The Foundation for Aging Studies and Exercise Science Research

2012 Annual Report
2012 Foundation Board of Directors

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From TFASESR’s President

I would first like to thank the Foundation’s Board of Directors for their thoughtful advice, consistent support, and willingness to devote time, finances, and energy to forward the mission of TFASESR. Their dedication is instrumental in the continued success of the Foundation. In 2012 we welcomed Dr. Gail McEachron to the Foundation’s Board of Directors. Dr. McEachron’s expertise in early childhood education as well as her research in aging studies uniquely provides the Foundation with another excellent resource.

I am pleased to report that the Foundation has accomplished much in 2012 and is poised to do much more in the near future. The Foundation was initially funded by a generous gift from the Borgenicht Family Trust in 2006. Since then, the Foundation has provided more than $200,000 to individuals conducting mission-supported research and to universities in support of undergraduate research in exercise science and the health sciences. This includes the annual competitive call for research proposals as well as our continuing support of in-house research conducted at the Jack Borgenicht Altitude Physiology Research Facility on the campus of *The College of William & Mary*. Our work has been acknowledged in peer-reviewed scientific journals and at international conferences by Foundation supported scientists.

The Foundation has once again been particularly successful in supporting student research conducted under the supervision and guidance of outstanding faculty members at major universities. In 2012, based on selections by a sub-committee of the American College of Sports Medicine Environmental and Occupational Physiology Interest Group, the Foundation presented the annual Jack Borgenicht Student Research Awards to the following individuals: Wesley Lefferts, Skidmore College for his undergraduate research titled “Cardiovascular and metabolic responses during maximal incremental exercise in Firefighter’s Personal Protective Equipment”; the Ph.D. award went to Rebecca Bruning of Penn State University for her work titled “Platelet inhibition attenuates skin blood flow during exercise in the heat without impairing thermoregulation.” The Foundation congratulates both of these young scientists on their selection and looks forward to their continued excellent work in environmental physiology.
The mission of The Foundation for Aging Studies and Exercise Science Research is to provide resources in support of research in the areas of aging studies, exercise science, nutrition, and environmental physiology. Teaching and research projects, laboratory development, library development, and a plan to act as a clearinghouse for information dissemination will enable the Foundation to achieve its goals.

A special feature of the Foundation is its interdisciplinary focus. Interaction between researchers and students from various disciplines bring theory, methodology, and experience to bear on the analysis of aging and exercise to provide knowledge and accessible programs that will enrich the lives of citizens of all ages. Through collaboration with scientists and researchers in these fields, the Foundation strives to develop a research model to enable people of all ages to enhance self-awareness of their capabilities; improve and maintain health throughout their lives through exercise, nutrition, and lifestyle practices that increase mental and physical capacities; and, create opportunities for achieving optimum levels of life satisfaction.

The Foundation and its Board of Directors are committed to fulfilling the mission of the Foundation for Aging Studies and Exercise Science Research. A major way to accomplish the goals of the Foundation is to raise funds to support its mission. With your help, we will significantly increase our present endowment which will enable us to provide funding for many deserving researchers. As you read through this annual report, please consider supporting our efforts with a tax-deductible financial contribution to TFASESR. There are many ways you can help. Please go to our website (www.tfasesr.com) to see how you may best help us achieve our objectives.

Thank you for your generosity and please contact me at info@tfasesr.com if you have any additional questions.

By providing crucial funds to promising as well as established researchers, the Foundation works to fulfill its mission. Your gift to TFASESR will help strengthen programs today that have a lasting impact on the future.

All the best,

Kenneth W. Kambis, Ph.D.
President and Program Director
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The Foundation for Aging Studies and Exercise Science Research (TFASESR)

Funded by a very generous gift, TFASESR began its work in 2007 to support numerous activities and research programs that enhance the quality of life for older adults. One primary focus of the Foundation mission is to provide funding to assist in the education of young scientists in aging studies, exercise science, and environmental science by supporting their mentor’s research.

It was the desire of Jack Borgenicht (1911-2005), who helped create TFASESR before his death, to further the mission of the Foundation through support from his family foundation. Jack’s legacy is widespread. As a successful businessman, entrepreneur, collector of fine art, mountaineer, and philanthropist, Jack Borgenicht touched the lives of many people.

