

ANGELA SENDERS, ND, MCR

2220 SW 1st Avenue, Portland, OR 97201

Ph: 503-552-1743 asenders@nunm.edu

CURRENT APPOINTMENTS

Assistant Professor of Research
Chair, Master of Science in Integrative Mental Health
School of Research & Graduate Studies
National University of Natural Medicine (NUNM), Portland, OR

Adjunct Assistant Professor
Department of Neurology
Oregon Health & Science University (OHSU), Portland, OR

EDUCATION

2015 - Present MASTER OF PUBLIC HEALTH EPIDEMIOLOGY, OHSU, Portland, OR

2014 MASTER OF SCIENCE IN CLINICAL RESEARCH, OHSU, Portland, OR
Didactic and experiential training in clinical research, including proposal development, IRB submission, responsible conduct of research, biostatistics, data analysis, scientific writing, and data presentation.

2005 DOCTOR OF NATUROPATHIC MEDICINE
National University of Naturopathic Medicine, Portland, OR

1998 BACHELOR OF ARTS, BIOLOGY
Macalester College, St. Paul, MN

RESEARCH INTERESTS

Behavioral and mental health, stress and stress-management, meditation and mind-body medicine, multiple sclerosis, Parkinson's disease, implementation research. Current focus is on mindfulness training as a stress-management intervention to improve the experience of multiple sclerosis.

RESEARCH POSITIONS

2013 – Present NATIONAL UNIVERSITY OF NATURAL MEDICINE, Portland, OR
Assistant Professor of Research. Mentor students, provide scientific review for student research projects, teach in the Master of Science in Integrative Medicine Research program, and conduct research on mindfulness-based stress reduction for people with multiple sclerosis.

2014 – Present OREGON HEALTH & SCIENCE UNIVERSITY, Portland, OR
Affiliate Adjunct Assistant Professor of Research, Department of Neurology. Conduct research on mindfulness-based stress reduction for multiple sclerosis with the MS Center.

2011 – 2014 OREGON HEALTH & SCIENCE UNIVERSITY, Portland, OR
NIH T32 Postdoctoral Research Fellow. Training in CAM and clinical research methods, health services research, health economics. Research focuses on mindfulness for symptomatic management of MS.

1998 - 1999 VETERANS AFFAIRS MEDICAL CENTER, Minneapolis, MN

Research assistant under Agustin Dalmaso, MD, prior to beginning naturopathic studies. Performed basic science experiments to study human immune response to porcine endothelial cells in xenotransplantation model.

1996 – 1998 MACALESTER COLLEGE, St. Paul, MN
Work Study Student. Worked with Erik Wiertelak, PhD, during undergraduate education. Performed data collection of illness induced hyperalgesia in the rat, cryosectioning and tissue preparation of rat brain, animal care and maintenance.

GRANTS & CONTRACTS

CURRENT

NIH/NCCIH 1K23AT008211-01A1 1/2014 – 12/2019
PI: Senders Mentor: Lynne Shinto, ND, MPH 75% Effort
Mentored career development award including a clinical trial of mindfulness-based stress reduction for improving wellbeing in people with multiple sclerosis.

CA 1073-A-4
NATIONAL MS SOCIETY 2/2015 – 1/2019
PI: Dennis Bourdette No salary requested
“Developing patient-centered and evidence-based wellness programs for people with MS.” A Collaborative MS Research Center Grant focusing on the effectiveness of dietary, exercise and stress reduction interventions with the ultimate goal of developing evidence-based wellness programs for people with MS.
Role: Sub-investigator

COMPLETED

OHSU FOUNDATION 12/2014 – 12/2016
PI: Lynne Shinto & Craigan Usher No salary requested
“Meals, Mindfulness, and Moving Forward.” A multi-modal intervention for youth who have experienced a first episode of psychosis.
Role: Qualitative outcomes assessment

LEGACY RESEARCH INSTITUTE 8/2014 – 5/2015
PI: Richard Rosenbaum 15% Effort
Designed and lead ketogenic diet intervention for pilot study entitled “Efficacy and Feasibility of a 12 Week Ketogenic Diet in Patients with Parkinson’s Disease”.
Role: Sub-investigator

