

CURRICULUM VITAE

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ACADEMIC HISTORY:

City College, City University of New York	B.A.	1971 (Cum Laude)	Major: Anthropology Minor: Biology
Downstate Medical Center, SUNY	Ph.D.	1976	Biological Psychology
Stanford University Medical School	Postdoctoral Fellow	1976-77	Developmental Psychobiology

PROFESSIONAL EXPERIENCE:

1970-71	Lecturer, American Museum of Natural History, New York.
1976-77	Postdoctoral Fellow, Laboratory of Developmental Psychobiology, Department of Psychiatry and Behavioral Sciences, Stanford University, Stanford, CA
1977-79	Assistant Director, Stanford Outdoor Primate Facility, Stanford University
1979-81	Research Associate, Department of Psychiatry and Behavioral Sciences, Stanford University School of Medicine, Stanford, CA
1981-85	Assistant Professor, Department of Psychiatry and Behavioral Sciences, Stanford University School of Medicine, Stanford, CA
1985-87	Associate Professor, Department of Psychology, University of Wisconsin-Madison
1985	Director, Harlow Center for Biological Psychology, University of Wisconsin-Madison
1988-	Professor, Department of Psychology, University of Wisconsin-Madison
2001	W.B. Cannon Professor of Biopsychology, University of Wisconsin-Madison
2022	Professor Emeritus, Honorary Scholar

AWARDS

- 1997 Chancellor's Award for Excellence in Teaching
- 2001 WARF professorship (W.B. Cannon Professor) University of Wisconsin-Madison
- 2001 Norman Cousins Award for excellence in PsychoNeuroImmunology research
- 2004 Ziskind-Somerfield Award for innovative research from the Society of Biological Psychiatry
- 2006 Hilldale Award for outstanding teaching and scholarly achievements. University of Wisconsin
- 2008 P. Barchas Award for contributions to research on sociophysiology. American Psychosomatic Society
- 2009 Honorary Professorship, South China Normal University, Guangzhou, China
- 2011 Best 2011 Research in Health and Society, Robert Wood Johnson Scholars Program
- 2013 Board of Regents Teaching Excellence Award (UW system-wide award)

INVITED COMMITTEE, BOARD, and FOUNDATION APPOINTMENTS (selective):

- 1992 - 1995 NIMH AIDS and Immunology Study Section member
- 1990 - 1994 W.T. Grant Consortium on Psychobiology of Stress and Coping
- 1994 -1995 Starbright Foundation, Pediatric Consortium
- 1996 - 2003 Associate, Human Development Program, Canadian Institute for Advanced Research
- 1996- Core Scientist, Waisman Center on Mental Retardation and Human Development
- 1996 - 1998 Council member, PsychoNeuroImmunology Research Society
- 1997 - 1999 Elected fellow, Academy for Behavioral Medicine Research
- 2000 - 2001 Fetzer Foundation Stress and Asthma Working Group
- 2000 - 2003 NIH Behavior and Biobehavioral Processes-2 Study Section member
- 2001 - 2002 President, PsychoNeuroImmunology Research Society
- 2003 - 2007 NIMH Perinatal Experience and Children's Mental Health Network (R21 MH068489)
- 2005 - 2009 Immunity and Host Defense (IHD) Study Section member
- 2010 Neuroimmunology, Neuroendocrinology and Behavior (NNB), Ad hoc reviewer
- 2011 - 2013 Developmental Brain Disorder Study Section (DBD), Study Section Member
- 2015 National Social Life Health and Aging Project, advisory board
- 2015 Salivary Biomarkers, Clinical Study Oversight Committee, National Institute of Dental and Craniofacial Research (NIDCR)
- 2017 External Advisory Board, Conte Center and MIND Institute, Davis Center

EDITORIAL BOARDS:

- 1986- Editorial Board, Brain, Behavior and Immunity
- 2022- Editorial Boards, BBI-Health and BBI-Integrative
- 1991-2021 Editorial Board, Developmental Psychobiology
- 1991-2022 Editorial Board, Psychoneuroendocrinology
- 2022- Distinguished Advisory Board, Psychoneuroendocrinology
- 2009-2021 Editorial Board, BrainImmune (<http://www.brainimmune.com/mockup/>)
- 2009-2021 Review Panel, Journal of Pediatric Biochemistry

CURRENT GRANT SUPPORT:

1. NICHD (R01HD089989) “*Detection and correction of iron deficiency induced abnormal brain metabolism*” (PI: Rao R., U Minn. Multi-PI) 09/22/17 – 06/30/24
Annual Direct: \$449,479 Total Direct: \$2,712,087

This project has employed state-of-art methods, including nuclear magnetic spectroscopy and LC/MS, to discover early bioindicators of the developmental progression to iron deficiency in infants, and is determining if there are sensitive blood markers that reflect the extent of iron deficiency within the brain.
Role: Co-PI (multi-PI plan)

