Greetings from the Department Chair

There are many wonderful and exciting things happening in Kinesiology—from undergraduate research to faculty collaborations! The 2018-2019 academic year has been busy. Highlights include:

- The Athletic Training program is in the midst of developing their professional Master's degree program.
- The Exercise Science program opened up a new Strength & Conditioning lab space and started enrolling students in four new strength & conditioning courses (see inside for photos and information!).
- The Sport Management program continued its tradition of speed networking, faculty also coordinated a study abroad to London, and students in the Sport Event Management course ran a successful 5k race this spring!
- The Physical Education/Teacher Education program successfully hired two new faculty members to begin this fall.

Please stay in touch with Towson Kinesiology by visiting us on the web at: https://www.towson.edu/chp/departments/kinesiology/ and follow us on twitter: @tu_kinesiology! If you are interested in working with our department or any of the programs, please don’t hesitate to reach out—we would love to hear from you and find ways for you to continue to be involved with TU Kinesiology!

Dr. Jaime DeLuca

Congratulations & Farewell

Starting July 1st, Dr. Tab Uhrich will take on the new title of Associate Dean in the College of Health Professions. We will miss her and wish her luck in her new position!

Special thanks to graduating Senior, Jenna King (Sport Management) for developing this year’s issue of the Kinesiology Newsletter!
NEW HIREs & PROMOTIONS
Dr. Sam Clevenger

- **Education**
  - B.A., History, University of Delaware, 2008
  - M.A., History, University of Wyoming, 2012
  - Ph.D., Physical Cultural Studies, University of Maryland, 2018
- **Areas of Expertise**
  - History of Sport and Physical Culture
  - Gender, Race & Sport
- **Courses Taught**
  - The American Women in Sport
  - Seminar & Field Experience in Sport Management
  - Sport & Society

Dr. Rian Landers-Ramos

- **Education**
  - B.A., Biology, Lafayette College, 2003
  - M.A., Sport and Exercise Psychology, San Diego State University, 2006
  - Ph.D., Exercise Physiology, University of Maryland, 2015
- **Areas of Expertise**
  - Cardiovascular health
  - Metabolism
- **Courses Taught**
  - Physiology of Exercise
  - Advanced Writing for Research in Exercise Science

Dr. Gashaw Abeza

- **Education**
  - HND, Sport & Leisure Management, Leeds Beckett University, 2006
  - M.A., Sport & Recreation Studies, University of New Brunswick, 2012
  - Ph.D., Human Kinetics/Sport Management, University of Ottawa, 2016
- **Areas of Expertise**
  - Sponsorship & Ambush Marketing
  - Branding
- **Courses Taught**
  - Introduction to Sports Industry
  - Sports Sales and Sponsorship
Dr. Ari Kim
- Education
  - B.B.A., Business Administration, Yonsei University, 2005
  - M.S., Business Administration, Yonsei University, 2007
  - Ph.D., Sport Management, University of Florida, 2017
- Areas of Expertise
  - Sport Consumer Behavior
  - Sport Event Sponsorship
- Courses Taught
  - Sport Marketing
  - Legal and Ethical Issues in Sport

Professor Dillon Landi
- Education
  - B.S., Health and Physical Education, Campbell University, 2010
  - M.A., Physical Education, Columbia University, 2012
  - Ed.M., Curriculum and Teaching, Columbia University, 2015
- Areas of Expertise
  - Health and Physical Education
  - Sport Sociology
- Courses Taught
  - Teaching Physical Education in Elementary School
  - Independent Study
  - Seminar in Teaching Physical Education
  - Elementary Internship