AHRQ 5T32HS017582-05 9/2012 – 9/2013
PI: Senders Mentor: Lynne Shinto, ND, MPH 100% Effort
Post-doctoral fellowship support through T32 Agency for Healthcare Research and Quality grant *Oregon Multidisciplinary Training Program in Health Services Research*. Training in health services research, health economics, CAM and clinical research methods. Conducted “Stress-effects in Multiple Sclerosis: Focus Groups” to examine relationship between self-reported mindfulness, perceived stress, psychosocial mediators of stress (e.g. depression, anxiety, coping strategies, resiliency), and serum biomarkers in MS.

Early Clinical Investigator Award
Medical Research Foundation of Oregon \$20,000 6/2012 – 5/2013
PI: Senders Mentor: Lynne Shinto, ND, MPH No Salary
“Mindfulness in Multiple Sclerosis: A Cross-sectional Survey.” The aim of this study is to evaluate the relationship between self-reported mindfulness, perceived stress, psychosocial mediators of stress (e.g. depression, anxiety, coping strategies, resiliency), and serum biomarkers in MS.

Mentored post-doctoral fellowship supported through Oregon Center for Complementary and Alternative Medicine (ORCCAMIND) T32 grant *Complementary and Alternative Medicine (CAM) Research Training in Neuroscience and Stress*. Training in neuroscience, CAM and clinical research methods. Conducted “Mindfulness in Multiple Sclerosis: A Cross-sectional Survey” to examine relationship between self-reported mindfulness, perceived stress, psychosocial mediators of stress (e.g. depression, anxiety, coping strategies, resiliency), and serum biomarkers in MS.

PUBLICATIONS & PRESENTATIONS

PEER-REVIEWED MANUSCRIPTS

1. **Senders A**, Borgatti A, Hanes D, Shinto L. The Association Between Pain and Mindfulness in MS: A Cross-sectional Survey. *International Journal of MS Care*. 2017. In Press.
2. Shinto L, Marracci G, Mohr DC, Bumgarner L, Murchison C, **Senders A**, Bourdette D. Omega-3 Fatty Acids for Depression in Multiple Sclerosis: A Randomized Pilot Study. Matsuoka YJ, ed. *PLoS One*. 2016 Jan 22;11(1):e0147195. doi: 10.1371/journal.pone.0147195. eCollection 2016. PubMed PMID: 26799942; PubMed Central PMCID: PMC4723316.
3. **Senders A**, Sando K, Wahbeh H, Peterson A, Shinto L. Managing Psychological Stress in the MS Medical Visit: Patient Perspectives and Unmet Needs [epub ahead of print Dec 19, 2014]. *Journal of Health Psychology*. doi:10.1177/1359105314562084. NIHMSID 652392.
4. Wahbeh H, **Senders A**, Neuendorf R, Cayton J. Complementary and alternative medicine for post-traumatic stress disorders symptoms: A systematic review. *J Evid Based Complementary Altern Med*. 2014 Mar 27;19(3):161-175. PMCID 4177524.
5. **Senders A**, Bourdette D, Hanes D, Yadav V, Shinto L. Perceived stress in multiple sclerosis: The potential role of mindfulness in health and wellbeing. *J Evid Based Complementary Altern Med*. 2014 Apr;19(2):104-11. doi:10.1177/2156587214523291. PMCID 4009344.
6. **Senders A**, Hanes D, Bourdette D, Whitham R, Shinto L. Reducing survey burden: Feasibility and validity of PROMIS measures in multiple sclerosis. *Mult Scler*. 2014 Jan 8;20(8):1102-1111. doi: 10.1177/1352458513517279. PMCID 4087106.
7. **Senders A**, Wahbeh H, Spain R, Shinto L. Mind-Body Medicine for Multiple Sclerosis: A Systematic Review. *Autoimmune Diseases*. 2012;1–12. doi: 10.1155/2012/567324. PMCID 3512214.
8. Yadav V, Shinto L, Morris C, **Senders A**, Baldauf-Wagner S, Bourdette D. Use and self reported benefit of complementary and alternative medicine (CAM) among multiple sclerosis patients. *International Journal of MS Care*. 2006; 8(1): 5-10.
9. Shinto L, Yadav V, Morris C, Lapidus JA, **Senders A**, Bourdette D. Demographic and health-related factors associated with complementary and alternative medicine (CAM) use in multiple sclerosis. *Mult Scler* . 2006; 12(1):94-100.
10. Shinto L, Yadav V, Morris C, Lapidus JA, **Senders A**, Bourdette D. The perceived benefit and satisfaction from conventional and complementary and alternative medicine (CAM) in people with multiple sclerosis. *Complement Ther Med*. 2005; 13(4):264-72.