RECENTLY COMPLETED PROJECTS (16 projects during last 10 years):

1. NIA (U01 AG051426) “*Integrative pathways to health and illness*” (P.I.: Ryff; Core Leader: C. Coe) 7/15/16 - 5/31/22 Annual Direct: \$3,347,111 BioCore \$256,945

This U01 award has been evaluating the relationship between psychosocial processes and health in a large community sample of 7000 people between 35-85 years of age (Midlife in the US). I direct the BioCore. My role is to oversee all hematological, hormone, and immune measures. It had been a Program/Project award for over a decade and was renewed as a U01 award for another 5 years. The U01 application received a priority score of 1. Role: Investigator, Biomarker Core Leader

2. National Science Foundation (1918100) (P.I.: Coe; prior P.I.: Miyamoto) “*Cognitive, physiological, and mental health implications of cultural variation in emotion systems*”. 09/15/19 – 08/21/22
Total Direct: \$389,981 (+195,184 IDC= \$585,175 total)

This project has been comparing the psychological and physiological responses of Asian and Asian-American students to those evinced by euro-American students when cognitively challenged.
Role: PI

3. NICHD (R01HD080201) “*Novel medical food for treating infant anemia and iron deficiency in the CNS*” (P.I.: Coe) 09/25/14 – 06/30/22 Annual Direct \$330,585 Total Direct: \$1,652,925

This project used a nonhuman primate model of iron deficiency to determine the efficacy of a novel iron supplement, yeast modified to express H-ferritin, to treat anemia and to rectify low iron in the brain. Benefits of yeast-expressing ferritin were compared to traditional treatment modalities. Outcomes included both iron measures in the heme and intrathecal compartments.
Role: Principal Investigator

4. NIMH (R21/R33 MH104198) “*Maternal and infant microbiome determinants of brain and behavioral development*” (P.I.: Coe) 07/01/14 – 04/30/21 Annual Direct: \$583,517 Total Direct: \$1,760,745

This project used a nonhuman primate model to investigate how the maternal microbiome contributes to the establishment of the gut microbiome of the young infant, and in turn the effects of the infant’s gut bacteria on brain development. It successfully converted from a R21 to a R33 award.
Role: Principal Investigator (multi-PI plan)

5. NIDA 1R34DA050258-01 “*Promoting resilience in children: Protocol development for a birth cohort study to assess factors impacting neurodevelopment*. (Alexander, A., P.I.) 9/30/19 - 03/31/21
Total Direct \$261,553

My role has been to advise on the biomarkers to employ in this project focusing on the adverse influence of prenatal opioid exposure. Role: Consulting investigator

6. NIA (R37 AG027343) “*Midlife health in Japan (MIDJA) and the U.S. (MIDUS)*” 2/1/12-1/31/17 (P.I.: C. Ryff, Coe, co-investigator) Annual Direct: \$447,065 Total: \$3,004,745

This project compared biomarkers of health and aging in Japan with the US using a cross-cultural framework. My laboratory’s role was to oversee the acquisition of all of the physiological measures associated with inflammation, metabolic syndrome, and allostatic load. With a Merit Award it spanned 10 years.

7. NICHD (R21HD086312) “*Early life stress and immune dysfunction in post-institutionalized adolescents*” (Gunnar M, PI; Coe, co-PI) 02/19/16 – 02/18/19 Annual Direct: \$143,432 Total Direct: \$302,801

This project evaluated the immune status of adolescents who were adopted after spending a period of their infancy in institutions. The focus was on T cell regulation. Outcome measures generated at UW-

Madison include 18-color immunophenotyping of cell subsets and quantification of 15 cytokines from cells polarized by 4 different stimulants in cell cultures. The original application received a priority score of 1.

8. NICHD (R01 HD082110) "FMR1 premutation phenotypes in population-based and clinically ascertained samples" (P.I.: Mailick M) 10/01/15 – 09/30/19 Annual Direct: \$446,972 Total Direct: \$2,234,860

This study evaluated mothers who are carriers of a genetic risk factor for autism spectrum disorder (ASD), and to determine if stress-related life events influence their physiology. My role was to assist in the biomarker assessment including via analysis of hormone levels in hair specimens.

9. Unity Point Health/Meriter Foundation Impact of prenatal depression and anxiety on iron-mediated inflammatory pathways in infants. 10/31/18 – 12/31/20 Total \$48,979

Role: Co-investigator with Dr. Pamela Kling

This study evaluated the influence of maternal emotional state during pregnancy on neonatal outcomes and postnatal brain development. My role was to assay number of physiological measures in cord blood samples collected at delivery. These endpoints included inflammatory measures as well as iron-related indices and placental growth hormone.

