# Ethel Austin Martin Program in Human Nutrition

**Progress Report –2007-2013**

Refer to “EAM Program in Human Nutrition: The First Decade (1997-2006)” for past lecturers, highlights & the following:

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Update on Facilities

In early 2008, the EAM Program expanded to the 3rd floor of Wecota Hall adding 16 offices, a conference room, and a general workroom. The program continues to use the space in the EAM Building for laboratory activities.

In 2011, a new Mobile Research Unit with improved heating and cooling capacity was purchased. On board are state-of-the-art imaging equipment can be used for bone measurements and body composition analyses. This equipment includes a dual energy x-ray absorptiometer (DXA, Hologic Discovery/Apex) and two peripheral quantitative computed tomography for both arm and leg use (pQCT XCT 2000 & XCT 3000, Norland/Stratec). A Biodex System Multi-joint Isokinetic machine is also on board and allows measurement of muscle strength. The mobile units provide an important resource for investigators at SDSU.
Ethel Austin Martin Distinguished Lecturers

2007  **Joan McGowan**, PhD, National Institute of Arthritis and Musculoskeletal Diseases, National Institutes of Health: “Trials and Tribulations: Lessons Learned from the NIH Women’s Health Initiative.”

2008  **Frank Rauch**, MD, Shriners Hospital for Children, McGill University, Montreal, Quebec, Canada: “Importance of Diet and Activity in Bone Growth.”

2009  **Pat McGovern**, PhD, University of Minnesota, “Maternal Employment and Breastfeeding: Findings from the Minnesota Postpartum Health Study.”

2010  **Frank Greer**, MD, University of Wisconsin, Chair of the Committee on Nutrition of the American Academy of Pediatrics, “Controversies in Pediatric Nutrition Including Vitamin D and Iron Requirements”.

2011  **Laurie Moyer-Mileur**, PhD, Professor of Pediatrics & Director of the Center for Pediatric Nutrition Research at the University of Utah, “Stress Relief for Preemies: How Massage Therapy Benefits Growth, Development and Metabolism”.


2013  **Jeff Murray**, MD, PhD, Professor of Pediatrics, Biology, Nursing & Epidemiology, University of Iowa, & President of the American Society of Human Genetics, “Nutrigenomics – the Intersection of Personalized Health and Tasty Food”

2014  **Jon Vanderhoof**, M.D., University of Nebraska Medical Center, Boston Children’s Hospital & Harvard Medical School, “Allergy & the Microbiome”

Research Highlights

The E.A. Martin Program supports nutritional research involving a wide variety of disciplines. There are several ongoing research projects initiated from within the EAM Program, as well as collaboration on projects from outside the program. Active research projects provide SDSU faculty and students the opportunity to expand their knowledge base and participate in research.

**South Dakota Rural Bone Health Study (SDRBHS):** The aim of this study is to determine whether a rural lifestyle leads to high bone density in young adulthood and lowers the rate of bone loss later in life. Approximately 1,200 men and women aged 20 to 66 years with equal numbers of Hutterites, rural non-Hutterites, and non-rural non-Hutterites are being followed for 7.5 years. Yearly blood samples, bone measurements and quarterly assessments of activity levels and dietary intake are obtained. The goal of the project is to determine whether bone density during young adulthood and the rate of later bone loss, among the Hutterite population is similar to other populations, and whether greater activity levels and calcium intake can account for the high bone density observed among the Hutterites. We also will investigate genetic factors affecting bone strength. Further understanding of the role of genetics and lifestyle factors as determinants of bone density among Hutterites is necessary because they appear to be less likely to develop osteoporosis than the normal U.S. population. In addition to the 1,200 adults who are enrolled, an additional 800 Hutterites aged 8 years and older also are being followed with the same study protocol.
The Vibration Study is evaluating the effect of exercise using vibration on the bone and muscle development in the forearm of healthy children. The forearm is the most common site of fracture in children. Low bone density and smaller bone size are associated with increased fracture risk in this population. Therefore, it is wise to consider methods to increase bone mass and bone size to help prevent fractures. Vibration platforms deliver significant impact forces that cause muscles to contract 20-50 times per second and mechanically stimulate the skeleton. We are not aware of any studies conducted that have incorporated exercise using vibration platforms as a means to target the forearm of growing children with the intent to increase bone mass and size.