BOOK CHAPTERS

Senders A, Spain R, Yadav V. Dietary supplements and other alternative substances for the treatment of multiple sclerosis. In: Mahabir S, Pathak Y, editors. *Nutraceuticals and Health: Review of the Human Evidence*. Boca Raton: Taylor & Francis; 2014.

INVITED ORAL PRESENTATIONS

Western Association of Advisors for Health Professions Regional Meeting, Portland, OR

“Bridging the Gap between Mental Health Services and Primary Care: An Interdisciplinary Training Program for Complementary and Integrative Health Providers.” Annual Conference; 2017

Oregon Collaborative for Integrative Medicine/ Conference, Portland, OR

“Faculty Development through interprofessional exposure: A qualitative evaluation of an interdisciplinary shadowing program.” Annual Conference; 2015

International Research Congress on Integrative Medicine and Health, JeJu, Korea

Instructional workshop teaching evidence-based medicine concepts for integrative practitioners: “Evidence-informed Practice for Traditional and Integrative Medicine Clinician Educators: An Instructional Workshop” Annual Conference; 2015.

International Research Congress on Integrative Medicine and Health, Miami, FL

Presentation of findings from fellowship project. Mentor: Lynne Shinto, ND, MPH: “Improving the Patient-reported Outcome Experience for Participants and PI’s: Feasibility and Validity of PROMIS” Annual Conference; 2014.

American Association of Naturopathic Physicians Conference, Keystone, CO

Presentation of findings from fellowship project. Mentor: Lynne Shinto ND, MPH: “Feasibility and Validity of PROMIS Compared to Legacy Measures for MS.” Annual International Conference; 2013.

Symposium for Portland Area Complementary and Alternative Medicine Research, Portland, OR

Presentation of findings from fellowship project. Mentor: Lynne Shinto ND, MPH: “Mindfulness and multiple sclerosis: a cross-sectional survey.” Annual Meeting; 2013.

Department of Neurology Grand Rounds, Oregon Health & Science University, Portland, OR

Oral presentation “Using PROMIS to collect patient-reported outcomes in clinical research.” May 15, 2013.

American Association of Naturopathic Physicians Conference, Bellvue, WA

Presentation of preliminary findings from fellowship project. Mentor: Lynne Shinto ND, MPH: “Mindfulness and multiple sclerosis: a cross-sectional survey.” Annual International Conference; 2012.

American Association of Naturopathic Physicians Conference, Portland, OR

Presentation findings from work study project. Mentor: Lynne Shinto ND, MPH: “The perceived benefit and satisfaction from conventional and complementary and alternative medicine in people with multiple sclerosis.” Annual International Conference; 2004.

POSTER PRESENTATIONS

Early Intervention in Mental Health Conference, Milan, Italy

“On ‘Dignity’ and Finding a ‘New Path’: A Qualitative Analysis of Participant Experiences in the M3 Program.” Annual Conference; October 2016.

World Parkinson’s Congress, Portland, Oregon

“A 3-month Pilot Trial of the Ketogenic Diet for People with Parkinson’s Disease: Program Design, Implementation, and Maintenance.” Annual Conference; September 2016.

International Research Congress on Integrative Medicine and Health, JeJu, Korea

“Managing Psychological Stress in the MS Medical Visit: A Qualitative Analysis of Patient Perspectives and Unmet Needs” Annual Conference; May 2015.

International Research Congress on Integrative Medicine and Health, Miami, FL

"The relationship between mindfulness and pain in multiple sclerosis." Annual Conference; May 2014.

