

Tinna M. Ross

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EDUCATION

- 1999: Ph.D., Pharmacology, minor in Neuroscience from the University of Minnesota.
1993: B.A., Biology and Chemistry, University of St. Thomas, St. Paul, MN.

TEACHING EXPERIENCES

- 2003 - Current: Instructor, North Hennepin Community College, Brooklyn Park MN
- Instruct human anatomy & physiology I and II, human biology, general biology, medical terminology, and Nobel conference course.
 - Work with a team of instructors to provide consistent labs for ~350 A&P students
 - A&P labs consist mainly of models and dissection of rat, sheep brain, cow eye, cow heart, sheep kidney, and iWork physiology.
 - Co-wrote the in-house produced lab manuals for our two anatomy and physiology courses. During this process, we added active /inquiry-based learning activities to each lab section plus pre-lab activities to enhance students learning.
 - Created and implemented an ECG lab, fluids and electrolytes lab, improved the peripheral nerve exam lab, and designed a class-wide diabetes –complication research project (paper and presentation).
 - Created Kaltura videos of all lectures – lectures are broken down into 10-20 minute lengths and placed on D2L course site.
 - Teach majors courses in flipped-format. Implement active learning in all lectures.
 - Utilize “Clickers” in the classroom to review material with critical thinking questions.
 - Created faculty manuals for A&P courses to aid teaching for new instructors.
 - Mentor new-adjunct instructors in the A&P courses.
 - Employ rubrics to grade assignments, think-pair share, various group activities, etc.
 - Team taught human anatomy & physiology II Summer 2004 course.
- 2004: Instructor, Human Physiology, College of St. Catherine, St. Paul MN.
- Lectured Human Physiology with 3 laboratory sections for Spring & Summer
 - Utilized power-point presentation as lecture format, place material on WebCT
- 2004: Instructor, Century College, Maplewood MN
- Instructed Human Biology and Human Anatomy and Physiology I
 - Used power-point lectures, plus concept maps, weekly quizzes, weekly chapter definitions, and new story reports.
 - Implemented active learning exercises in many lectures
 - Assembled and designed own labs
- 2003: Instructor for Complete Scholar Program, University Minnesota, Minneapolis
- Designed course ‘Mind, Brain, and Disease’, a noncredit course giving a general introduction of neuroscience for ‘life-long’ adult learners.
 - The five-week course gave an introduction to the central nervous system, and covered the following topics: how a memory is established in the brain, anatomy of emotion, diseases of the mind, and neurobiological basis of consciousness.
- 1998, 2002: Lecturer, Pharmacology for Nurse Anesthetist, University of Minnesota
- Lecture for 6 hours covering endocrine system, and antibiotics & chemotherapy
 - Lectured on anti-epileptic drugs, Parkinsonism, and anti-psychotic drugs
- 1997-1998: Lecturer, Introduction to Neuroscience, University of Minnesota
- Help design and organize this team taught course.
 - Lectured on slow signal transmission, limbic system, and lead journal discussions.

- 1993-1999: Psychopharmacology Seminar, University of Minnesota
- Presented several seminars per year covering various topics, such as, blood-brain barrier, nociception, estrogen in brain, principles of pharmacology, amphetamines
- 1990-1992: Teaching Assistant, Department of Biology & Chemistry, University of St. Thomas
- Assisted in several biology and chemistry introductory laboratory courses
 - Assisted professors to prepare and create upcoming laboratory experiments for introduction of chemistry for non-majors.

AWARDS AND GRANTS

- 2019: North Hennepin community college Educator of the year
- 2017-2021: NIH IRACDA grant # 5K12GM119955-03 - “Training Research Educators in Minnesota (TREM) Whilst Increasing Diversity”. I am Co-PI of this grant awarded to Carrie Wilmot from the University of MN. My grant role is to coordinate all grant activity, this includes: matching incoming University MN scholars with teaching mentor, along with aiding mentors in their job responsibilities; writing and collecting evaluation forms; distributing payments; necessary paperwork; and recruiting NHCC student to complete paid summer research internship at the University of MN.
- 2011-2013: NSF grant #1101S95097 “Transforming Undergraduate Anatomy and Physiology Education Through the Use of Process Oriented Guided Inquiry Learning”. I was one of eight anatomy & physiology faculty participants that produced POGIL curriculum.
- 2011: Co-PI for MnSCU grant “Improving Anatomy and Physiology Instruction at the Post-secondary Level: Building Collaboration and Developing Inquiry-based Approaches using POGIL”. Grant monies used to run a teacher workshop to learn the POGIL process.
- 2010 Co-PI for MnSCU grant “Development of Process-Oriented Guided Inquiry Learning (POGIL) Assignments for Biology Courses”. Grant developed POGIL activities for general biology classes, we also evaluated effectiveness and attitude of POGIL process.
- 2006-2008: NSF grant #0633017 - Improving Quantitative Reasoning and Inquiry-Based Learning in the Undergraduate Biology Curriculum, grant with University of St. Thomas. My role was the grant’s campus PI.
- 2006-2007: Faculty Excellence award for ‘Development of a lab tutorial web-page’. Two awards received with Dr. Peggy LePage. This grant we created a supplemental D2L course for our A&P students that allows students to work and learn lab material outside of the classroom. This supplemental course is used by all NHCC instructors.
- 2005: Robert Anthony Scholarship Award recipient –for HAPS conference attendance.