In addition to his many attributes, Jack was also a volunteer research subject in a number of studies designed to investigate the effect of high altitude hypoxia on older adults. He climbed to the top of Mount Rainier at the age of 81 to become the oldest person to summit the mountain - a record which stood for over 12 years. At the age of 87, Jack ascended to 13,500 ft. on Mount Elbert, CO as part of an experiment studying the effect of daily increments of 2,500 ft. altitude on pulmonary function in older adults. In 2007, The Jack Borgenicht Altitude Physiology Research Facility in the College of William & Mary Department of Kinesiology & Health Sciences was named in his honor. The JBARF, as it is fondly called, studies the affect of normobaric hypoxia on acute mountain sickness (hence the nausea attribute), cognition, persistence of acclimatization, appetite, mood, and many physiological and health factors.

In 2011, with the Foundation’s support, JBARF embarked on a long-term study of individual variability regarding end-tidal CO$_2$, heart rate, rating of perceived exertion and, oxygen saturation at sea-level and at a normobaric hypoxic simulated physiologic altitude of 3,500 meters with special attention paid to gender and ethnic differences. This project is being conducted in collaboration with Dr. Stephen Muza, U.S. Army Research Institute of Environmental Medicine, Natick, MA.

The Foundation is particularly pleased to support the “Swastha (“Health” in Nepali) Nepal” project. In January, 2012, Reves Center Faculty Fellow, Dr. Kevin Vose traveled to Nepal with five William & Mary undergraduate students affiliated with the W&M Nepal Service Group – Swastha Nepal in conjunction with Scheer Memorial Hospital, Banepa, Nepal to conduct a five-day Free Community Health Camp in Bhumlutar and Naldum, rural communities to the east of Kathmandu. During their five-day medical camp over 1,750 patients were seen. Data collected from 1,318 diagnostic prescriptions, revealed a broad distribution of health issues (See pages 9-10).
Foundation Financial Performance Fund and Balances

Merrill Lynch, Boca Raton, FL

Fund Allocation

- Equities 47%
- Fixed Income 48%
- Cash 5%
Foundation Gifts and Pledges

The Summit Club ($1,000,000+)
The Borgenicht Foundation

Camp IV ($50,000+)

Camp III ($25,000 - $49,950)

Camp II ($5,000 – $24,950)
Ron and Alice Cohen

Camp I ($1,000 - $4,950)
Marilyn Brown and Doug Morton
Kenneth W. Kambis

Base Camp ($500 – $999)
Dr. James A. & Ann Bill

The Sherpa Club (up to $499)
Lisa and Christopher Engel

For more information about TFASESR, or to make a gift, please go to www.tfasesr.com or call 757-990-9605.
Publications of Research Supported by TFASESR

Ken Kambis and Michio Yasukawa. 13-16d NIHE may improve SaO2 in older adults during hypobaric hypoxia on Mount Kilimanjaro.” Accepted for presentation at the American College of Sports Medicine annual conference, Indianapolis, June 2013


Current Research Supported by TFASESR

Michael R. Deschenes, Ph.D.
The College of William & Mary
Specificity of sarcopenia according to muscle function and fiber type composition.

Kenneth W. Kambis, Ph.D., and Stephen R. Muza, Ph.D.
The Jack Borgenicht Altitude Physiology Research Facility
Individual variability during rest and exercise at sea level and normobaric hypoxia simulating a physiologic altitude of 3,500 m.

Angela Ridgel, Ph.D., John Gunstad, Ph.D., and Ellen Glickman, Ph.D.
Kent State University
Benefits of aerobic exercise on cognitive function in older adults and individuals with Parkinson’s disease

K. Kambis and T. Moran
The College of William and Mary
Acclimatization to 16d of normobaric intermittent hypoxia exposure in a 71-year-old male

Willam & Mary Normobaric Hypoxia Chamber
Preliminary data from the Swastha Nepal 2012 project

Proportion of Patients with Communicable Disease by Age Group

Proportion of Patients with Noncommunicable Disease by Age Group