

# MELISSA S. BARBER, MSc, E-RYT 500, NTP

## Curriculum Vitae

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### EDUCATION

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- 2016 National University of Natural Medicine (NUNM)- Portland, OR
- Master of Science (MSc) in Integrative Medicine Research
- 2008 University of Portland- Portland, OR
- Bachelor of Science (BS) in Biology, Bachelor of Arts (BA) in Spanish, Minor in Chemistry
- 2007 Universidad de Granada/University of Granada- Granada, Spain

### OTHER TRAINING

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- 2014 Rishikesh YogPeeth- Rishikesh, India
- Yoga Teacher 300-hour Certification
  - Registered Yoga Teacher-500 hours (RYT-500)
  - 2,000 hours of teaching and more than 4 years teaching experience (E-RYT 500)
- 2014 The Nutritional Therapy Association, Inc. (NTA)- Bend, OR
- Nutritional Therapy Practitioner (NTP) Certification
- 2012 Kripalu Center for Yoga and Health- Stockbridge, MA
- Yoga Teacher 200-hour Certification
  - Registered Yoga Teacher-200 hours (RYT-200)

### RESEARCH WORK EXPERIENCE

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- 2014-present Research Associate. Supervisor: Dr. David Riley. CAse REport (CARE) Guidelines and the Integrative Medicine Institute (IMI)- Portland, OR
- 2014-6 Graduate Research Student. Mentor: Dr. Kimberly Tippens. Helfgott Research Institute, National University of Natural Medicine (NUNM)- Portland, OR
- 2014 Research Assistant I. Principal Investigator: Dr. Christina Bethell. Child and Adolescent Health Measurement Initiative (CAHMI), Department of Pediatrics, Oregon Health & Science University (OHSU)- Portland, OR
- 2012-4 Research Assistant II. Principal Investigators: Dr. Med. Halina Offner and Dr. Arthur A. Vandenberg. Neuroimmunology and Tykeson Multiple Sclerosis Research Laboratories, Department of Neurology, OHSU and the Veterans Affairs Medical Center (VAMC)- Portland, OR
- 2008-9 Post Baccalaureate Intramural Research Training Award (IRTA) Fellow. Principal Investigator: Dr. Julia Arnold. Endocrine Section, National Center for Complementary and Integrative Health (NCCIH), National Institutes of Health (NIH)- Bethesda, MD
- 2008 Hispanic Association of Colleges and Universities (HACU) Research Intern. Principal Investigator: Dr. Carol Blaisdell. Division of Lung Diseases (DLD), National Heart, Lung, and Blood Institute (NHLBI), NIH- Bethesda, MD
- 2007 Summer Research Intern. Principal Investigators: Drs. Kent Anger and Diane Rohlman. Center for Research on Occupational and Environmental Toxicology (CROET), OHSU- Portland, OR

### OTHER WORK EXPERIENCE

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- 2015-present Owner, Yoga Instructor, Nutritional Therapist, and Research Consultant, The Biome Project LLC- Portland, OR

- 2016-7 Integrative Nutritionist and Center Coordinator, Bensimon Center for Plastic Surgery and Aesthetic Medicine- Portland, OR
- 2016 Research Advisor, Diabetes Naturally- Tarpon Springs, FL
- 2015 Research Advisor, Glimpse, Inc.- Redwood City, CA
- 2012-5 Owner and Yoga Instructor, Sacred Space Yoga Studio LLC- Portland, OR and Vancouver, WA
- 2014 Yoga Instructor, Unfold Studios- Portland, OR
- 2013-4 Yoga Instructor, Portland Therapeutic Yoga- Portland, OR
- 2012 Clinic Coordinator and Spanish Medical Interpreter, Outside In- Portland, OR
- 2009-11 Community Health Volunteer, Peace Corps- Mache and Simbal, La Libertad, Perú
- 2008 Clinic Coordinator, Coalition of Community Health Clinics- Portland and Gresham, OR
- 2007-8 Fitness Instructor, University of Portland Recreational Services- Portland, OR
- 2007 English Instructor, Private Families- Granada, Spain
- 2000-7 Personal Care Provider for Children with Disabilities, Private Families- Portland, OR
- 2001-6 Facilitator of High School Mentorship Programs, Student Leaders & Mentors (SLM)/Ignite Inc./Performance Dynamics- Portland, OR and Brush Prairie, WA
- 2005 Resident Assistant (RA), Mallard Landing Adult Assisted Living Home- Battle Ground, WA