ADDITIONAL EXPERIENCES & PROFESSIONAL DEVELOPMENT

- Executive Steering Committee for MN IRACDA grant. Review IRACDA scholar application, review research mentor application, review teaching mentor applications, attend annual individual IRACDA scholar meeting.
- BioFoundation leader. Lead weekly discussion sessions for groups of students that were not successful on their first exam. This is a voluntary option for students. Created material for the weekly session and communicated weekly with students about their progress and required actions to be successful in their course. (2017 to current).

- Invited participant to the Biology Leadership Community. Three day workshop of 50 biology faculty that was hosted by Pearson in which we discussed trends of education and ideas to enhance teaching introductory biology.
- Trained and mentored post-doctoral TREM scholar in human biology course. (2019)
- Committees at North Hennepin Community college: student-centered scheduling, calendar, biology faculty search, psychology faculty search, University of MN STEM-minority, NHCC scholarship reviewer, new A&P lab room, faculty excellence awards, NHCC writing rubric.
- Presenter at Human Anatomy & Physiology Society (HAPS) annual conference (2013)
- Participant in the First year experience. Specifically, designed a College Success Seminar course that is specific for the sciences (2010)
- Presenter at Realizing Student Potential CTL Conference (2006)
- Case Studies in Science Workshop, week long NSF funded workshop (2005)
- POGIL conference, week long NSF funded workshop to learn how to write and implement POGIL activities (2008, 2010)
- Other national conference attendance: HAPS (every other year from 2003- 2011, Society for Neuroscience (2012), IRACDA (2018, 2020)
- Member of Human Anatomy and Physiology Society (HAPS)
- HAPS Regional/CTL Biology Discipline Meeting co-organizer (2004)
- News Letter Editor, Xi Chapter of Sigma Delta Epsilon, Graduate Women in Science
- HealthPartners Research Foundation, Basic Science Research Subcommittee
- Patent Inventor; #6150419, Agmatine As A Treatment For Neuropathic Pain

PAST RESEARCH EMPLOYMENT

2000-2004: Research Associate, Alzheimer's Research Center, Saint Paul, MN

- Trained and mentored numerous high school students and college students. About 20% time spent mentoring student research interns. The student research projects lead to several presentation at national meetings and resulted in manuscripts.
- Performed experiments that included drug delivery, autoradiography, western blot, immunohistochemistry, stroke behavior, muscarinic acetylcholine receptor binding assay, gel filtration/column chromatography, and cell culture
- Worked team-lead research projects that examined 1) the neurobiology of drug delivery and 2) biochemistry and neurobiology of memory formation.
- Wrote grant proposals, animal usage forms, contract budgets, and company proposals and progress reports
- Primary investigator of grant from the Healthpartners Research Foundation.
- Contributed substantially to patent application for intranasal drug delivery
- Excellent computer skills with programs: i.e. Microsoft office, adobe, stats software

1999-2000: Post-doctoral Research Fellow, NIDCR, NIH, Bethesda, MD

- Examined the spinal cord gene expression in the rat CFA-model of pain
- Performed RNA isolations, PCR, southern blot, Hargraeves heat hyperalgesia behavioral test, Von Frey mechanical allodynia behavioral test

1993-1999: Graduate Research Fellow, Department of Pharmacology, University of Minnesota

- Mentored graduate and high school students, projects produced two manuscripts.
- Thesis examined role of nitric oxide synthase, redox modulation, and cytokines int the neurobiology of chronic pain.
- Designed and implemented new mouse behavioral testing, and developed new pharmacological model of chronic pain
- Initiated and performed cell culture, behavioral assays, immunocytochemistry
- Wrote grant proposals, animal usage forms, and peer reviewed manuscripts

