A Few Words from the Chair — Roger Enoka

What can I do with a degree in Integrative Physiology? Faculty and staff are often asked this question by both our majors and students who are curious about our major. And, of course, parents are also interested in our response. In general, our curriculum prepares students for one of two career paths: a health-related profession or a career that requires the skills acquired from a rigorous science education. As is evident from the description in our People Updates in the current and former editions of the newsletter (http://www.colorado.edu/intphys/alumni), many of our alumni, both our BA and MS graduates, enter professional programs to obtain accreditation in a health-related field, such as medicine, physical therapy, physician assistant, nursing, dentistry, public health, exercise specialist, orthotics and prosthetics, pharmacy, occupational therapy, cardiac rehabilitation, paramedic, osteopathy, podiatry, and veterinary medicine. The faculty occasionally receive e-mail messages from these former students describing how helpful our major was in preparing them for professional training, such as the following:

Alexandra Phillips (BA, 2011) wrote to Dr. Fleshner: “I want to extend a huge ‘thank you’ to you and ALL the IPHY Faculty. Currently, I live in Washington, DC and am completing the dual masters in public health and the physician assistant program at George Washington University. My program is extremely demanding, however my background in IPHY is playing a crucial role in my success. Not only did IPHY teach me how to study (and to take challenging exams), but it also provided an amazing foundation for my current program and a career in clinical medicine. I cannot tell you how many times I think to myself how lucky I was to have completed a degree in IPHY. I often talk about how much I loved the program and how beneficial it was for me. The quality of the education I received was so high and the caliber of the faculty so strong. Without even knowing it, I entered graduate school prepared for success and for that I am honored to call myself an IPHY alum.”

Dicle Gunaydin (BA, 2010) wrote to Dr. Enoka: “I was enrolled in your neurophysiology course in the spring of 2010. Though it has been a while since we spoke, I want to thank you for the impact you made in my life since graduation. I was able to learn so much from your holistic approach to teaching science. You had me glued to my seat on the first day of class when you showed a TED talk of Jill Bolte Taylor telling her story of having a stroke. My journey throughout the world of physiology and research began on that day. After graduating from CU, I started working at the National Multiple Sclerosis Society…I developed a curiosity of MS during my neurophysiology project in your class. The project allowed me to see how research is applied in real life and I seized the first opportunity to get involved…I am grateful to you for helping me to establish confidence in my abilities and helping me develop my passion for physiology and research.”

In addition to careers in health care, our students have obtained positions in industry and in the health and wellness field. The opportunities in industry include positions in ergonomics, medical equipment sales, pharmaceutical sales, health equipment sales, academia, law, lab technician, teaching, biomedical research, public health, and epidemiology. In fitness and wellness, our alumni work as exercise physiologists, biomechanists, yoga instructors, exercise program administrators, fitness consultants, health fitness managers, health journalists, health spa directors, wellness center administrators, massage therapists, and personal trainers.
The most common career direction for our students who graduate with a PhD has been to obtain a postdoctoral fellowship at prestigious laboratories and institutions throughout the country, but some have obtained positions as research scientists and university instructors. For example, the current positions of our PhD graduates from the last five years is as follows:

<table>
<thead>
<tr>
<th>Year</th>
<th>Alumnus</th>
<th>Current Position</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>Arellano, Christopher</td>
<td>Postdoctoral fellow</td>
</tr>
<tr>
<td></td>
<td>Gano, Lindsey</td>
<td>Postdoctoral fellow</td>
</tr>
<tr>
<td></td>
<td>Holmes, Matthew</td>
<td>Postdoctoral fellow</td>
</tr>
<tr>
<td></td>
<td>Strong, Paul</td>
<td>Medical communications</td>
</tr>
<tr>
<td>2011</td>
<td>Burke, Tina</td>
<td>University instructor</td>
</tr>
<tr>
<td></td>
<td>Jablonski, Kristen</td>
<td>Postdoctoral fellow</td>
</tr>
<tr>
<td></td>
<td>Weil, Brian</td>
<td>Postdoctoral fellow</td>
</tr>
<tr>
<td>2010</td>
<td>Edwards, Andy</td>
<td>Postdoctoral fellow</td>
</tr>
<tr>
<td></td>
<td>Kushner, Erich</td>
<td>Postdoctoral fellow</td>
</tr>
<tr>
<td></td>
<td>MacEneaney, Owen</td>
<td>Medical school</td>
</tr>
<tr>
<td></td>
<td>Markwald, Rachel</td>
<td>Postdoctoral fellow</td>
</tr>
<tr>
<td></td>
<td>McClure-Begley, Tristan</td>
<td>Postdoctoral fellow</td>
</tr>
<tr>
<td></td>
<td>Pascoe, Mike</td>
<td>University instructor</td>
</tr>
<tr>
<td></td>
<td>Walker, Ashley</td>
<td>Postdoctoral fellow</td>
</tr>
<tr>
<td>2009</td>
<td>Foley, Teresa</td>
<td>University instructor</td>
</tr>
<tr>
<td></td>
<td>Jesunathadas, Mark</td>
<td>Research scientist</td>
</tr>
<tr>
<td></td>
<td>Jung, Christopher</td>
<td>Postdoctoral fellow</td>
</tr>
<tr>
<td></td>
<td>Marmont, Adam</td>
<td>Postdoctoral fellow</td>
</tr>
<tr>
<td></td>
<td>Westby, Christian</td>
<td>Postdoctoral fellow</td>
</tr>
<tr>
<td></td>
<td>Wilking, Jennifer</td>
<td>Postdoctoral fellow</td>
</tr>
<tr>
<td>2008</td>
<td>Lindstrom, Rachel</td>
<td>Research scientist</td>
</tr>
<tr>
<td></td>
<td>Lopez, Elena</td>
<td>University instructor</td>
</tr>
<tr>
<td></td>
<td>Petersen, Ann</td>
<td>Research scientist</td>
</tr>
<tr>
<td></td>
<td>Riley, Zach</td>
<td>Assistant professor</td>
</tr>
<tr>
<td></td>
<td>Schlaepfer, Isabel</td>
<td>Postdoctoral fellow</td>
</tr>
<tr>
<td>2007</td>
<td>Bartlett, Jamie</td>
<td>Research scientist</td>
</tr>
</tbody>
</table>
In an attempt to inform current IPHY students about career options, Prof. Monique LeBourgeois and colleagues organized our first “IPHY Degree Day”. The event was held from 1-4 pm on September 28, 2012 to coincide with Parents’ Weekend on campus. As you can see from the accompanying photos, we had typical fall weather in Boulder. The event was attended by ~200 students, many of whom were accompanied by parents. We learned that many of the attendees selected IPHY because of their interest in health care, such as becoming a physician, physician assistant, physical therapist, and so on. The event provided attendees the opportunity to talk with Prof. Anne Bekoff and other staff from the Pre-Professional Health Advising office and to meet with students who were active in such groups as the Pre-Health Club, Alpha Epsilon Delta Pre-Health Honor Society, and Timmy Global Health. Attendees also learned about the many research opportunities available with the Biological Sciences Initiative, as well as the resources available through the Special Undergraduate Enrichment Programs, Student Academic Success Center, and Counseling and Academic Success Center. Not surprisingly, the academic advisors, Prof. Dave Sherwood, and Senior Instructor Leif Saul were kept busy at the major’s table, where students and their parents had questions about career choices, steps to getting into graduate school, degree requirements, and teaching/internship opportunities.