10. NIMH (R01 MH101168) "Risk factors for adolescent depression, cognitive vulnerability and inflammation" (P.I.: Alloy L, Temple Univ) 07/01/13 – 03/31/18

Annual Project Direct: \$484,904 Annual Subaward Direct to UW: \$59,531

This project, which emanated from Temple University, investigated the relationship between cognitive and emotional processes, circulating cytokine levels, stress reactivity, and depression in adolescents. My role was to carry out the biomarker testing, which includes multi-cytokine arrays and determination of C-reactive protein, from blood samples sent to UW-Madison for analysis.

11. NINR (R01 NR013468) "Cancer symptom cluster management using a brief cognitive behavioral intervention" (P.I.: K Kwekkeboom) 12/01/12-11/30/17 Annual Direct: \$499,355 Total Direct:

\$2,295,831 A collaborative award with a faculty member in the UW School of Nursing, who was investigating the benefits of a cognitive-behavior intervention to reduce symptoms and improve quality of life in late stage cancer patients. My role was to carry out biomarker assessment and the conduct of multi-cytokine arrays, CRP determinations, and salivary cortisol and alpha amylase.

12. NCCAM (R01 AT006970) "Meditation and exercise for prevention of acute respiratory infection" (P.I.: B Barrett) 06/01/12 – 05/31/17 Annual Direct: \$499,355 Total Direct: \$2,495,831

A randomized clinical trial comparing the benefits of training in mindfulness-based stress reduction (MBSR) vs. exercise for reducing upper respiratory infection and improving psychological wellbeing. My role was to advise on the psychological assessments and biological measures, including cytokines from blood and nasal secretions during infection.

13. NICHD (R01 HD057064-02) "Gestational stress and impaired iron homeostasis in the young infant" (P.I.: Coe) 02/15/10-1/31/2015 Annual Direct: 218,083 Total Award: \$1,069,707

This project used a nonhuman primate model to investigate the influence of maternal stress during pregnancy on the placental transfer of iron to the infant. Stable iron isotopes were administered to directly quantify iron transfer from mother to fetus using ICP-MS. After birth, the study focused on the impact of iron deficiency on the developing brain. It utilized cutting edge technologies, including proteomic and metabolomic analysis of cerebrospinal fluid (CSF).

14. NIMH (R01 MH091645-01A1) "Developmental brain atlas tools and data applied to humans and macaques" (P.I.: M. Styner) 09/08/10 - 05/31/15 Annual Direct: \$345,768

(UW subcontract: \$93,877) Total Direct: 1,767,948 (UW subcontract: \$469,385)

This award included a subcontract to generate infant monkeys for the creation of a developmental brain atlas. We created the first MRI atlas for Diffusion Tensor Imaging (DTI) in young primates, tracking white matter development and myelinated pathways from infancy to puberty.

15. Carbone Cancer Center "Benefits of exercise on prognostic biomarkers in lung cancer patients. (P.I.: Colbert L). 02/01/13 – 01/31/14 \$46,094

This analysis assessed the benefits of very moderate aerobic exercise in end stage cancer patients for lessening fatigue, extending life span, and reducing indices of oxidative stress and inflammation. My role was to determine several biomarkers, including cytokines and CRP, in addition to 8-hydroxy-2-deoxyguanosine (8-OHdG).

16. DOD "Nasal irrigation for chronic rhinosinusitis and fatigue in patients with Gulf War Syndrome". (P.I.: Rabago D) Total Direct: \$450,000. 01/01/13-12/31/16

This intervention project assessed the efficacy of a 26-week, 3-arm randomized, controlled trial of response to saline and xylitol nasal irrigation spray therapies in veterans who have returned from deployment with chronic rhinosinusitis. My laboratory's role was to assist in the biomarker assessments, which included multi-cytokine arrays of nasal secretions in conjunction with radiological exams, and measures of clinical symptom severity and quality of life indices.

17. Carbone Cancer Center "Accelerating the discovery of predictors and prognostic biomarkers of GVHD". 09/01/14 – 08/31/15 (PIs: Hematti P, Coe CL, Costanzo, E, Juckett M). \$88,418

Multi-cytokine arrays and metabolomics were employed to determine the most sensitive biomarkers predictive of the graft-versus-host reactions in lymphoma and myeloma patients recovering after hematopoietic stem cell transplantation (HSCT). My role was to oversee the biomarker assessment in serial samples collected before and for 6 months after HSCT.

18. Gerber Foundation "Impact of obesity during pregnancy on neonatal iron status and programming of inflammatory response patterns" (P.I.: Kling P). 07/01/14 – 12/31/16

This investigation of human newborn status at delivery assessed the influence of maternal obesity and weight gain during pregnancy on iron stores and propensity for a proinflammatory profile in the infants, which can a risk factor atopic conditions and asthma.