### **PEER-REVIEWED PUBLICATIONS AND ACKNOWLEDGEMENTS FOR CONTRIBUTIONS**

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1. Riley DS, **Barber MS**, Kienle GS, et al. CARE 2013 explanations and elaborations: reporting guidelines for case reports. *J Clin Epidemiol*. In press.
2. Plotnikoff G and **Barber MS**. Refractory depression, fatigue, irritable bowel syndrome (IBS) and chronic pain: a functional medicine case report. *Perm J*. 2016;20(4):104-107.
3. Kogan M, Cuellar Castillo C, **Barber MS**. Chronic rhinosinusitis and irritable bowel syndrome: a case report. *Integr Med A Clin J*. 2016;15(3):44-54.
4. Benedek G, Zhu W, Libal N, et al. A novel HLA-DR $\alpha$ 1-MOG-35-55 construct treats experimental stroke. *Metab. Brain Dis*. 2014;29(1):37-45. doi:10.1007/s11011-013-9440-0.
5. Meza-Romero R, Benedek G, Yu X, et al. HLA-DR $\alpha$ 1 constructs block CD74 expression and MIF effects in experimental autoimmune encephalomyelitis. *J. Immunol*. 2014;192(9):4164-73. doi:10.4049/jimmunol.1303118.
6. Bodhankar S, Galipeau D, Vandenbark AA, Offner H. PD-1 interaction with PD-L1 but not PD-L2 on B-cells mediates protective effects of estrogen against EAE. *J. Clin Cell Immunol*. 2013;4(3):1-22. doi:10.4172/2155-9899.1000143.
7. Bodhankar S, Chen Y, Vandenbark AA, Murphy SJ, Offner H. PD-L1 enhances CNS inflammation and infarct volume following experimental stroke in mice in opposition to PD-1. *J. Neuroinflammation* 2013;10(1):111. doi:10.1186/1742-2094-10-111.
8. Bodhankar S, Chen Y, Vandenbark AA, Murphy SJ, Offner H. IL-10-producing B-cells limit CNS inflammation and infarct volume in experimental stroke. *Metab. Brain Dis*. 2013;28(3):375-386. doi:10.1007/s11011-013-9413-3.
9. Bodhankar S, Chen Y, Vandenbark AA, Murphy SJ, Offner H. Treatment of experimental stroke with IL-10-producing B-cells reduces infarct size and peripheral and CNS inflammation in wild-type B-cell-sufficient mice. *Metab. Brain Dis*. 2013;29(1):59-73. doi:10.1007/s11011-013-9474-3.
10. Banirjee A, Wang J, Bodhankar S, Vandenbark AA, Murphy SJ, Offner H. Phenotypic changes in immune cell subsets reflect increased infarct volume in male vs. female mice. *Transl Stroke Res* 2013;4(5):1-19. doi:10.1007/s12975-013-0268-z.
11. **Barber M** and Blaisdell CJ. Respiratory causes of infant mortality: progress and challenges. *Am J Perinat*. 2010;27(7):549-58.

### **SCIENTIFIC ABSTRACTS**

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1. Barber M, Bradley R, Riley D, and Tippens K. "A web-based tool for systematic clinical case reporting:

NUNM-CR." International Congress for Integrative Health and Medicine (ICIHM)- Stuttgart, Germany 2016; International Congress for Integrative Medicine and Health (ICIMH)- Las Vegas, NV, 2016; Academy for Integrative Health and Medicine (AIHM) Conference- San Diego, CA, 2015; Institute for Healthcare Improvement (IHI) West Coast Conference- Portland, OR, 2015; AIHM Conference- San Diego, CA, 2014.

2. Bethell C, Gombojav N, Carle A, Neff J, Newacheck P, and Koch TK. "When complex care goes complementary: closing the loop on integrated care for children with special health care needs." International Research Congress on Integrative Health & Medicine (IRCIMH)- Miami, FL, 2014.
3. Bethell C, Kemper KJ, Gombojav N, and Koch TK. "Complementary and alternative medicine use among youth with recurrent headaches (HA)." International Research Congress on Integrative Health & Medicine (IRCIMH)- Miami, FL, 2014.
4. Barber M, Frohlich DA, and Arnold JT. "Nrf2 stress response in reactive prostatic stroma." NIH Research Fair- Bethesda, MD, 2009.
5. Barber M and Blaisdell CJ. "Progress in infant mortality due to Respiratory Distress Syndrome (RDS)." NIH Research Fair- Bethesda, MD, 2008.
6. Barber M, Rohlman D, and Anger K. "Learning and memory performance of agricultural workers exposed to pesticides." CROET/OHSU Summer Student Education Program Research Fair- Portland, OR 2007.