Many IPHY students expressed an interest in joining a research laboratory during their undergraduate tenure; however, they were unsure about the opportunities that are available and how to go about finding a lab that is the best fit for their interests. This event provided students and their families with the opportunity to meet the IPHY faculty, postdocs, graduate students, and fellow undergraduates performing cutting-edge physiology research. Fourteen research labs presented posters highlighting their laboratory’s research program and demonstrated methods used to collect data. Individual students were busy answering questions about their individual research projects during the student poster session. In all, the first IPHY Degree Day was a great success!

In an attempt to provide information that is more accessible to our current students, Leif Saul (leif.saul@colorado.edu) has established a Facebook page for the department (http://www.facebook.com/CUBoulderIntegrativePhysiology).
Dr. Alena Grabowski, an assistant research professor in our department, recently received a Career Development Award from the Department of Veterans Affairs Rehabilitation, Research, and Development Service. This five-year award will enable her to characterize the function of ankle joints during walking and running on uphill and downhill slopes in order to develop advanced powered ankle-foot prostheses. Her research and development of powered prostheses specifically aims to give people with a lower-limb amputation the greatest possible functional ability.

With the increasing number of veterans and people with leg amputations, there is a heightened demand for advanced prostheses. Dr. Grabowski previously found that people with a lower-limb amputation were able to regain normal function during level-ground walking when using a powered ankle-foot prosthesis. However, the world is not flat, especially here in Colorado. Thus, a powered ankle-foot prosthesis must be able to accommodate changes in the slope of the terrain to allow persons with a leg amputation to achieve full functional equivalence during walking and running.

The Department of Veterans Affairs recently allocated capital equipment funds to Dr. Grabowski to establish a state-of-the-art gait laboratory to support her research efforts. This new equipment includes an instrumented dual-belt treadmill, an instrumented high-speed treadmill, an eight-camera motion-analysis system, a 16-channel electromyography system, a metabolic analysis system, and 2 powered ankle-foot prostheses. The equipment was recently installed in the Locomotion Laboratory of our department (Prof. Kram is the director of the laboratory) and is being used for a number of projects, including her Career Development Award.

Dr. Grabowski is also involved in a multi-institutional collaborative research effort that is analyzing the biomechanics of elite sprinters with unilateral transtibial amputations using running-specific prostheses to further understand how these devices influence sprint performance. Dr. Grabowski plans to continue examining how running-specific prostheses influence performance across a range of running speeds, during rapid starts (acceleration), around turns, and over varied terrain. Additionally, she intends to examine how prosthesis weight, height, and stiffness influence running and sprinting performance and is currently collaborating with the U.S. Paralympic track and field team to further this effort.

Oscar Pistorius is a sprinter with bilateral leg amputations that recently participated in the 2012 London Olympic Games. Dr. Grabowski conducted research of the physiology and biomechanics of Oscar Pistorius. The conclusions of her research allowed Pistorius to complete in the Olympic Games.
**People Updates**

**Mike Matsuura** (BA 2010) returned to his hometown of Blackfoot, Idaho after graduation and managed to find a job at Bingham Memorial Hospital (quality and infection control). His main duties were to improve patient satisfaction, which included determining how much the patient was helped while in the hospital, the respect afforded the patients, the timeliness in answering patient questions, and assisting with the discharge process. He was also responsible for tracking influenza vaccinations among the staff and updating employee health records. After the one-year internship at Bingham, he was accepted into the graduate program at Midwestern University in Phoenix, AZ where he completed a masters in biomedical science. His coursework included anatomy, biochemistry, histology, infectious diseases, microbiology, pharmacology, and physiology. His group completed a literature review on Alzheimer’s disease for their capstone course and presented a poster on the work to the faculty and students. After graduating from Midwestern, he moved to Boise, Idaho and is currently volunteering at a local hospital and trying to save money while he submits applications to various medical school programs. In his spare time, he visits Boulder as often as possible and spends time with his family in Island Park, Idaho.