19. Fee-for-Service Agreements:

- a. Empirico (2019-20) - tested siRNA drug for lowering triglyceride levels in nonhuman primate model
- b. Lytic Solutions/Booster Biopharm (2020-2022) – screened novel recombinant spike protein vaccine candidates against SARS-CoV-2 in nonhuman primate models (IgG, neutralizing antibody and ELISPOT for T cell memory)
- c. BARDA project with UCSD (2019-2020)- ran multi-cytokine arrays for project assessing response to endotoxin in human participants
- d. Veteran Administration assay contracts (2019-2021): assayed proinflammatory arrays and C-reactive protein for study of exercise in veterans.

EARLIER GRANT SUPPORT (selective, from 1987 to 2014):

Office of Naval Research "Immunologic consequences of social stratification and change." 03/01/87 - 08/31/92. This research assessed the influence of social status on immunity in adult male nonhuman primates.

NASA/Ames (NAS212939) "Operation of breeding colony to produce flight quality male squirrel monkeys for Shuttle and Space Station missions". 12/13/88- 7/31/93. We designed a breeding program to produce specific-pathogen-free (SPF) monkeys and generated 100 Herpes negative monkeys for the Life Sciences program.

NASA/Ames (NAG2-647) "Evaluation of primate habitat design." 04/01/90 - 03/31/92.

The project evaluated the physiological effects of a cage design that was going to be used on the Space Station to study monkeys living in microgravity environments.

NIMH (MH43454) "Emotional reactivity and anterior brain asymmetry." 04/01/91 -03/30/93 (Co-Investigator; P.I.: R. Davidson). This project assessed emotional and immune correlates of brain activity patterns and hemispheric asymmetry in young adult humans.

American Lung Association, "Stress, immune function and symptoms in adolescent asthmatics." 9/1/93 -8/31/95, (Co-investigator; P.I.: D. McCarthy). The studies assessed stress-related immune changes associated with final exam week in asthmatic high school students.

Fetzer Institute "Stress and Th2 lymphocyte response in asthma." (Co-investigator; PI: Kang) 11/1/94 - 10/31/96, \$30,000. Assessed school exam-related cytokine release by lymphocytes and airway functioning in asthmatic students following inhalation of allergens.

Fetzer Institute "The effect of stress on the airway inflammatory response to inhaled antigen." (Co-investigator; P.I.: W. Busse) 9/30/97- 4/15/00, Total Direct: \$110,000. Investigated cell trafficking to the airways, including the activation state of infiltrating lymphocytes and eosinophils.

Endometriosis Association "Endometriosis and dioxin exposure in aged rhesus monkeys." 6/30/93 - 8/31/96 \$35,000. Using an animal model, the project determined immune and inflammatory responses associated with the gynecological condition of endometriosis and assessed risk factor for the development of this disease.

Endometriosis Association "Cancer risk in females with endometriosis." 6/1/99 - 8/31/99 \$4380. Retrospective case/control analysis of the association between endometriosis and cancer.

NIMH (MH59106) "Self regulation and susceptibility to colds and flu." (co-investigator, P.I.: T. Strauman) 6/1/99- 5/31/04. Evaluation of cognitive and emotional predictors of immunity and upper respiratory infection. The focus was on the diathesis conveyed by a negative cognitive style and the occurrence of menstrual dysfunction in young women.

NIMH (MH41659-14) "Prenatal stress and immune responsiveness." 04/01/94 - 03/30/00, \$1,154,950. Investigated the influence of stressful pregnancy conditions on infant immunity. Competing renewal funded.

NIAID (AI46521) "Prenatal stress and immune responsiveness." 05/01/00 - 04/30/06. \$1,150,000. This project used a nonhuman primate model to investigate the effect of maternal state during pregnancy on the development of immune competence, predicting response to first vaccination and viral infection.

NIMH (MH61083) P50 Center: "Mechanisms of mind-body interaction: Emotional interface." 10/1/99 - 8/31/06 Total Direct: \$780,000 (Project Leader) "Physiological benefits of mental wellbeing in chronic disease" Our project investigated neuroendocrine and immune responses in women with fibromyalgia and rheumatoid arthritis, and evaluated the relationship to pain sensitization and psychological state.

Forward Lymphoma Research Fund "Predictors of optimal Immune reconstitution and quality of life in Bone-Marrow Transplant Patients" 07/08 – 06/10 (P.I.: H. Permatti) Total Award: \$50,000 This award provided critical pilot data for our investigation of the relationship between psychosocial status and immune recovery in cancer patients following bone-marrow-transplantation. The immune outcome measures were aimed at refining a monoclonal antibody (MoAB) panel for immunophenotyping the leukocyte recovery during the first 3 months following BMT.

