of Science Biology; University of Missouri, Columbia, MO
Bachelor of Arts Russian Studies; University of Missouri, Columbia, MO

Professional Research and Teaching Experience

March 2019 – Present

Assistant Professor of Biological Sciences
College of Science, Health & Pharmacy, Roosevelt University, Schaumburg, IL

Develop syllabi for core & elective courses, coordinate courses, and lecture Pharmacy students in pathophysiology, microbiology/immunology, pharmacology, and neuropharmacognosy.

Mentor, advise and encourage COP students in the role of Faculty Advisor.

Service & leadership on college & university committees.

Develop & conduct novel research on cannabinoids, psychedelics, and endothelin in neuronal cell lines (*in progress*).

Ø Awards: 2020 P1 Faculty of the Year (Class of 2022)

Ø Proctoring: 2021 21 hours, 2020 25 hours, 2019 39 hours

Ø Courses Taught: (class sizes 45-75)

PHAR 512 Clinical Microbiology & Immunology 16 hours/term; Coordinator (2019-present)

PHAR 514 Pathophysiology 48 hours/term; Coordinator (2019-present)

PHAR 601 Pharmaceutical Care: Self Care & Nonprescription Therapeutics 1 hour/term; (2019-present)

PHAR 620 Research in Neuropharmacognosy 10 hours/term (*elective*); Coordinator (2021-present)

M. G. Leonard Hornick, MS, PhD

PHAR 714 Medicine or Menace: Introduction to Psychedelics - 30 hours/term (*elective*);
Coordinator (2020-present)

M. G. Leonard Hornick, MS, PhD

Effect of maternal alcohol use on neonatal brain development (2014-2015)

June 2008 – Feb 2013

Laboratory Assistant (part time)

Chicago College of Pharmacy, Midwestern University, Downers Grove, IL

Designed and standardized animal models for stroke, ontological studies, disease, pain/analgesia, type 2 diabetes and hemorrhagic shock.

Established, modified and standardized immunofluorescence / immunohistochemistry, *in vivo* optical imaging, Western blotting, and oxidative stress estimation techniques.

Interpreted and analyzed data, compile research reports and write IACUC protocols.

Ø Projects Led:

Involvement of central endothelin B receptors in focal cerebral ischemia (2008-2019)

Endothelin agonists and antagonists in the treatment of Alzheimer's disease (2009-2019)

Novel antinociceptive compounds for the treatment of post-operative pain (2012-2019)

June 2003 – July 2005

Community Health Specialist

United States Peace Corps, Yeghegnadzor, Armenia

M. G. Leonard Hornick, MS, PhD

Behavioral analysis (water maze learning and memory, locomotor activity, foot fault error, grip test, rota rod)

Induction of various disease states (cerebral ischemia, neonatal HIE, hemorrhagic shock, diabetes ase)

Drug administration (intravenous, subcutaneous, oral, intraperitoneal, intracerebroventricular)

Optical Imaging (BioFLECT system)

In vitro techniques

Western blotting

ELISA

Immunohistochemistry / Immunofluorescence

Oxidative stress estimation (malondialdehyde, reduced glutathione, superoxide dismutase)

Spectroscopy (UV-VIS)

Microscopy (Fluorescent Inverted and Confocal)