**Hannah Frebel** (BA) graduated in May 2012 and then began the task of applying to dental school for fall 2013. To accompany her application for the June submission deadline, she had to immediately begin studying for the dental admission test, which she took in July. Due to her excellent education in IPHY, she did well on the test and achieved a competitive score. She has submitted applications to a number of dental programs, including the excellent program at our Anschutz Medical Campus. While waiting to find out about her applications, she has been working as a medical assistant at the Boulder Valley Center for Dermatology. She is finding the position challenging but rewarding, and her responsibilities include numbing patients before procedures, assisting in surgeries, cutting and removing suture. The medical assistant position is providing a great clinical experience and teaching her about interacting with patients. Hannah was born and raised in Boulder and her hobbies include playing soccer, running, spending time with family and friends, reading mystery books, and watching her favorite TV show Dexter.

**Halley Isberg** (BA 2007) graduated from CU-Boulder with a degree in integrative physiology and then began to work as a clinical research coordinator for the Division of Hepatology at CU Denver. She coordinated pivotal trials that led to the FDA approval of improved treatments for chronic hepatitis C. Halley enjoyed seeing these novel therapies progress through the phases of clinical research and become a part of the standard of care. Patient interaction and exposure to cutting edge research yielding substantial results made Halley’s work exciting and important. Early 2012, Halley accepted a position with the Department of Surgery at the University of Miami Miller School of Medicine in Miami, Florida. She now coordinates clinical studies investigating tumor cell signaling pathways, endovascular stent devices, and autologous stem cell therapies. Her experience in clinical research has led to published authorships and has furthered her appreciation and love for science and medicine. The strong foundation IPHY provided her has enabled Halley to thrive in her field. Although she misses the mountains, she is enjoying the tropical weather, the beaches, and the unique culture that South Florida has to offer.
Nichole Zuccarini (ACCESS Student 2011) utilized the ACCESS program at Boulder’s main campus to prepare for the MCAT and applying to medical school. Nichole originally graduated with a BS in Medical Technology in 1994, and worked at the Detroit Medical Center for two years in the STAT laboratory. Then, she left the hospital setting to work for Covidien (Boulder, CO) in 1996 and had several roles in sales, sales training, and marketing. She earned an MBA in Global Management in 2005 while working full time. Then, she left the health care-device industry altogether in 2010 to make a drastic career change, and follow her life-long dreams of becoming a physician. Because she had not taken university-level science courses for a while, she took several courses in the IPHY department to get back on track. She felt well prepared for the MCAT and medical school. She opted to apply to schools out of the country, mainly in the Caribbean, not only for the experience of living abroad, but also to focus solely on school with little distractions. While waiting for schools to reply, she began volunteering with the LiGA International Flying Doctors of Mercy Surgical Eye Expedition (S.E.E.) team. She filled several roles, including non-sterile surgical circulator, in Tijuana, Mexico. Nichole began medical school in May 2012 and will finish her first year in December at University of Medicine and Health Sciences on St. Kitts. She also enjoys working part time as a teaching assistant for the physical diagnosis course. In this role, she educates first semester students on how to perform physical examinations on patients and obtain diagnoses.

After completing her bachelor’s degree in Integrative Physiology, Sarah Paul (BA 2012) returned to her not-so-pleasant-smelling hometown of Greeley, Colorado and enrolled in prerequisite courses for the Athletic Training Certification Program at the University of Northern Colorado. Her interest in pursuing a career in Sports Medicine was sparked by her invaluable experiences as an intern with the CU Varsity Women’s Soccer Team, discovering that interwoven in the daily duties of water bottle filling, ankle taping and various rehabilitation exercises is the glistening silver lining that makes it all worth it—being an integral part of a team. So, once accepted to the UNC Athletic Training Program, Sarah will spend five semesters at UNC before taking the certification exam. In her free time, Sarah works as part of a biomechanics laboratory team directed under Jeremy Smith, is a member of the Club Ultimate Frisbee Team, works at a local sushi hotspot, and watches too many Disney movies. So after UNC, what’s next you ask? Well, expect to see Sarah chasing her dreams of athletic training overseas, departing with her spunky jack russell, Francois, for a job offer at a moments notice!