NCI (R13 CA1340006-01) "Annual Mentoring Program in PsychoNeuroImmunology Research" (P.I.: C. Coe) 05/09/08 – 04/30/09 Annual Direct: \$42,500 This one-year conference award supported the mentoring and travel of pre- and postdoctoral trainee Scholars to participate in the annual meeting of the PsychoNeuroImmunology Research Society. The PNIRS conference took place last year during May 28-31, 2008.

NIMH (MH064473) "Emotional and behavioral outcomes in neglected children" (P.I.: Michael Lewis) 9/30/04- 06/30/06 Annual Direct: \$24,292 Total Direct: \$48,584 This collaborative supplement to Dr. Michael Lewis' project at the Robert Wood Johnson Medical School enabled hormone and immune evaluations of 5-6 year old children from stressed and neglectful families. My laboratory's role was to assist in the immune measures (Herpes-related) from salivary specimens.

NIMH (MH061285-04S1) "Emotion processing: Risk for psychopathology" (P.I.: S. Pollak)

9/30/04-07/31/06 Annual Direct: \$67,500 Total Direct: \$135,000

This supplement to Dr. Seth Pollak's project at the University of Wisconsin permitted the acquisition of biological data on children who were adopted from eastern Europe and Asia as well as American children who had been experienced childhood maltreatment. My laboratory's role was to assist in the immune assessment of salivary specimens, specifically sIgA against Herpes simplex virus, which resulted in a paper in PNAS.

NIAID (AI067518) "Maternal flu infection and brain development in infant primates" (P.I.: Coe)

12/1/05 – 11/30/11 Annual Direct: \$315,575 Total Direct: \$1,673,585

This project investigated the effects of influenza virus infection during pregnancy on infant brain development using neuroimaging techniques. The studies assessed the impact of the timing of infection during gestation, and the mediating role of maternal inflammatory/immune responses. It received a priority score of 133 with a < 1% ranking.

NIAID (AI067518-05S1) ARRA Supplement to Maternal flu Infection and brain Development in Infant

9/27/10 - 09/26/11 Total Direct: \$61,104

This supplemental award issued under the American Recovery and Reinvestment Act added genetic markers to the parent project in order to determine causes of individual variation in maternal and infant risk for the adverse effects of infection.

NICHHD (HD057064-01A2S1) "ARRA Supplement to Gestational stress and impaired iron homeostasis in the young infant" 09/30/09-09/29/11 Total Direct: \$98,838

This supplemental award issued under the American Recovery and Reinvestment Act provided salary support to create one new position for a postdoctoral fellow and refined mass spectrometry techniques for quantifying hormone concentrations in the hair of newborn infants.

UW Medical Education and Research Committee (MERC), Wisconsin Partnership Program, Collaborative Health Sciences Program Award (CHSP) "Closing the gap on pediatric health discrepancies: Discerning the causes and consequences of iron deficiency in infancy" (P.I.: P. Kling) Project Period: 09/01/08 – 12/31/11 Total Direct: \$411,000

This project investigated risk for iron deficiency in 300 newborn human infants across the first year of life. Biological and psychosocial measures were obtained in the delivery room and at 6 and 12 months of age. The study conducted at Meriter Hospital delivery center is a translational clinical application of our projects on iron deficiency in primate models.

NCCAM (R01 AT004313-01) "Meditation and exercise for prevention of acute respiratory infection" (P.I.: B. Barrett) 06/01/09 – 05/31/11 Annual Direct: \$489,489 Total Direct: \$798,426

This 2-year award supported a double blind, randomized trial comparing the benefits of training in mindfulness meditation vs. exercise for enhancing the protective benefits of vaccination against influenza in adults over 50 years of age. My role was to advise on the psychological assessments and immune measures to determine vaccine efficacy. This collaborative study in the Madison community has been conducted through the Department of Family Medicine. A competing renewal application was funded.

NIA (P01 AG011915-14) "Dietary restriction and aging in rhesus monkeys"

(P.I.: R Weindruch) 05/01/06 - 01/31/11 Annual Direct: \$140,000 Total Direct: \$1,072,338

This Program Project grant investigated the benefits of a calorie-restricted diet on the aging of rhesus monkeys. My role was to assist in the brain and cognitive assessments, and to determine if the nutritional intervention slowed the progressive aging of the brain.

Bill and Melinda Gates Foundation. Grand Challenges Exploration Award. "The gut microbiome and iron absorption in anemic infants" (P.I.: Coe) 11/01/11-10/31/13 Total Direct Award: \$100,000

This study investigated the relationship between iron deficiency and the gut microbiome in the anemic infant, and the influence of iron supplementation on gut bacteria and metabolism.

NIA (AG008768-16) "Impact of parenting adolescents and adults with autism" 04/1/07-02/31/14

(P.I. M. Mailick) Annual Direct: \$438,927 Total Direct: \$2,036,040.