EAM Researchers are collaborating with the South Dakota Department of Health (SDDOH) on a variety of projects including the Maternal and Child Health Block Grant and the Nurse Family Partnership/Bright Start programs. SDSU collaborators are assisting the SDDOH with maternal child health epidemiological services, including performing data explorations, contributing content for benchmark and program reporting and investigating data management platforms.

There are several ongoing longitudinal studies of student athletes, including studies with football and soccer players. These studies are designed to investigate changes in muscle strength, body composition and bone measures over a competitive year, as well as after the student-athletes complete their collegiate careers. The occurrence of stress fractures is also being studied, along with muscle and bone differences between athletes with and without stress fractures.

Muscle-Bone Relationship Study: The primary purpose of this study was to determine whether muscle strength is more important than muscle size in influencing bone geometry and how muscle-bone relationships vary across the lifespan. A total of 280 children and young adults (6 to 19 y) and 360 older adults (20 to 100 y) were to be enrolled in this cross-sectional study. Measurements of muscle strength (power), body composition, bone area and volumetric bone density, bone geometry, and cross-sectional area of muscle, as well as diet and activity measures were obtained. This study has provided a significant amount of data for junior faculty and students to address specific hypotheses.

Collaborative & Multi-Center Research Studies:

National Children's Study (NCS): The National Children's Study will examine the effects of environmental influences on the health and development of more than 100,000 children across the United States, following them from before birth until age 21. The goal of the NCS is to identify environmental factors that are important in the growth and development of children and long-term health outcomes. Brookings County, South Dakota, and Yellow Medicine, Pipestone & Lincoln (BYPL) counties in Minnesota were randomly chosen from all counties across the US to serve as one of the seven Vanguard sites for the study. SDSU was awarded this multi-million dollar contract to serve as the BYPL Vanguard Center in 2007 and recruited over 300 families from this area. In 2011 NCS operations were moved to a Regional Center in Chicago.

Iron Status in Physically Active Females: The purpose of this study was to investigate whether increasing iron intake through the consumption of meat improves iron status of physically active females exercising 5 days per week. There is a high prevalence of iron deficiency in female athletes which is likely due to foot strike anemia or a diet high in the non-heme form of iron. Thus, female athletes who are highly active may require a higher intake of iron than the RDA recommends for non-active healthy individuals or they may require a better source of iron. Females aged 18 to 25 years participated in a 60-minute exercise program, 5 days per week for 10 weeks. Iron status was assessed prior to and at 5- and 10-weeks of intervention. This study was funded by the South Dakota Beef Industry and the lead investigators were from the Department of Health & Nutritional Sciences.

β-hydroxy-β-methylbutyrate (HMB) and vitamin D on markers of bone turnover, muscular strength, and functionality in older adults: A metabolite of leucine, HMB, has been reported to increase muscle strength and preserve muscle mass during a strength training program in older adults aged 60 to 85 years. Older
adults aged 60 to 95 years of age were enrolled in a strength-training program for 12 weeks to determine the
effect of HMB with and without vitamin D on markers of bone turnover and changes in muscle strength.

Dietary fiber has several health promoting effects. A handful of studies have investigated effects of resistant
starch type - IV (RS4), a type of chemically modified dietary fiber, on isolated risk factors of metabolic
syndrome. The purpose of this study was to investigate the biological effects of RS4-supplemented diet in
over-weight individuals pre-disposed with two or more risk factors of MetS. Two Hutterite colonies
participated in this study, each colony consuming both RS4-enriched flour and regular flour for 12-week
periods and changes in risk factors for metabolic syndrome (blood sugar, blood pressure, triglycerides, and
cholesterol) were monitored before and after each intervention. In addition, colon microbial profiles were
obtained to determine whether RS4-enriched flour alters the gut microbiome. The lead investigator on this
project was Dr. Moul in the Department of Health & Nutritional Sciences.