### **PRESENTATIONS AT INTERNATIONAL MEETINGS**

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2015 "La práctica de meditación" (the practice of meditation). Primer Congreso Internacional de Hábitos de Vida Saludable (1<sup>st</sup> International Congress on Healthy Behaviors)- Cuenca, Ecuador

### **THESES**

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2016 Master's Thesis: "A web-based case report data collection tool: NUNM-CR"  
 2008 Undergraduate Honors Thesis: "The referendum for health care change: integrating alternative medicine with allopathic care"

### **AWARDS**

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2016 Student Government Association (SGA) Enrichment Scholarship  
 2015 Best Poster in Student/Resident Research, Academy for Integrative Health and Medicine (AIHM) Conference- San Diego, CA 2015  
 2015 Marjorie A. Gage Research Scholarship  
 2008 NIH/NHLBI Excellence in Collaboration Star Award  
 2008 University of Portland Honors Program Thesis Award recipient  
 2004 University of Portland President's Scholarship  
 2004 YWCA's Young Woman of Achievement Award, scholarship recipient  
 2004 United States Achievement Academy National Award Winner, scholarship recipient  
 2004 Community Service Award

### **GRANTS**

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2011 USAID Small Project Assistance (SPA) Grant, Perú  
 2010 World Connect Kids to Kids Grant, Perú

### **MEMBERSHIPS & ACTIVITIES**

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2015-present Academy for Integrative Health and Medicine (AIHM), Portland Chapter President  
 2013-6 Student Alliance for Integrative Medicine (SAIM), Executive Board  
 2013-present Nutritional Therapy Association (NTA)  
 2015 AIHM Conference Poster Committee  
 2014-present AIHM Association Leadership Committee (ALC)  
 2014-5 AIHM Task Force  
 2013 Oregon Physicians for Social Responsibility (PSR)

- 2012-3 National Peace Corps Association (NPCA)
- 2012 Kripalu Yoga Teachers Association (KYTA)
- 2010 Peace Corps Volunteer Advisory Committee (VAC)
- 2009 Endocrine Society
- 2009 NIH Journal Club
- 2009 NIH/NCCAM Green Team
- 2005-8 Sigma Delta Pi (Spanish Honor Society), Executive Board
- 2005-8 Alpha Lambda Delta (Honors Society)
- 2005-8 University of Portland Honors Program

## **CONFERENCES, MEETINGS & CONTINUING EDUCATION**

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- 2016 3<sup>rd</sup> International Congress on Naturopathic Medicine (ICNM): Global Patient Care: Preventing Chronicity Naturopathically- Barcelona, Spain
- 2016 International Congress for Integrative Health and Medicine (ICIMH): From Disease Treatment to Health Creation- Stuttgart, Germany
- 2016 International Congress for Integrative Medicine and Health (ICIMH): Bridging Research, Clinical Care, Education, and Policy- Las Vegas, NV
- 2015 Academy for Integrative Health and Medicine (AIHM): People, Planet, Purpose—Global Practitioners United in Health and Healing- San Diego, CA
- 2014-5 AIHM Association Leadership Council Meeting- San Diego, CA
- 2015 Oregon Collaborative for Integrative Medicine (OCIM)/SPARC Conference- Portland, OR
- 2015 Institute for Healthcare Improvement (IHI): West Coast Conference- Portland, OR
- 2015 Sacroiliac Joints & Shoulders: Workshop with Susi Hatley of Function Synergy- Portland, OR
- 2014 AIHM: Science and Connection—A New Era of Integrative Health and Medicine- San Diego, CA
- 2014 International Research Congress on Integrative Medicine and Health (IRCIMH)- Miami, FL
- 2013 OHSU Women’s Leadership Conference- Portland, OR
- 2013 Northwest Environmental Health Conference: Bridging Research, Practice and Policy- Portland, OR
- 2012 IRCIMH- Portland, OR
- 2011 Peace Corps’ 50<sup>th</sup> Anniversary Celebration and Director Site Visit- Trujillo and Simbal, Perú
- 2011 Technical Exchange Workshop (improved kitchen stoves and dry bathrooms)- Sausal and Simbal, Perú
- 2011 Improved Kitchen Stove Workshop- Moche and Simbal, Perú
- 2011 Hydroponic Gardening Workshop Series- Huanchaco, Mache, and Simbal, Perú
- 2010-1 New Volunteer Trainings- Lima, Mache, and Simbal, Perú
- 2010 Camp ALMA (Actividades de Liderazgo para Mujeres Adolescentes/Leadership Activities for Adolescent Females)- Santo Domingo, Perú
- 2010 Camp VALOR (Varones Adolescentes Lideres para Organización y Responsabilidad/Adolescent Male Leaders for Organization and Responsibility)- Samne, Perú
- 2010 Water Sanitation Workshop Series- Mache and Otuzco, Perú
- 2009 The American Association of Naturopathic Physicians (AANP) Annual Convention and Exposition: Physicians, Heal Thy Planet- Tacoma, WA
- 2009 Endo 2009: The Endocrine Society Annual Meeting- Washington, D.C.
- 2009 American Medical Student Association (AMSA) Annual Convention: Win Back Our Profession- Washington, D.C.
- 2009 DC Federal Legislative Initiative (FLI)- Washington, D.C.
- 2009 Institute of Medicine: Integrative Medicine and the Health of the Public Summit- Washington, D.C.
- 2009 Scripps Center for Integrative Medicine, Natural Supplements: An Evidence-Based Update- San Diego, CA
- 2008 NIH/National Center on Minority Health and Health Disparities Summit: The Science of Eliminating Health Disparities- Washington, D.C.
- 2008 The Role of Science in Advancing Global Health Diplomacy- Washington, D.C.