This renewal award investigated the burdens and stress of parental care for older adolescents and young adults with autism spectrum disorder (ASD). It received a priority score of 125 and a percentile of 5.7%. My laboratory's role was to assist in the endocrine evaluation of the parents via salivary measures of the diurnal rhythm in cortisol levels.

Marsha Reynolds Foundation "The impact of psychosocial and nutritional stress on telomere length in early childhood" (PI: D Bennett) 01/01/12 - 12/31/13 UW assay services: \$5700
My role was to assess antibody titers in the salivary specimens from the children; the project also investigated the influence of familial stress on telomere length. The project was based at the Drexel University College of Medicine in Philadelphia.

NICHD (HD39386) "Brain and behavior in early iron deficiency" (P.I.: B. Lozoff, Project Director: Coe) 07/02/01-07/01/13 Annual Direct: \$151,157 Total Direct: \$731,157

This multi-site program spanned 6 institutions (Universities of Michigan, Minnesota, Texas, UC-Davis, Pennsylvania, and Wisconsin) and investigated rodent, primate, and human models of anemia and how iron deficiency affects brain development. The monkey project at UW-Madison focused on neural and cognitive effects of anemia in infancy, including in offspring of higher risk, primiparous adolescent females.

Thrasher Research Fund "Early screening and interventions for iron deficiency in infancy"

(P.I.: P. Kling Project Period: 08/09-03/12 Total Direct: \$151,000

This project used specimens from cord blood to refine new methodologies for assessing the iron status of neonates and the likelihood that they may progress on to iron deficiency. It also included an analysis of other contributing factors, such as prenatal lead exposure.

NCI (R21 CA133343-01A2) "Predictors of optimal immune reconstitution in stem cell transplant patients" (P.I.: E. Costanzo) 02/01/10 – 01/31/12 First Year Direct: \$125,000 Total Direct: \$225,000

I was the faculty mentor for this project headed by Dr. Erin Costanzo. It extended an ongoing investigation on how psychological factors at the time of hematopoietic stem cell transplantation influence the course of recovery. The award allowed us to broaden the evaluation from lymphoma to myeloma patients, considering both autologous and allogeneic transplantation, and extended the follow-up period from 3 to 6 months. In addition, it provided support for cytokine determinations, critical for assessing risk for graft-versus-host disease (GVHD), in addition to the immunophenotyping of leukocyte recovery.

UW Carbone Cancer Center (NCI) "KRN5500 in the management of painful chemotherapy-induced peripheral neuropathy: A double-blind, placebo-controlled, randomized clinical trial" (P.I.: T. Campbell). Total Direct Award: \$49,995

This intervention study assessed the clinical benefits of treatment for painful neuropathy in cancer patients. In addition to the evaluation of pain symptoms and markers of pathology and nerve regeneration, my laboratory's role was to conduct multi-cytokine arrays as one of the biomarker outcome measures of interest.

Autism Speaks (7523) "Transitioning together: An intervention program for adolescents with ASD and their families." 12/1/12-11/30/13 (PI: L. E. Smith) Total Direct: \$119,878

This award investigated the benefits of a behavioral intervention for improving the wellbeing of families raising children with autism spectrum disorder. My role was to assist in the biomarker component of the project.

SPONSORSHIP OF NIH and FOUNDATION SUPPORT FOR TRAINEES (last 25 years):

AOTF "Cognitive and neuroimmune dysfunction in cerebral palsy." 7/1/94 - 6/30/96,
\$20,000, Faculty sponsor for dissertation award to Sandra Rogers, O.T. Ph.D.

NIMH "Long-term effects of childhood trauma: Obesity and PTSD." 4/1/95- 3/30/97,
\$25,000, Faculty sponsor for dissertation award to Andrine Lemieux, M.A, Ph.D.

- NIMH “Cytokine cascade to the brain.” 10/1/97 - 3/30/99, \$30,000, Faculty sponsor for NRSA predoctoral fellowship to Teresa Reyes, M.A., Ph.D.
- NIMH “Impact of sympathetic activation on microflora of the gut.” 2/1/00 - 5/31/02, \$70,000, Faculty sponsor for predoctoral NRSA to Michael Bailey, M.S., Ph.D.
- NIMH “Prenatal influences on brain and behavioral development” 1/1/06 – 12/31/09
Faculty sponsor for predoctoral NRSA to Sarah Short, M.S., PhD.
- Ford Foundation “Proinflammatory cytokines and emotionality.” 7/1/06 – 6/30/10
Faculty sponsor of predoctoral fellowship to Auriel Willette. M.S., Ph.D.
- ICTR/NCI “Immune reconstitution and quality of life following bone-marrow-transplantation in lymphoma and myeloma.” Faculty Sponsor for Mentored KL2 Awards for Dr. Erin Constanzo, Ph.D.
06/01/09-05/31/11 and K07 award from NCI, 07/11 – 06/16
- NICHHD “Determination of hormone concentrations in the hair of neonates following gestational stress”
09/30/09-09/29/11 Postdoctoral fellowship for Dr. Amita Kapoor, supported by ARRA Stimulus award.
- NIA “Biomarkers of aging and the benefits of meditation and exercise” Postdoctoral faculty sponsor for Stephen Martin. Biology of Aging Training grant, 09/13
- NIMH “Biomarkers of the biology of aging” Wellington Amaral. Predoctoral support on a training grant in Emotions research. 09/01/12 – 08/31/14
- NIMH “Prenatal origins of temperament” Danielle Rendina. Predoctoral support on a training grant in Emotions research. 09/01/14 -08/31/15