Research Funding:

2007-2011

National Institutes of Health (N01-HD-6-3416), "National Children’s Study – Vanguard Center," Specker
(principal investigator), 2005-2010, direct costs $8,693,938

Metabolic Technologies, Inc, "Effect of a Combination of β-hydroxy-β-methylbutyrate (HMB) and Vitamin D
on Markers of Bone Turnover, Muscular Strength, and Functionality in Older Adults," Specker & Binkley (co-
investigators), Vukovich (principal investigator), 2008, direct costs: $145,000

USDA NRI: SA0800154. "Influences of Physical and Social Landscapes on the Health of Rural
Communities," Specker (co-investigator), Wimberly (principal investigator), 5% effort, 2008-2011, direct
costs $360,000

National Institutes of Health (R35-AR055734).
“FSH as a Biomarker of Bone Strength in Younger
Postmenopausal Women,” Specker (consultant),
Gourlay, University of North Carolina (principal
investigator), 2008-2011, direct costs $221,791

South Dakota Beef Industry Council, "Iron Status in Physically Active Females: Effect of Adequate
Iron Intake through Beef Consumption," Vukovich (principal investigator), 2009, direct costs $50,000

SDSU Research/Scholarship Support Fund 2010,
“Delayed Nighttime Feeding as a Prevention of
Childhood Obesity Pilot Study”, Specker (principal
investigator), 2010, $7,215

National Institutes of Health (HHSN 2752011-00004C), "National Children’s Study Vanguard Center,"
Specker (principal investigator), 2011-2012, direct costs $3,095,992

2012-present

SDSU Scholarly Excellence Fund Award, "Can Low Intensity Exercise Using a Vibration Platform Modify
Bone Growth in Healthy Children?" Binkley (principal investigator), 2012

investigator), 2012-2013, $389,652.

South Dakota Department of Health, “Maternal & Child Health Epidemiology”, principal investigator, 2014-
2015, $358,879

DHHS/IHS FPT Great Plains Tribal Chairmen's Heath Board, "Northern Plains Tribal Epidemiology Center -
Translation, Prioritization and Quality Improvement of the 2007 South Dakota PRAMS" and “Northern Plains
Tribal Epidemiology Center – 2014 Tribal PRAMS”, principal investigator, 2014, $87,561
Teaching Highlights

Introduction:

Formal courses and lectures at SDSU and in the surrounding communities provide only one aspect of the educational enrichment provided by the E.A. Martin Program. The E.A. Martin Program also brings nationally renowned speakers to SDSU, providing an educational enrichment for both faculty and students. Student involvement at both the undergraduate and graduate level is important to the goals of the E.A. Martin Program. Extramural grant funding allows students to participate in research projects, providing not only a financial resource but also an excellent learning experience.

Speakers Brought to SDSU:

In addition to the Ethel Austin Martin Distinguished Lecturers (see above), the EAM Program has sponsored numerous other national and internationally renowned speakers:

2007-2011

Alan Fleischman, MD, Senior Advisor, New York Academy of Medicine; Clinical Professor of Pediatrics, Epidemiology & Population Health, Albert Einstein College of Medicine, NY; Chairman Federal Advisory Committee & Ethics Advisor to National Children's Study, “Protecting Human Subjects – Is the System Broken?” January, 2007

James Painter, PhD, Chair, School of Family & Consumer Sciences, Eastern Illinois University, “Food Psychology: Why we eat more than we think”, SDSU 24th Annual Nutrition Seminar, 2007


James Swanson, Ph.D., Professor of Pediatrics, University of California at Irvine, “Role of Food Additives in ADHD”, SDSU 25th Annual Nutrition Seminar, 2008

Steve Chernausek, MD, Chair, Pediatric Endocrinology at University of Oklahoma Health Sciences Center, “Role of IGF-1 in Health and Disease”, April, 2009


Lisa Jahns, Ph.D. Grand Forks USDA Human Nutrition Research Center “Freshman Fifteen: Fact or Fiction” SDSU 26th Annual Nutrition Seminar, 2009

Martin Bloem, M.D., Director of Nutrition, World Food Program, Rome, Italy "Nutrition, HIV/AIDS and Infection", 2010

Dennis Stevens, M.D., Director of Neonatology, Sanford Health, “Environmental Stresses in the NICU”, EAM-sponsored Nutrition & Environmental Health Seminar Series, 2010