- 2008 Pediatric Pulmonary Strategic Planning Workshop- Bethesda, MD  
 2008 Best Pharmaceuticals for Children Act (BPCA) Scientific Prioritization Meeting- Rockville, MD  
 2008 Surgeon General's Conference on the Prevention of Preterm Birth- Bethesda, MD

**NON-SCIENTIFIC PUBLICATION ARTICLES**

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1. "Dame que te doy" / "Give Me What I Give You" La Industria Perú June 16, 2011.
2. "Impulsan el desarrollo regional sostenible" / "Propelling Sustainable Regional Development" La Industria Perú November 14, 2010.
3. "YWCA lauds women who make each hour count" The Oregonian March 11, 2004.
4. "Clark, YWCA announces 2004 Women of Achievement" The Columbian February 13, 2004.

**EXPERIENCE & QUALIFICATIONS**

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**Laboratory:** *Cellular and molecular biology techniques*

- Cell cultures of human primary prostate stromal and cancer epithelial cells
- Cell cultures of murine mesenchymal stem cells
- Co-cultures
- Isolation of immune cells from mammalian tissue and organs
- Proliferation assessment protocols
- Bioassay development
- mRNA isolation
- cDNA production
- Real-time RT-PCR methods
- Microscopy

**Administration**

- Small business owner
- Clinic and lab management
- Experimental design and protocol development
- Grant writing and budget management
- Abstract, manuscript, and progress report preparation
- Animal protocols
- Website development
- Programs/Applications: Electronic Medical Records (EMR), Research Electronic Data Capture (REDCap), Microsoft Office, Adobe, EndNote, SPSS, QUOSA, Statview

**Development & Service**

- Rural health outreach: formation and supervision of health promoter groups and healthy home programs
- Health and renewable energy projects: improved kitchen stoves, vegetable gardens—conventional and hydroponic, latrines, organic and inorganic waste management, recycling, water, sanitation, and forestation
- Healthcare team coordinator
- Medical Interpreter
- Local governmental policy
- Youth leadership
- Health Fairs and other activities for the underserved, persons with disabilities, at risk youth, and geriatric population

**Languages & Hobbies**

- English (Native)
- Spanish (Advanced)
- Art (drawing/painting and dance)
- Athletics

**Research Activity Summary**

- **The CAse REport (CARE) Guidelines – CARE Steering Committee and the Integrative Medicine Institute**  
 Developed between 2011 and 2013 by thirty-two leading case report research and clinical experts, the CARE guidelines provide a framework that supports transparency and accuracy in the reporting of information from patient encounters and publication of case reports. The guidelines have been endorsed by several medical journals and are available on the CARE website, [www.care-statement.org](http://www.care-statement.org) and the Equator Network,

[www.equator-network.org/reporting-guidelines/care/](http://www.equator-network.org/reporting-guidelines/care/). We are currently developing the Explanation and Elaboration (E&E) document for the guidelines, lead workshops to train clinicians in case report writing, and provide consulting services to support the writing of case reports.