Since graduating from CU in integrative physiology and spanish, Hannah Gissel (BA 2012) has been working as an orthopaedic researcher at Denver Health Hospital. This was a lucky opportunity for her, as it perfectly combined her passion for athletics, medicine, and research. As soon as she began this job she realized that the enthusiasm for medicine and science that her IPHY classes and teachers had inspired was an incredibly valuable thing to have in a full-time job. She spent most of the summer training for the Denver marathon, and now she’s looking for a new athletic venture. She was thrilled to be able to stay in Colorado after graduation so that she could continue to work with HOLA Foundation, and enjoy the outdoor playground here while applying to medical schools. One of her most valuable undergraduate experiences was working in Prof. Jerry Stitzel’s Behavioral Genetics Lab where she developed an interest in something that she did not previously know about and potentially would never have explored. She thinks the research opportunities that the IPHY program provides for undergraduate students are particularly unique. She is most grateful for the education she received as a IPHY major, the opportunities that it has lead to, and the advantages it has given her in athletics (she used my exercise physiology notes to create her marathon training and carbo-loading plan!), at her current job, and in pursuing a medical career.
After graduating with a double major in integrative physiology and psychology (BA 2012), 
**Eimear McGuire** admits being overwhelmed with the possibilities that lay ahead and 
the new chapter she was about to begin. After accomplishing so much as an undergraduate at 
CU Boulder, she knew that she did not want to return to school right away. She returned to 
herself in Ireland after graduation and volunteered at the St. Vincent De Paul charity to 
raise money that is used to support social justice for the underprivileged. She also took care of 
her 96-year old grandmother on the remote farm of Athenry. Through this experience she 
once again became grounded in life and was ready to resume her career in the US. She is cur-
rently working as a medial assistant at a pediatric office for an underprivileged community. 
Here love and passion for working with children in the medical field grows every day, and she 
plans on applying to medical school in Colorado. She is excited about the path ahead of her 
and greatly appreciates here experiences at CU Boulder, which have provided a strong founda-
tion for her future.

**Carissa Lewis** (BA 2009) spent the first year after graduating from CU Boulder in Maui teaching 
yoga and core strengthening classes, along with surfing, and enjoying the fresh local produce. After 
leaving island life, she traveled around Peru, and then spent time volunteering with Partners in 
Health at a free clinic in Haiti before moving to her current home in Lake Tahoe, California. The past 
two years in Tahoe she has spent working for a physical therapy facility that has both outpatient clinics and inpatient department. This has allowed her to work with a wide range of therapists, who 
have a variety of specialties. During the winters, she coaches the Squaw Valley’s freestyle ski team. 
She has developed the team’s first comprehensive dry-land training program for competing athletes; 
the program is designed to keep them strong and to educate skiers on injury prevention. During the 
summers (when she is not working or teaching yoga), she is rock climbing, mountain biking, wake 
surfing, camping, and just loving this beautiful place! Over the past two years, her other passion of 
traveling has brought her to Eastern Europe and Brazil to enjoy the unique cultures and landscapes these countries have to offer. Living the dream is nice, but she is ready to take the next step and is 
currently applying to graduate school for a doctorate of physical therapy, so her passion for life can 
be matched to her passion for a career!