PUBLICATIONS (331 ordered from most recent back to earlier articles)

1. Berkowitz-Fiebich, L., Flaherty, S. M., Kitayama, S., Karasawa, M., Kawakami, N., Rigotti, A., Coe, C.L. (2024) Healthier lipid profiles of Japanese adults, especially in women with elevated high-density lipoprotein cholesterol (HDL-C), are associated with low HDL-C peroxide content. Antioxidants, 13(12), 1434. doi.org/10.3390/antiox13121434
2. Berkowitz, L., Echeverria, G., Salazaar, C.J., Faundez, C., Coe, C.L., Ryff, C.R., Rigotti, A. (2024) Lipidomic signature of healthy diet adherence and its association with cardiometabolic risk in American adults. Nutrients. In press
3. Bu, Y., Burks, J., Yang, K., Prince, J., Born, A., Coe, C.L., Simmons, A., Tu, X.M., Baker, D., Kimball, D. Ramesh Rao¹, Shah, V., Huang, M., Schwindt, P., Coleman, T., Lerman, I. (2024) Non-invasive cervical magnetoneurography as a proxy of in vivo lipopolysaccharide-induced inflammation. Nature Communication Biotechnology. 7, 893, doi.org/10.1038/s42003-024-06435-8
4. Turner, D.G.P., De Lange W.J., Zhu, Y., Coe, C.L., Simcox, J., Ge, Y., Kamp, T.J., Ralphe, J.C., Glukhov, A.V. (2024) Neutral sphingomyelinase regulates mechano-transduction in human

engineered cardiac tissues and mouse hearts. The Journal of Physiology 602 (18), 4387-4407. doi:10.1113/jP284807.

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3. Lubach, Gabriele (1990) Sr. Assistant Scientist, Department of Psychology, University of Wisconsin-Madison. Retired in 2021.
4. Friedman, Elliot (1993), PhD in Psychology, currently, a Professor at Purdue University.
5. Kang, Duck-Hee (1993), joint Ph.D. in psychology and nursing, was employed as named professor Jamail Distinguished Professor, School of Nursing, UT Health Sciences Ctr at Houston, deceased
6. Hou, Fang-Yao (1996) Ph.D. in Zoology, Marquette University, Milwaukee, WI.
7. Lemieux, Andrine (1997) joint Ph.D. in Biological Psychology and Counseling Psychology, NRSA predoctoral fellowship, NIMH Dissertation Award. Currently, a scientist/practitioner at the University of Minnesota Medical School-Duluth.
8. Rogers, Sandra (1997) Ph.D. in Kinesiology, Am Occupational Therapy Foundation (AOTF) dissertation

award, Currently employed as a Professor, Dept of Kinesiology, Oregon State University.

9. Reyes, Teresa (1998) Ph.D. student in Behavioral Neuroscience, NSF predoctoral fellowship award, 9/94-8/97; NIMH predoctoral fellowship 9/97 -12/98, Associate Professor. Cincinnati Medical School.
10. Kinnard, Jeanne (2002) M.A., Behavioral Neuroscience, Faculty, Cascadia Community College, WA.
11. Karaszewski, Joseph (2002) M.A., Behavioral Neuroscience. Deceased.
12. Bailey, Michael (2002) Ph.D. in Behavioral Neuroscience, NIMH predoctoral fellow, 3/1/00 – 5/31/02, currently Associate Professor, School of Dentistry, Ohio State University Columbus, OH.
13. Short, Sarah (2009) Ph.D. in Biological Psychology, NIMH NRSA predoctoral fellowship, Assistant Professor, Department of Ed. Psychology, University of Wisconsin & UW Center for Healthy Minds
14. Willette, Auriel (2004-2010) Ph.D. Ford Foundation Predoctoral fellow, postdoctoral fellow at the NIH, and an Assistant Professor of neuroscience at Iowa State University.
15. Amaral, Wellington (2010-2017) Ph.D. in Biological Psychology, UW-Madison. Postdoc at UC-Davis
16. Rendina, Danielle (2013-2019) Ph.D. in Biological Psychology, UW-Madison, Postdoc Duke Univ.; Research Scientist, IFF/Dupont Nutrition division
17. Costello-White, Reagan (2013- 2015) Masters in Biological Psychology, UW-Madison

B. Prior postdoctoral trainees

Price, Kimberly, Ph.D., Postdoctoral fellow, NIMH Neuroscience Branch award, 10/96 - 9/99.