Annual NRSA Research Trainees Conference, Baltimore, MD

"Feasibility and Validity of PROMIS Compared to Legacy Measures for MS." Annual Conference; 2013.

Oregon Health & Science University Research Week 2012, Portland, OR

"Mindfulness and multiple sclerosis: a cross-sectional survey."

ABSTRACTS

D Ackerman, L Shinto, M Hardy, A Heyman, L Nguyen, **A Senders**, D Abrams, A Ali, B Enebo, P Homel, R Horowitz, M Reardon, C Torkelson. Patient reported outcomes from complementary, alternative, and integrative medicine (PROCAIM): a feasibility practice network study. BMC Complementary and Alternative Medicine 2012, 12(Suppl 1):P64 (12 June 2012).

TEACHING EXPERIENCE

2013 – Present NATIONAL UNIVERSITY OF NATURAL MEDICINE, Portland, OR

School of Research and Graduate Studies.

Assistant Professor. Graduate level courses include: Fundamentals of Complementary and Integrative Medicine Research, Research Methodology, Evidence-based Medicine, Grant Writing.

2014 – 2015 EVIDENCE-BASED PRACTICE FOR THE INFORMED CLINICIAN, Portland, OR

Weekend seminars in various locations: Portland, OR; Toronto, CAN; Phoenix, AZ; Austin, TX; Laurel, MD
Co-presenter. Topics include: Introduction to evidence-informed practice; effective methods for searching and accessing the literature; critical appraisal of intervention, observational, and systematic review articles; statistics for clinicians 101.

2011 – 2012 SANFORD BROWN COLLEGE, Portland, OR

A career-oriented school for medical field positions.

Adjunct Instructor. Taught anatomy and physiology in the medical assistant program. Specialty subjects included neurology, endocrinology, reproductive physiology, genetics, and nutrition. Taught biology in the veterinary technician program.

2010 - 2012 M.E.T.A. INSTITUTE, Portland, OR

An educational organization providing body-centered psychotherapeutic training for practitioners.

Teaching Assistant. Assisted lead trainers in weekend long seminars. Responsibilities include facilitating small group exercises and experiential work, and mentoring students with application of skills and material.

MENTEES: CANDIDATES FOR MASTER OF INTEGRATIVE MEDICINE RESEARCH at NUNM

2014 - Present Lita Buttolph, PhD

Project description: Qi Gong for balance and gait in multiple sclerosis: A randomized pilot trial

2016 – Present Sonam Bhimbra

Project description: Qualitative exploration of experience on the ketogenic diet for people with Parkinson's

2015 – Present Robin Rabikovitch

Project description: Systematic review of hypnosis for irritable bowel syndrome

ADMINISTRATIVE EXPERIENCE

- 2015 – Present NATIONAL UNIVERSITY OF NATURAL MEDICINE, Portland, OR
Chair, Master of Science in Integrative Medicine
Designed and implemented clinical graduate program for integrative mental health care. Ongoing responsibilities include program evaluation and revision, instructional design, curriculum and assessment mapping, faculty development.
- 2015 – 2017 NATIONAL UNIVERSITY OF NATURAL MEDICINE, Portland, OR
Assistant Dean, School of Research and Graduate Studies
Assisted the Dean in the oversight of faculty development, supervision, and review; curriculum development; and accreditation.

CLINICAL EXPERIENCE

- 2005 – 2011 BAMBÚ CLINIC, Portland, OR
A Naturopathic and Classical Chinese Medicine clinic in Portland, OR
Naturopathic Doctor. Provided family care medicine for chronic healthcare management.
- 2009 – 2011 M.E.T.A. (Mindful Experiential Therapy Approaches) INSTITUTE, Portland, OR
Advanced study in body-centered psychotherapy and mind-body medicine. Completed trainings include: Hakomi, Re-Creation of the Self, Advanced Character Maps, and Interpersonal Skills.
- 2005 - Present Oregon State Naturopathic License #1558