2012-present

Zulf Mughal, M.B.B.S., Director, Department of Pediatrics, St. Mary’s Hospital in Manchester, England, “Nutritional Rickets”, SDSU & USD Pediatric Grand Rounds, 2012
Student Involvement:

Undergraduate:

- Lacey Arneson (Dietetics): SDSU faculty
- Caitlin Berry (PreDental): nurse
- Ryan Berry (PreMed): nurse
- Lindsey Binger (Health Promotion): Americorp
- Hanna Fetzer attended graduate school in California
- Christine Holm (Dietetics)
- Cory Koenig (PreMed): completing residency program
- Abha Mistry (Architectural Sciences): architect
- Jonathan Mochel (PreMed)
- Jen O’Connor (Nursing)
- Emily Parupsky (Mechanical Engineering)
- Aaron Peterson (Statistics)
- Josie Sanderson (Early Childhood Education): teacher & working for non-profit organizations
- Christee Staufer (Health Promotion): MPH at University of Michigan
- Ryan Steenson (Biology)
- Christy Wey (Biology/Statistics): PhD Epidemiology program, University of Colorado/Denver Health Sciences

Graduate (Advisees):

- Haifa Abou-Samra, PhD. Student in Biological Sciences, graduated May 2007: “Determinants of Bone Mass and Size in Term, Near-Term, and Preterm Children”. She is on the faculty in the College of Nursing at SDSU.
- Teresa Binkley, PhD. Student in Biological Sciences, graduated December 2007: “Use of Peripheral Quantitative Computed Tomography to Obtain Bone and Muscle Measures in Children.” She is on the faculty in the Department of Nutrition and works in the EAM Program.
- Jane Osowski, PhD Student in Biological Sciences, graduated June 2008: “Factors Associated with Iron Status in a Hutterite Population”. She is Assistant Professor of Nutrition at Mississippi State University.
- Marcella Gilbert, MS Student in Nutrition and Food Science (FCS) December 2008: “Role of Fruits and Vegetables in Bone Health”. She currently works for Ag Extension at Cheyenne River Reservation.
- Hussam Alwafi, MD, MS Student in Nutritional Sciences, "Role of Early Sugar Intake on Later Sugar Intake and Body Composition". He is currently on faculty in Tripoli, Libya.
- Ramu Sudhagoni, PhD in Statistics (2011), "Longitudinal Data Analysis: Longitudinal Effects of Fat and Lean Mass on Bone Accrual In Infants”.
- Lee Weidauer, Ph.D. in Nutritional Sciences (2012), "Effect of Participation in Different Types of Physical Activity and Age on Bone Mass, Density, and Geometric Properties", Post-doctoral Fellow at the EAM Program
- Lacey McCormack, Ph.D. in Nutritional Sciences (2013), "Longitudinal Examination of Diet, Physical Activity and Weight Changes in Rural and Non-Rural Populations", currently on faculty in the Department of Health & Nutritional Sciences, SDSU

Other Graduate Involvement:

- Larissa Peterson, MS Student in Statistics
- Lori Sissing, MS Student in Statistics

Post-doctoral Fellows:

- Natalie Thiex, Ph.D.
- Lee Weidauer, Ph.D.
- Wei Bai, Ph.D.
**National Children’s Study Employees (2005-2012):**

Barb Anderson, Community Outreach Coordinator  
Oscar Andres Hernandez, Call Center Interviewer  
Jessica Bendewald, Research Assistant  
Samantha Darnall, Research Assistant  
Kevin Donnelly, Call Center Interviewer  
Dave Everding, Computer Support Specialist  
Christa Friedrich, Call Center Supervisor  
Bonnie Gilbertson, Research Coordinator  
Petie Gilbertson, Research Assistant  
Kathy Gums, Research Assistant  
Karen Gutzman, Research Assistant  
Emily Hansen, MS, Research Coordinator  
Nate Hansen, MS, Research Assistant  
Shelby Hintze, Research Coordinator  
Brittany Kleinsasser, Information Assistant  
Kriston Koepp, MS, Research Coordinator  
Margo Law, Statistical Programmer  
Kari Loft, Research Coordinator  
Ann Martin, MS, RN, Hospital Negotiator/ Liaison  
Dan McCormack, Information Assistant  
Zach McCready, Research Assistant  
Amanda Mitchell, Research Coordinator  
Callie Molengraaf, Research Assistant  
Travis Rust, Computer Support  
Kelsey Schurrer, Research Assistant  
Betty Steen, Research Coordinator  
Kristina Stulken, Program Assistant  
Natalie Thiex, PhD, Post Doc Research Assistant  
Mary Thum, MS, Research Coordinator  
Bonnie Tonsager, Research Coordinator  
Craig Walters, Research Assistant  
Lee Weidauer, MS, Research Assistant  
Julie Westberg, Program Assistant  
Anne Wimberly, Information Assistant  
Li Zhong, Research Assistant  
Julie Zaruba, Research Assistant  
Krista Zeug, Research Coordinator