Trainee, Women's Health Training Grant, 10/1/99 – 9/30/00, in clinical practice as midwife

Alonso, Carmen, Ph.D., Postdoctoral fellow, Clinical psychologist, UW Health, Madison, WI.

Lubach, Gabriele, Ph.D., currently a Senior Research Scientist, UW Harlow Center.

Loevinger, Barbara, M.D. Research Fellow, UW Women's Health Center (2001- 2006), Clinical Faculty,

Department of Psychiatry, University of Wisconsin School of Medicine and Public Health

Shirtcliff, Elizabeth, Ph.D., Postdoctoral fellow, Atypical Development Training Grant. (2002-2006)

NIMH Mentored K Award, Associate Professor of Psychology, Iowa State University, Now affiliated with University of Oregon.

Costanzo, Erin, Ph.D., Postdoctoral fellow, Emotions Training Grant (2006-2009), currently Associate

Professor, UW-Psychiatry. School of Medicine and Public Health, Mentored K award

Buckley-Fischer, Beth, Ph.D. Postdoctoral fellow, Health Disparities Training grant. Currently Director of

Institutional Research and Planning, Zane State College, Zanesville, OH

Kapoor, Amita, Ph.D., Postdoctoral fellow, Supported by ARRA award. Currently an Assistant Scientist,

Wisconsin Primate Research Center.

Mathew, Stephen, Ph.D. Postdoctoral fellow. Supported by the Biology of Aging and Age-Related

Disease Training Grant. 2014.

Lee, Chioun, Ph.D. Post-doctoral fellow, subsequently received K99 from the NIA (faculty mentor)

Currently, an Assistant Professor at UC-Riverside.

Wood, Elizabeth, Ph.D. Postdoctoral fellow, Training Grant, Oregon Health Sciences Center, Portland, OR.

C. Prior Teaching/Mentoring Awards:

Excellence in Teaching, 1993-1994

Chancellor's Distinguished Teaching Award 1997

Board of Regents, UW-system-wide individual teaching award, 2013

Awards to students and fellows:

American Occupational Therapy Foundation Dissertation Award: Sandra Rogers

American Psychological Association Dissertation Award: Andrine Lemieux

NIH NRSA Awards (Teresa Reyes, Michael Bailey, Sarah Short)

Ford Foundation (Auriel Willette)

NIMH Mentored K01 Award (Elizabeth Shirtcliff)

NCI Mentored K01 Award (Erin Costanzo)

Hilldale & Hughs Awards to undergraduates (T. Ho, S. Kang, M. Raske, K. Pourian, S. Schaefer

A. Nelson, E. Swenson, N. Gales)

NIA - K99 award (C. Lee)

UNIVERSITY AFFILIATIONS AND SERVICE (selective):

Senior Scientist, Wisconsin National Primate Research Center

Core Investigator, Waisman Center on Mental Retardation and Human Development

Investigator, Clinical and Translational Research Center

Core Faculty Member: Health Emotions Research Institute,

Emotions Training Grant,

Typical & Atypical Development Training Grant,

Biology of Aging and Age-Related Diseases Training Grant

Women's Health: Health Disparities Training Grant

Steering Committee, Institute on Aging

BIRCH Mentoring Program (Building Interdisciplinary Research Careers in Women's Health)

PREVIOUS NATIONAL AND INTERNATIONAL SERVICE (selective):

President, 2001, PsychoNeuroImmunology Research Society

External Scientific Advisory Board -- UCLA Norman Cousins Psychoneuroimmunology Center

Advisory Board - -Postdoctoral training grant; The Ohio State University Comprehensive Training in Oral and Craniofacial Sciences Program Sponsored by National Institute of Dental & Craniofacial Research

NIDCR Safety Oversight Committee (Clinical Research Operations and Management Support, CROMS)

Salivary Biomarkers CSOC, 2013-present.

External Advisory Board, Conte Center and MIND Institute, UC-Davis 2017- present

Past participant in numerous federal and private foundation working groups and international workshops

e.g., Prior consultant: US National Children's Study, Washington DC.

NIH Study Section member, 2000 - 2002, Behavioral and Biobehavioral Processes-2 (now MESH)

NIH Study Section member, 2005 - 2009, Immunity and Host Defense (IHD)

NIH Study Section member, 2011 - 2013, Developmental Brain Disorders (DBD)

Member, 1996-2003, Human Development and Population Health Program, Canadian Institute for Advanced

Research. In 1999 our group published "*Developmental Health and the Wealth of Nations*" Gilford Press, NY.