**Katherine Medin** (BA 2011) obtained a position as the therapy/clinic aide for Children’s Hospital Colorado Therapy Care, Broomfield soon after graduating from CU Boulder. Katherine works to maintain the overall function of the clinic while assisting therapists with their treatment needs in physical therapy, occupational therapy, speech and audiology. Most of her time is spent working with physical therapists in serial casting as a means to obtain greater range of flexion in idiopathic toe walking. Serial casting is generally a six-
week process during which short leg casts are placed on one or both legs each week to obtain further stretch in the plantar-flexors for a desired heel-toe gait. Outside work, Katherine has used her connection with Children’s Hospital Colorado to observe and volunteer with the sports physical therapy at the North and Parker campuses, assisting the therapists in getting young athletes back to sport. She is applying to further her education in physical therapy with hopes of starting PT school next summer/fall. She also enjoys skiing, hiking, camping, and is planning to compete in her first triathlon next summer.
Although they grew up and completed undergraduate degrees in very different parts of the country, Erich Kushner (PhD 2010) and Jessica Durrant (MS 2008) met during their careers as graduate students in the IPHY program and were married in 2010. Erich completed his doctoral training in Dr. Chris DeSouza’s laboratory and his thesis centered on CD31+ T cell function with aging. After graduation, Erich accepted a postdoctoral fellowship in Dr. Victoria Bautch’s lab at UNC-Chapel Hill where his work examines the cytoskeletal modifications to endothelial cells in the tumor microenvironment. He has received AHA and NRSA funding for these studies. Erich’s greatest scientific joys include “bedazzling” endothelial cells with fluorescent constructs. During her graduate career, Jessica worked in the lab of Dr. Douglas Seals with Dr. Lisa Lesniewski on studies of endothelial function with aging in a mouse model. Her specific projects investigated the mechanisms by which inflammation and oxidative stress, induced by high fat diet and abolished by exercise, modify endothelial function. After completing a masters degree and a year as a research assistant in Dr. Seals’ lab, Jessica began veterinary school at North Carolina State in Raleigh, North Carolina. Through her studies, she fostered an interest in pathology and is now in her clinical (fourth) year and set to graduate in May 2013. After graduation, she will begin a residency in veterinary anatomic pathology. Although Erich and Jessica dearly miss snowy runs on the Mesa Trail, hikes up 14ers, and skiing at Vail, they still enjoy the flatter and forested trails in NC, home-brewing beer, and trips back to Colorado as often as they can manage.

After graduating from CU Boulder, Theresa Horsch (BA 2010) decided to take a year off from school and prepare applications for doctorate programs in physical therapy. She moved to Albuquerque with her older sister and was able to find a job. She enjoyed the experience and was able to meet some great new friends, but she realized that she had a strong desire to continue her education. In spring 2011 she was admitted into the doctorate program at Marymount University in Arlington, Virginia, which is located in the Washington, DC metro area. She is now in her second year of the physical therapy program and is finding the program difficult, but rewarding. When she is not studying, she has discovered that there are many things to do and see on the east coast. She has been able to visit New York, Philadelphia, and the outer banks of North Carolina. However, she misses her family and the beautiful Rocky Mountains. She returns to Colorado at least twice a year to hike, ski, and visit her friends and family.

After four years studying vascular aging under the guidance of Dr. Douglas Seals, Katherine Magerko completed a BA in psychology and a BA/MS in integrative physiology in May of 2010. Hoping to see a more clinical perspective after gaining a solid background in research, she spent the next two years working as a nursing assistant at a private pediatric office in Denver. Deciding to pursue both her research and medical interests, she applied to the MD/PhD program at the University of Illinois, Urbana-Champaign. This fall she began her coursework in the Department of Human and Community Development as one of the few MD/PhD students pursuing a PhD in the social sciences. Katie enjoys continuing her clinical work as a volunteer at a local free clinic and being back in the throws of research. She looks back fondly on her experiences at CU and is extremely thankful for all of the wonderful professors, staff, and students who contribute to making the Department of Integrative Physiology a great environment to learn and grow as a student. She will forever proudly think of herself as a Buff. Go Buffs!
Kudos to Faculty and Students