**NCS Enumerators (many of these individuals were undergraduate or graduate students):**

Michele Adamson, Donnell Anderson, Janelle Anderson, Joanne Anderson, Kristin Anderson, Amanda Banker, Melissa Berry, Ryan Berry, Benda Berseth, Ashutosh Bhogle, Nicholas Bierschach, Steve Binkley, Kayla Blindert, Jenna Carsrud, Andrea Kota, Lucas Davidson, CeCe Des Marais, Quinn Fairchild, Michael Feikema, Jillian Gibson, Alex Gilbertson, Mary Hall, Kirsten Hansen, Kendra Hill, Kayla Johnson, Amy Kaemingk, Renae Kreutner, Kalli Kurtenbach, Lelly Lehner, Christine Lovett, Amanda Lynn, Kimberly Markham, Nicole Meyer, Maria Mitchell, Adam Monke, Sue Morarie, Sara Olenich, Cindy Olson, Denise Olson, Kelsie Reeves, Lindsey Reid, Jessica Rozeboom, Corrina Schwartz, Kelsey Solberg, Dan Stluka, Jane Syltie, Karen Thaler, Kathie Tuntland, Ameya Vaidya, Lynda Venhuizen, Emma Wey, Kelsey Wick, Shivaram Arunachalam, Craig Bailey, Carmen Bot, Jaclyn Castleberry, Stephanie Cooper, Kyle Dalsted, Heidi Demuth, Samantha Faust, Donn Fatzer, Patricia Galipeau, Andrea Helland, Spencer Hintze, Mary Husman, Mychal McKeeown, Macie Michelson, Angela Miles, Zachary Milner, Courtney Moberg, Prenil Poulose, James Rogers, Rachele Schrader, Pam Siverhus, Andrew Wey, Daniel Winders.

**Formal Courses or Lectures at SDSU & In the Community**

**Formal Courses (Specker):**

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<td>2007 Spring</td>
<td>&quot;Independent Study&quot; (NFS 791), 1 semester hour</td>
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<tr>
<td>2007 Spring</td>
<td>&quot;Ph.D. Biology Seminar&quot; (BIOS 890), 1 semester hour</td>
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<td>2008 Spring</td>
<td>&quot;Epidemiology&quot; (HSC782), 3 semester hours</td>
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<td>2008 Fall</td>
<td>&quot;Biostatistics I&quot; (HSC 631), 3 semester hours (Wey primary instructor)</td>
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<td>2009 Spring</td>
<td>&quot;Biostatistics II&quot; (HSC731), 3 semester hours (Wey primary instructor)</td>
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<td>2009 Summer</td>
<td>&quot;Individual Study: Meta-Analysis&quot; (CSS 891), 3 semester hours</td>
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<td>2010 Spring</td>
<td>&quot;Epidemiology&quot; (HSC/NFS/BIOS 782), 3 semester hours</td>
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<td>2011 Fall</td>
<td>Statistical Methods in Epidemiology (CSS 891), 2 semester hours (Wey primary instructor)</td>
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<tr>
<td>2012 Spring</td>
<td>&quot;Analysis of Complex Surveys&quot; (NFS 702), 3 semester hours (Wey primary instructor)</td>
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![Lacey McCormack presenting her results at Experimental Biology](image)
2012 Fall  “Epidemiology” (HSC/NFS/BIOS 782), 3 semester hours
2014 Spring  “Independent Study: Biostatistics (HNS 891), 3 semester hours
2014 Spring  “Independent Study: Biostatistics (HNS 891), 3 semester hours
2014 Spring  “Epidemiology” (HNS/BIOS 782), 3 semester hours