AWARDS AND HONORS

- 2016-Present NIH National Center for Complementary and Integrative Health
Loan Repayment Program Award Recipient
- 2017 NATIONAL UNIVERSITY OF NATURAL MEDICINE, Portland, OR
Faculty Award for “Making a Difference in Mind-body Medicine”
- 2015 NATIONAL UNIVERSITY OF NATURAL MEDICINE, Portland, OR
Faculty Award for “Research Excellence”
- 2013-2016 HELFGOTT RESEARCH INSTITUTE, Portland, OR
Vanguard Faculty Member
- 2005 NATIONAL UNIVERSITY OF NATURAL MEDICINE, Portland, OR
High Honors, Graduated in the top 5 percent of class

INSTITUTIONAL SERVICE: NATIONAL UNIVERSITY OF NATURAL MEDICINE

- 2016 – Present CRISIS AND RESPONSE TEAM
Member. Assess disruptive, distressed, or dangerous student behavior in order to maintain a safe campus environment for all students, faculty, and staff.
- 2013 – Present SCIENTIFIC REVIEW COMMITTEE
Co-chair. Develop and maintain policies and procedures, review student research proposals for scientific integrity before submission to the Institutional Review Board.
- 2015 – 2016 SAFETY COMMITTEE
Member. Review and maintenance of campus policies and procedures.
- 2013 – 2014 EVIDENCE-BASED MEDICINE FACULTY SHADOWING PROGRAM

Chair. Design, implementation, and assessment of program outcomes.

2013 – 2014 FACULTY EVALUATION COMMITTEE
Member. Design and implementation of annual faculty evaluations.

PUBLIC SPEAKING & LECTURES

2014 - 2016 PARKINSON'S RESOURCE OF OREGON, Portland, OR
"Dietary Considerations for Parkinson's Disease: Research Update." Ongoing guest lecturer.

2016 NATIONAL UNIVERSITY OF NATURAL MEDICINE, Portland, OR
"Mind Body Medicine and Multiple Sclerosis." Guest Lecture Neurology.

2016 NUNM SUMMER INTERN PROGRAM, Portland, OR
"Mind Body Medicine." Guest Lecturer.

2016 BRIAN GRANT FOUNDATION, Albany, OR
"Stress and Parkinson's Disease." Wellness Retreat Instructor.

2015 INTEGRATIVE MEDICINE DAY SYMPOSIUM 2015, Portland, OR
"Mind Body Medicine." Panel Participant.

2014 HELFGOTT RESEARCH INSTITUTE, Portland, OR
"Mind-body Medicine: Research Update." Guest lecturer.

2013 HELFGOTT RESEARCH INSTITUTE, Portland, OR
"Mind-body Medicine: Research Update." Guest lecturer.

2012 LIVING BRAIN WELLNESS, Portland, OR
"Managing MS with a Vegan Diet in Portland, OR." Speaker.

2012 INTERNATIONAL SPECIAL EVENTS SOCIETY, Portland, OR
"Lifestyle and wellness tips for busy professionals." Panel participant.

2011 NATIONAL COLLEGE OF NATURAL MEDICINE COMMUNITY HOUR, Portland, OR
"Practicing as a naturopathic doctor in unlicensed states." Panel participant.

JOURNAL REVIEW & PROFESSIONAL SERVICE

Ad hoc reviewer for manuscripts and grants:

2016 – Present EXPLORE

2016 – Present NATIONAL MS SOCIETY: IRELAND

2015 – Present BMC NEUROLOGY

2015 – Present JOURNAL OF THE AMERICAN PSYCHIATRIC NURSES ASSOCIATION

2013 – Present INTERNATIONAL JOURNAL OF MS CARE

2013 – Present NATIONAL MS SOCIETY: UK

2013 – Present JOURNAL OF ALTERNATIVE AND COMPLEMENTARY MEDICINE

2013 – Present ADVANCES IN MIND-BODY MEDICINE

2013 - Present NATURAL MEDICINE JOURNAL

2012 - 2014 CONCORDE CAREER COLLEGE, Portland, OR
Program advisory committee member for medical assistant program.

2008 – 2010 CLARA JEAN FOUNDATION, Portland, OR
Board member for local breast cancer awareness foundation.