Nina Donner (PhD 2012) was born and grew up in Munich, Germany, played competitive volleyball in high school, and spent most of her summer and winter vacations in the Bavarian and Austrian Alps hiking or skiing. Her first science fair projects were far from her current research interests, but stayed close to home, namely the backyard pond and the breakfast table: Characterizing the life style of the fresh water snail *Viviparus viviparus*, analyzing the antibiotic properties and microscopic contents of honey, and comparing the microbiology of probiotic and regular yoghurts. She first came to Boulder for a wonderful undergraduate exchange year from 2003-2004, working on independent study projects under Dr. Pei San-Tsai (IGF-1 receptor expression in GnRH neurons) and Dr. William Wood (MCDB; posterior axis development in *C. elegans*). That’s also when she fell in love with the Colorado outdoors, the fantastic skiing, and all of Boulder’s unique craziness, and decided to apply for a doctoral fellowship from the German National Academic Foundation (*Studienstiftung des Deutschen Volkes*) to return to Colorado for graduate education. After finishing a German Dipl-Biol. degree (German equivalent to a Master’s degree at the time) in 2005 with two first-author publications in Dr. Inga Neumann’s laboratory (investigating the anxiolytic and stress-protective effects of intracerebral prolactin), she completed an MS degree under the supervision of Dr. Robert Handa at Colorado State University (researching estrogen receptor beta function within brain serotonergic systems) in 2008, and then joined the laboratory of Prof. Christopher Lowry in 2009. She has enjoyed the exciting and collaborative work environment in the Lowry lab and the opportunity to mentor high-school and undergraduate students. Her current interests are playing the saxophone and hammer dulcimer, traveling to foreign countries, and the many outdoor activities available in Colorado (climbing, road biking, hiking, and running). If her aspirations of a career in research do not materialize, she would probably work for a similarly minimal salary as a journalist for National Geographic.

Prior to completing his doctoral work, Jason R. Franz (PhD 2012) received BS (2004) and MS (2006) degrees in engineering mechanics from Virginia Tech. Jason then served as a biomechanics research engineer in the PM&R department at the University of Virginia where he studied a range of topics including the rehabilitation of people after a stroke and the biomechanical effects of running shoes. Jason joined Prof. Rodger Kram’s Locomotion Lab in the fall of 2009 and conducted experiments to understand the biomechanical factors that underlie the loss of uphill and downhill walking ability in older adults. His dissertation research identified targets for biomechanical interventions to preserve the uphill and downhill walking ability of older adults and thus enhance their independence and quality of life. Jason’s research was funded by a training grant from NIH (awarded to Dr. Robert Schwartz at the Anschutz Medical Center), a Grant-In-Aid from the American Society of Biomechanics, and a Dissertation Completion Fellowship from the University of Colorado Graduate School. In addition to his research activities, Jason continues to be active in academic service and student mentorship. He has served on the student advisory committee and the communications committee of the American Society of Biomechanics (ASB), and recently organized a national symposium on aging biomechanics at the ASB annual meeting. Jason has also mentored several extremely talented undergraduate students as part of the Undergraduate Research Opportunities Program (UROP) and the Bioscience Undergraduate Research Skills and Training (BURST) program. Jason plans to pursue postdoctoral training in musculoskeletal simulation and advanced tissue imaging at the University of Wisconsin-Madison. In his free time, Jason enjoys spending time with his wife, Jenni, and their daughter, Avery. He looks forward to seeing Avery on her first pair of skis, although that event is still a few years away.
Kristin Speaker (BA 1997, MS 2008, PhD 2012) is a ‘near-native’ of Colorado who completed a BA in the Department of Kinesiology in 1997. After working in the sport-supplement industry and the real-estate market for a decade, she decided to pursue her dream of completing a PhD and enrolled in our graduate program in 2007. Kristin began her graduate work in the laboratory of Dr. David Allen and completed a masters degree investigating the regulation of muscle growth. After the MS degree, she joined the stress physiology lab of Dr. Monika Fleshner and successfully defended her dissertation in November 2012. Her dissertation investigated the effects of habitual exercise and fasting on stress-evoked expression of inflammatory proteins in white adipose tissue. As a graduate student at CU Boulder, Kristin served as the lead teaching assistant for the exercise physiology course for four years, successfully mentored two MS students, and received the Psychoneuroimmunology Research Society trainee scholar award for her work in 2009 and 2011. Outside the laboratory, Kristin maintained an unrivaled passion for health and fitness, snowboarding, weight training, running, dancing, and everything Coloradan. She currently works as a fitness spokesperson for MusclePharm, a health promotions specialist for Health Promotion Management, Inc., and a consultant on the research and development team for Amrion Nutraceuticals. Her future plans are to work full-time as a consultant, scientific writer, and product developer in the nutraceutical, sports, and health-supplement industry.