- **An Evidence-Informed Perioperative Nutritional Protocol – Bensimon Center for Plastic Surgery and Aesthetic Medicine**  
To optimize post-surgical healing, I formulated an evidence-informed perioperative nutritional protocol for surgical patients. The protocol was based on a literature review of wound healing mechanisms, immunonutrition and perioperative protocols, anti-inflammatory and ketogenic diets, and common food allergies and sensitivities.
- **NUNM-Case Report (NUNM-CR): a case report data collection tool – Helfgott Research Institute, NUNM**  
We assessed the feasibility of a case report data collection tool, NUNM-CR through a mixed-methods study design. This web-based tool uses the Research Electronic Data Capture (REDCap) platform and prompts a healthcare provider to systematically collect relevant data from a patient case to guide the writing of a case report. Clinicians representing different healthcare disciplines piloted NUNM-CR to generate a case report to submit for publication to a medical journal. We received feedback on the feasibility of NUNM-CR through pre- and post-use questionnaires, the System Usability Scale (SUS), and a focus group meeting.
- **Prioritization of Patient Health Instruments – Glimpse, Inc.**  
Validated patient health instruments were ranked in order of importance for the following stakeholders: (1) consumers/patients to self-report health information, (2) payers and employers to inform investments and serve as a form of engagement, and (3) hospitals to track patient health outcomes.
- **Complementary and Alternative Medicine (CAM) use in pediatrics – CAHMI, OHSU**  
Utilizing data captured from the CAM Supplement of the National Health Interview Survey (NHIS), we reported on the prevalence of CAM and conventional health care utilization in children with special healthcare needs (CSHCN) and CAM use among youth with recurrent headache (RA). I generated “Snapshots” that capture CAM use in pediatrics in the United States available on the Data Resource Center for Child & Adolescent Health site, [www.childhealthdata.org](http://www.childhealthdata.org). Additionally, I contributed to the development of the White Paper, “Developing a Research Agenda for Pediatric Complementary and Integrative Medicine”.
- **Administrative and laboratory support to the Neuroimmunology and Tykeson Multiple Sclerosis Research Laboratories – Department of Neurology, OHSU and VAMC**  
I oversaw grant support, editing of manuscripts and their submission to medical journals, abstract submission for conferences, management of the budget, supplies, and coordination and mediation of lab personnel. Additionally, I provided support in murine cell cultures of mesenchymal stem cells and isolation of immune cells from murine tissue and organs.
- **Nrf2-related gene expression in primary prostate stromal and cancer epithelial cells as modulated by tBHQ, TGFβ1, and CAM agents – Endocrine Section, NCCIH (previously NCCAM), NIH**  
I investigated the induction of the Nuclear factor erythroid 2-related factor (Nrf 2) pathway involved in Phase II detoxification in primary prostatic stromal cells and cancer epithelial cells. We established a prototype with tert-Butylhydroquinone (tBHQ), an organic compound commonly used as a preservative, as the positive control of inducing this detoxification pathway, and Transforming growth factor-β1 (TGFβ1), a pleiotropic cytokine, as the negative control. The prototype was used to assess CAM agents and their interaction with Nrf 2. CAM agents of interest were the Ayurvedic treatment MAK-5 (Maharishi Amrit Kalash Ambrosia), curcumin, and lycopene.
- **Respiratory causes of infant mortality: progress and challenges – DLD, NHLBI, NIH**  
I conducted a period prevalence study on U.S. infant mortality due to Respiratory Distress Syndrome (RDS) and other perinatal respiratory diseases across different races and genders from 1980 to 2005, and published in

the American Journal of Perinatology. I contributed to World Health Organization (WHO), American Lung Association (ALA), and the American Journal of Respiratory Cell and Molecular Biology publications addressing perinatal respiratory diseases and treatments.

- **Learning and memory performance of agricultural workers exposed to pesticides – CROET, OHSU**  
I developed safety protocols in Spanish, delivered via computer based training (CBT) modules, for migrant agricultural farmers, predominately from Latin America. Our lab investigated farmers' exposure to pesticides and assessed the efficacy of CBT with this population.

## REFERENCES

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### **Julia Arnold, PhD**

Program Director, Translational Research Program  
Division of Cancer Treatment and Diagnosis  
National Cancer Institute (NCI)/NIH  
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MSC 9726  
Bethesda, MD 20892  
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E-mail: [jarnold@mail.nih.gov](mailto:jarnold@mail.nih.gov)

### **Carol Blaisdell, MD**

Program Director, Developmental Biology/Pediatric  
Pulmonary Diseases  
Division of Lung Diseases  
National Heart, Lung and Blood Institute (NHLBI)/NIH  
Two Rockledge Center, Suite 10042  
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### **Mardica Hicks, MBA**

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### **David Riley, MD**

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E-mail: [dsriley@integrativemed.org](mailto:dsriley@integrativemed.org)

### **Kimberly Tippens, ND, MSAOM, MPH**

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Research, Helgott Research Institute  
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### **Emilia Villanueva, MPH**

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