Lectures at SDSU & In the Community:

2007 - 2011
“National Children’s Study” to SDSU GIScCE, January 2007 (Specker)
“National Children’s Study” to SDSU Human Nutrition Class, February 2007 (Specker)
“National Children’s Study” during SDSU New Faculty Orientation, August 2007 (Specker)
“Research Methods” for University Affiliated Program USD (1-day lecture), summer 2007 (Binkley)
Speaker, SDSU Foundation Board, “National Children’s Study”, September 2007 (Specker)
Speaker, 2nd Annual Children’s Environmental Health Seminar, “National Children’s Study”, October 2007 (Specker)
“National Children’s Study” at the 3rd Medical District Seminar in Brookings, SD, October 2007 (Specker)
“National Children’s Study” to SDSU College of Family and Consumer Science, November 2007 (Specker)
“National Children’s Study” to Brookings, SD, Optimist Club, November 2007 (Specker)
“National Children’s Study” LEND Affiliated Program, USD Medical School, December 2007 (Specker)
“National Children’s Study” at USD/Sanford Department of Pediatrics, Pediatric Grand Rounds, Sioux Falls, SD, December 2007 (Specker)
EAM/NCS staff & faculty gave numerous NCS-related talks in local communities, including over 40 meetings with local community organizations (health agencies, social service agencies, law enforcement personnel, etc.).
EAM/NCS participated in approximately 20 parades over the summers of 2008 & 2009
Operated a booth at Dakotafest “Bone Health in Rural Populations” and “National Children’s Study,” August 2008 & 2009
Bonny Specker appeared on On-Call television program with Dr. Richard Holm and Tami Watson regarding Children’s Health Issues, April 9, 2009

2012 - present
Speaker, South Dakota Public Health Association Annual Meeting, Sioux Falls, SD, “Governor’s Task Force on Infant Mortality”, 2012
Speaker, South Dakota Public Health Association Annual Meeting, Sioux Falls, SD, “Update on the National Children’s Study”, 2012
Panel of Panelists, Colleges of Education and Human Sciences, College of Arts and Sciences, College of Agriculture and Biological Sciences, SDSU, 2012
Speaker, Pediatric Grand Rounds, Sanford USD School of Medicine, 2012
Speaker, Science at the Pub, “Is Osteoarthritis a Disease of Childhood?” 2012
Speaker, SDSU Annual Nutrition & Health Conference, “Implications of Vitamin D Deficiency in Pregnancy”, 2013
Panel of Panelists, Colleges of Education & Human Sciences, Arts & Sciences, Agriculture & Biological Sciences, SDSU, 2013
Speaker, 1st Annual Sanford Research Summit, “Pediatric Origins of Osteoarthritis”, 2013
Guest, On-Call television show, South Dakota Public Broadcasting, “Keeping Your Baby Safe”
Speaker, Creativity Seminar Series, “Creativity in Sciences,” Brookings Humanities Council
National and International Visibility

Peer-reviewed scientific articles provide national and international visibility for SDSU. This is also important not only for faculty, but for staff and students as well.

Publications:

2007-2011


Binkley TL, Berry R, Specker BL. Methods for measurement of pediatric bone. Reviews in Endocrine Metabolic Disorders, 2008


Binkley TL, Specker B. Muscle area, muscle mass and muscle power in a pre-pubertal and an elderly population. Journal of Musculoskeletal Neuronal Interactions 8:33-34, 2008 (abstract only).


**2012-present**


Binkley TL, Thiex NW, Specker B. Validation of drinking water disinfection by-product exposure assessment for rural areas in the National Children’s Study. Journal of Exposure Science and Environmental Epidemiology, 2014. DOI:10.1038/jes.2014.51


Tianna Beare presenting at Experimental Biology, San Diego, 2008
Formal Presentations (only the presenter’s name is given)

2007-2011

Specker: Gene-by-Activity Interactions on Bone Geometry.
Presented at the Black Forest Forum for Musculoskeletal Interactions, Bad Liebenzell, Germany, 2007.

Binkley: Role of Muscle Function vs. Size on Bone Geometry.
Presented at the 1st Black Forest Forum for Musculoskeletal Interactions, Bad Liebenzell, Germany, 2007.