Tom LaRocca (MS 2009, PhD 2012) grew up in beautiful rural New Jersey. His parents were both microbiologists, and although he seriously considered a career as a musician, he eventually gravitated back to science. Tom received a BA in biology from Williams College in 2000 and spent the next several years teaching high school chemistry in Watertown, Massachusetts. After leaving teaching, he worked briefly as a research assistant in biochemistry, and his interest in the biology of how things work prompted him to pursue a degree in integrative physiology. Tom joined the Seals lab in 2007, where he worked on clinical studies of arterial function, aging, and exercise training with Dr. Gary Pierce. After completing an MS in 2009, he stayed in Dr. Seals’ lab to work on his PhD, and he shifted his focus to include clinical and preclinical (mouse and cell culture) studies so that he could concentrate on biochemical and molecular mechanisms of arterial aging. Tom’s doctoral work showed that one important cause of impaired arterial function in older mice and humans is a reduction in autophagy, the cellular process of recycling damaged proteins and organelles. He also determined that certain dietary compounds have the ability to boost autophagy and improve arterial function with age. These results are particularly interesting to Tom, because food and cooking are one of his major hobbies. Outside the lab, Tom also enjoys skiing and running in the beautiful Colorado mountains, and he still entertains the idea of a side job playing music. Tom plans to pursue postdoctoral research on the molecular physiology of cardiovascular disease.
December 2012 Bachelor of Arts

Candice Alai
Amanda Allen
Anna Anuszkiwicz
Courtney Archuleta
Daniel Bianchi
Stacy Buch
David Caha
Justin Chance
Hannah Clark
Casey Craddock
Matthew Czarnecki
Molly DiCroce
Thuc-Doan Doan
Lauren Doner
Stephanie Fareri
Jordan Fisher
Courtney Fleming
Jessica Fry
Gordon Graham
Nicholas Glielmi
Elise Griffin
Alexandra Griffin
Londee Haines
Brianna Healy
Walker Hinson
Nicholas Hopper
Sarah Housman
Kevin Howard
Matthew Hudson
Kevin Huynh
Aubrae Isenhart
Aubrey Jackson
Philip Jensen
Jamie Johnson
Bradley Jordan
Joshua Katz
Martina Kleinova
Erica Knowles
Monika Kumor
John Loef
Ashley Lujan
Justin Major
Eric Mannarino
Kelsey Manning
Gabrielle Markowsky
Anne Martin
Samuel Mast
Reed McGraw
Meredith McGuire
Bahaureh Mohseni
James Muller
Jennifer Murray
Sashaline Nguyen
Samantha Okumura
Katrielle Parnes
Mikayla Passanante
Ryan Patton
Jenny Pfeffer
Walker Plant
Emily Plasker
Stacey Ramon
Nathan Riechers
Megan Rieder
Amy Roberts
Lindsay Ross
Chelsea Rude
James Savant
Ryan Scott
Erich Seufert
Olga Shershneva
Jennie Sims
Kelsey Smith
Linda Smith
Bree Smouse
Kirsten Swanson
Sarah Trujillo
Christopher Turner
Oleg Uralov
Eric Van Meter
Erica Wheeler
Cameron Yeaman
Aivet Yohannes

December 2012 PhD and MS

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