- 1991-1992: Research Assistant, Department of Biology, University of St. Thomas, St. Paul, MN
- In Dr. J. Cruise's lab, examined the cell biology of cellular division, specifically signal transduction pathway involved in hepatocyte regeneration.
 - Presented research at the annual National Conference on Undergraduate Research

PUBLICATIONS (* = indicates mentored students; Note: maiden name is Laughlin;
meeting abstract publications available upon request)

1. **Tinna Ross**, Kren McManus, Peggy LePage (2017) Human Anatomy & Physiology I Laboratory Manual 5th Edition, Hayden McNeil publisher ISBN# 978-7380-9626-1
2. Peggy LePage, Kren McManus, **Tinna Ross** (2017) Human Anatomy & Physiology II Laboratory Manual 5th Edition, Hayden McNeil publisher ISBN# 978-0-7380-9625-4
3. Murray Jensen, Anne Loyle, Allison Mattheis, The POGIL Project, (2014) POGIL Activities for Introductory Anatomy and Physiology Courses. Wiley publisher ISBN# 978-1-118-98674-5. Note: I am listed as a contributing author for this book, and wrote 3 of the 15 activities.
4. **T.M. Ross**, R.N. Zuckermann, C. Reinhard, W.H. Frey II (2008) Intranasal Administration Delivers Peptoids to the Rat Central Nervous System. Neuroscience Letters 439: 30-33.
5. R.G. Thorne, L.R. Hanson, **T.M. Ross**, D. Tung and W.H. Frey II, (2007) Delivery of interferon- β to the monkey nervous system following intranasal administration. Neuroscience 152 (3): 785-797.
6. **T.M. Ross**, P.M. Martinez*, J.C. Renner, R.G. Thorne, L.R. Hanson, W.H. Frey, (2004) Intranasal administration of interferon-beta bypasses the blood brain barrier resulting in intact delivery to the CNS and cervical lymph nodes: a non-invasive treatment strategy for multiple sclerosis. J. Neuroimmunol. 151: 66-77.
7. **T.M. Laughlin**, K.V. Tram*, G.L. Wilcox, and A.K. Birnbaum, (2002) Characterization of the antiepileptic drugs, tiagabine in acute, prolonged and chronic nociception in mice, J. Pharm Exp. Therap. 302: 1168-1175.
8. W.R. Larivere, S.G. Wilson, **T.M. Laughlin**, A. Kokayeff, E.E. West, S.M. Adhikari, Y. Wan, and J.S. Mogil, (2002) Heritability of nociception. III. Genetic relationships among commonly used assays of nociception and hypersensitivity, Pain 97:75-86.
9. **T.M. Laughlin**, A. Larson, and G.L. Wilcox, (2001) Mechanisms of Induction of Persistent Nociception by Dynorphin, J. Pharm Exp. Therap. 299: 6-11.
10. **T. M. Laughlin**, J. R. Bethea, R. P. Yeziarski, G. L. Wilcox, (2000) Cytokine involvement in dynorphin-induced allodynia, Pain 84: 159-167.
11. **T.M. Laughlin**, K.F. Kitto, and G.L. Wilcox, (1999) Redox manipulation of NMDA receptors in vivo: alteration of acute pain transmission and dynorphin-induced allodynia, Pain 80: 37-43.
12. L.S. Stone, C.A. Fairbanks, **T.M. Laughlin**, H.O. Nguyen*, T.M. Bushy, M.W. Wessendorf, and G.L. Wilcox, (1997) Spinal analgesic actions of the new endogenous opioid peptides endomorphin-1 and -2, NeuroReport 8: 3131-3135.
13. **T.M. Laughlin**, T.W. Vanderah, J. Lashbrook, M.L. Nichols, M. Ossipov, F. Porreca, G.L. Wilcox, (1997) Spinally administered dynorphin A produces long-lasting allodynia: involvement of NMDA but not opioid receptors, Pain 72: 252-260.
14. L.J. Kehl, C.A. Fairbanks, **T.M. Laughlin**, G.L. Wilcox, (1997) Neurogenesis in postnatal rat spinal cord: a study in primary culture, Science 276: 586-589.
15. T. Vanderah, **T. Laughlin**, J.M. Lashbrook, M.L. Nichols, G.L. Wilcox, M.H. Ossipov, F. Porreca, (1996) Single intrathecal injections of dynorphin A or des-TYR-dynorphins produce long-lasting allodynia in rats: blockade by MK-801 but not naloxone. Pain 68: 275-281