Specker: Invited Plenary Speaker, “Activity and Calcium Requirements for Optimal Bone Development” at 6th International Workshop for Musculoskeletal and Neuronal Interactions, Cologne, Germany, May 2008

Wey H. Heritability of grip strength and total body lean mass in a Hutterite population. Presented at the 6th International Workshop for Musculoskeletal and Neuronal Interactions, Cologne, Germany, 2008 (received the Harold Frost Poster Award for the best poster presentation).

Wey H. Role of lean and fat mass on bone accrual in Hutterite children aged 8-19 years. Presented at the Annual Pediatric Academic Societies meeting, Baltimore, May, 2009.


Specker B. Issues of Vitamin D in At-Risk Populations: Skin Pigmentation and Body Composition, Indo-US International Life Sciences Institute (ILSI) Conference on Recent Scientific Developments in Vitamin D and Health, Hyderabad, India, November, 2009

Specker B. Vitamin D during Pregnancy and Lactation, Indo-US International Life Sciences Institute (ILSI) Conference on Recent Scientific Developments in Vitamin D and Health, Hyderabad, India, November, 2009

2010-present


Sudhagoni. Combining longitudinal studies on bone mineral content of infants. Presented at the Joint Statistical Meetings, Miami, August 2011

McCormack. Effect of level of farm mechanization early in life on bone later in life. Presented at the Black Forest Forum for Musculoskeletal Interactions, Bad Liebenzell, Germany, May, 2011
Specker. Growth and pQCT Bone Measures in Children and Grandchildren of Individuals with Hip or Knee Replacement. Presented at the Black Forest Forum for Musculoskeletal Interactions, Bad Liebenzell, Germany, May, 2011


Invited Speaker, European Society for Pediatric Endocrinology (ESPE), “Implications of Vitamin D Deficiency in Pregnancy”, Leipzig, Germany, 2012


Weidauer. Bone Changes in Athletes throughout a Competitive Season. Presented at the American Society for Bone and Mineral Research, Minneapolis, October, 2012 (winner of the President’s Young Investigator Poster Award)


Honors & Awards

Bonny Specker:

• Member, National Institutes of Health Integrative Nutrition and Metabolic Processes (INMP) Study Section, 2004-2008
• Member, Scientific Program Review Expert Panel, USDA Grand Forks Human Nutrition Research Center, June, 2007
• F.O. Butler Foundation Award Winner For Excellence in Research, 2007
• Member, Scientific Review of the Medical Research Council (MRC) Human Nutrition Unit, Cambridge, England (March) 2009
• Member, Planning Committee for Meeting on Integrity in Research Focused on Childhood Obesity”, Office on Research Integrity, Dept Health & Human Services (DHHS), 2009
• Honorary Marshall, SDSU Spring Commencement, 2010
• Data Safety Monitoring Board member & Chair for National Institutes of Health /NIAMS sponsored grants, 2011
• National Institutes of Health NIAMS Peer Review - SCOR - Editorial Board Review, 2011
• Chair, Symposium on “Muscle and Bone Function in Health and Disease”, Black Forest Forum, International Society for Musculoskeletal and Neuronal Interactions, 2011
• Nominated for 2012-2013 Excellence in Graduate Student Mentoring Award, SDSU, 2013
• Section Lead, European Society for Pediatric Endocrinology Working Group to develop worldwide consensus on prevention and therapy of nutritional rickets and osteomalacia (lead for lactation & pregnancy), 2013-2014
• Task Force Member, Densitometry in Infants and Young Children, International Society for Clinical Densitometry (ISCD) 2013 Guidelines
Teresa Binkley:
- American Society of Nutrition Award to Attend National Institutes of Health Conference on Vitamin D in the 21st Century, Bethesda, 2007
- Travel Award from Novartis Pharmaceuticals, Switzerland to attend the International Society for Neuromusculoskeletal Interactions meeting in Cologne, 2008

Howard Wey:
- Winner of the Harold Frost Poster Award for the best poster presentation at the International Society for Neuromusculoskeletal Interactions in Cologne, 2008

Lee Weidauer:
- Winner of the ASBMR President’s Young Investigator Poster Award, 2012