Thromboelastography

Langendorf isolated tissue

6. Amlani, A.*, **Hornick, M.G.***, Cooper, K., Prazad, P., Donovan, R., Gulati, A. *Maternal*

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13. AHA 2015 Chicago Research Network Symposium, Chicago, IL 18 September 2015; *Endothelin B receptor agonist, IRL-1620, provides neuroprotection and enhances angiogenesis in diabetic rats with cerebral ischemia*; Gulati, A., Husby, M., **Leonard, M.G.**
14. ET-14: Fourteenth International Conference on Endothelin, Savannah, GA 2-5 September 2015; *Endothelin B receptor agonist, IRL-1620, provides neuroprotection and enhances angiogenesis in diabetic rats with cerebral ischemia*; Gulati, A., Husby, M., **Leonard, M.G.**
15. ET-14: Fourteenth International Conference on Endothelin, Savannah, GA 2-5 September 2015; *Stimulation of ETB receptors by IRL-1620 modulates the progression of Alzheimer's disease*; Briyal, S., **Leonard, M.G.**, Gulati, A., Nguyen, C., and Shepard, C.
16. ET-14: Fourteenth International Conference on Endothelin, Savannah, GA 2-5 September 2015; *Maternal ethanol and oxycodone exposure delay CNS development as determined by endothelin receptor expression in neonatal rat brains*; **Leonard, M.G.**, Briyal, S., Ansari, M., Devarapalli, M., Schweig, L., Puppala, B., Gulati, A.
17. AAPS Annual Meeting and Exposition, San Diego, CA 2-6 November 2014; *Antinociceptive activity of centhaquin in a rat model of post-operative pain*. **Leonard, M.G.**; Jung, S.; Andurkar, S.; Gulati, A.
18. AAPS Annual Meeting and Exposition, San Diego, CA 2-6 November 2014; *Stimulation of ETB receptors by IRL-1620 modulates the progression of Alzheimer's disease*. Gulati, A.; Briyal, S.; Nguyen, C.; **Leonard, M.G.**
19. ACCP American College of Clinical Pharmacology Annual Meeting, Atlanta, GA 14-16 September 2014; *Selective endothelin-B receptor stimulation enhances vascular endothelial growth factor during postnatal development of the rat brain*; Abstract 2000385; Gulati, A.; **Leonard, M.G.**; Prazad, P.; Puppala, B.
20. ACCP American College of Clinical Pharmacology Annual Meeting, Atlanta, GA 14-16 September 2014; *Stimulation of ETB receptors by IRL-1620 modulates the progression of Alzheimer's disease*; Abstract 2000369; Gulati, A.; Briyal, S.; Nguyen, C.; **Leonard, M.G.**
21. ACCP American College of Clinical Pharmacology Annual Meeting, Atlanta, GA 14-16 September 2014; *Centhaquin produces dose-dependent antinociception in a rat model of post-operative pain*; Abstract 2000421; **Leonard, M.G.**, Jung, S.; Andurkar, S.; Gulati, A.
22. WCP 2014 17th World Congress of Basic and Clinical Pharmacology, Cape Town, South Africa 13-18 July 2014; *ETB receptor mediated angiogenesis and neurogenesis in the ischemic brain*; **Leonard, M.G.**; Briyal, S.; Gulati, A.
23. PAS Pediatric Academic Societies and Asian Society for Pediatric Research, Vancouver, Canada 3-6 May 2014; *Ontogeny of endothelin receptors in the brain, heart, and kidneys of neonatal rats at different postnatal ages*; Puppala, B., Awana, I., Briyal, S., Mbachu, O., **Leonard, M.G.**, Gulati, A.
24. AAPS Annual Meeting and Exposition, San Antonio, TX

29. SCCM Annual Congress of the Society of Critical Care Medicine, San Juan, Puerto Rico 19-23 January 2013; *IRL-1620, ETB receptor agonist provides neuroprotection and promotes angiogenesis following cerebral ischemia in rats*; Abstract 6160; **Leonard, M.G.**, Gulati, A.
30. ACCP American College of Clinical Pharmacology Annual Meeting, San Diego, CA - 23-25 September 2012; *IRL-1620, an Endothelin B receptor agonist, provides long-term neuroprotection following cerebral ischemia in rats*; Abstract 1394590; **Leonard, M.G.**, Briyal, S., Gulati, A.
31. ET-12: Twelfth International Conference on Endothelin, Cambridge, England 11-14 September 2011; *Endothelin B agonist, IRL-1620, reduces neurological damage following cerebral ischemia in rats*; **Leonard, M.G.**, Briyal, S., Gulati, A.
32. AAPS Annual Meeting and Exposition, Los Angeles, CA 8 November 2009; *Endothelin modulator*

M. G. Leonard Hornick, MS, PhD

- Role: Key personnel
 - Duration: 25 Apr. 2016 – 25 Apr. 2018
 - Status: Funded; \$16,324
- Advocate Health and Hospitals Corporation
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M. G. Leonard Hornick, MS, PhD

- Title: Mentor, train and assist pediatric critical care medicine and neonatal-perinatal medicine fellows in scholarly activity
- Role: Research Associate
- Duration: 1 Jan. 2013 – 31 Dec. 2013
- Status: Funded; \$81,000

Sangart, Inc.

- Title: MP4OX in cerebral ischemia
- Role: Research Associate
- Duration: 11 Mar. 2013 – 10 Mar. 2015
- Status: Funded; \$5,000

- Title: Nanocarrier formulation of ETB receptor agonist, IRL-1620, for the treatment of

- Role: Research Associate
- Duration: 1 June 2012 – 31 July 2014
- Status: Funded; \$96,694

Novo Nordisk, Inc.

- Title: Effect of liraglutide on oxidative stress and apoptosis in the brain of rats with focal cerebral ischemia
- Role: Research Associate
- Duration: 1 May 2012 until completion
- Status: Funded; \$53,191

Advocate Health and Hospitals Corporation

- Title: Mentor, train and assist pediatric critical care medicine and neonatal-perinatal medicine fellows in scholarly activity
- Role: Research Associate
- Duration: 1 Jan. 2012 – 31 Dec. 2012
- Status: Funded; \$54,000

Novo Nordisk, Inc.

- Title: Effect of liraglutide on permanent middle cerebral artery occlusion stroke model in normal and diabetic rats
- Role: Research Associate
- Duration: 22 Nov. 2010 until completion
- Status: Funded; \$46,618

Honors and Awards

Nov 2020 – P1 Faculty of the Year – Roosevelt University College of Pharmacy, Class of 2022, Schaumburg, IL

Sept 2013 – 3rd Place Poster Award – AHA 2013 Chicago Research Network Symposium, Maywood, IL

Sept 2013 – Young Investigator Award – Thirteenth International Conference on Endothelin, Tokyo, Japan

Sept 2011 – Young Investigator Award – Twelfth International Conference on Endothelin, Cambridge, England

May 2008 – MBS Program Research Award – Midwestern University, Downers Grove, IL

Professional Memberships