Professor Katie Dondero
- Education
  - B.S., Exercise/Sport Science, Elon University, 2008
  - M.S., Clinical Exercise Physiology, University North Carolina, 2010
- Areas of Expertise
  - Cardiopulmonary rehabilitation
  - Physiology and Exercise Prescription
- Courses Taught
  - Fundamentals in Health and Physical Fitness Assessment
  - Foundations of Exercise Science
  - Nutrition for Exercise and Sport
Dr. Lisa Custer
- **Education**
  - B.S., Exercise Science, University of Wisconsin-Madison, 2003
  - M.S., Sport Administration, Valparaiso University, 2005
  - Ph.D., Sports Medicine, University of Virginia, 2012
- **Areas of Expertise**
  - Athletic Training
  - Injury Assessment
- **Courses Taught**
  - Psychology of Sport Injury
  - Advanced Clinical Athletic Training I
- **Awarded Tenure**

Dr. Pete Lisman
- **Education**
  - B.S., Athletic Training, King’s College, 2001
  - M.S., Athletic Training, California University of Pennsylvania, 2002
  - Ph.D., Exercise Physiology, University of Miami, 2009
- **Areas of Expertise**
  - Athletic Training
  - Functional Movement Assessments
- **Courses Taught**
  - Functional Anatomy for Exercise Science
  - Biomechanics
  - Advanced Writing for Research in Exercise Science
- **Promoted to Associate Professor with tenure**

Professor Andrea Barton
- **Education**
  - B.S., Fitness and Cardiac Rehabilitation and Exercise Science, Ithaca College, 1998
  - M.S., Clinical Exercise Physiology, East Stroudsburg University, 2000
- **Areas of Expertise**
  - Physical Fitness Assessment
  - Exercise Prescription
- **Courses Taught**
  - Clinical Exercise Assessment and Prescription
  - Field Experience in Exercise Science
- **Promoted to Clinical Associate Professor**
WELCOME BACK, DANIEL PELL!

Daniel Pell is our new Facilities and Equipment Specialist at Towson University, where he coordinates supplies and inventories for the Kinesiology program, as well as maintaining the facilities and equipment of each department within Kinesiology. Daniel has six years of US Army experience as a Unit Supply Specialist with 101st Airborne Division, where he has earned multiple awards for his supply discipline. Daniel continues to work for the Community College of Baltimore County (CCBC) Dundalk Athletics and Wellness.

Daniel has his Masters in Sport Management from Drexel University, Bachelors from Towson University in Sport Management and Minor in Business Administration and lastly Associates of Arts in General Studies from CCBC. Daniel joined the military because of 9/11 and the sacrifice that Pat Tillman made, which led to the completion of Quartermaster school to become trained as a 92Y Unit Supply Specialist. Daniel has volunteered at the 2018 MLB All-Star Fan Fest in D.C. and for TeamATL in 2019 NFL Super Bowl in Atlanta.

Currently, he is working with CCBC Veterans Services to develop a wellness and sports initiative to help raise money, awareness and create change through the use of sporting events. Daniel likes to use photography to capture moments in life or sports. Daniel is passionate about using sports to make a difference in the local community and for those in need. He truly believes that a sports platform can help create change and awareness. His goals of helping Veterans through the use of sports is his greatest passion. He is excited about coming back to TU to help the students, staff, faculty and the community as they continue to develop.

“Being able to be back to work with my professors from 2014-2015, is exciting because I know how impactful they were on my career, education and goals. Being able to always reach out to the Kinesiology department and to have anything answered or get advice. I am excited to continue to grow and develop as a person and employee while learning from all those around me. Being able to use my experience and passion to help the department continue to grow.” – Daniel Pell

Daniel at the Army vs. Navy Game in Philadelphia
Proud of our 20 students who chose to spend their spring break studying Global Sport Leadership in London under the supervision of Dr. Jacob Bustad and Dr. Jessica Minkove.

"It is one thing to discuss global perspectives, but another to experience it firsthand!"
ALUMNI SPOTLIGHTS

KRISTA KLAUSMEIER & KEITH JEFFERIES – PHYSICAL EDUCATION

SCOTT WALTEMYER & ANDY FREED – SPORT MANAGEMENT

DALTON NICHOLS – EXERCISE SCIENCE

KRISTEN HERBST – ATHLETIC TRAINING*

*courtesy of Brittany Kirk, Athletic Training student
What is your current position and how long have you been in this role?

**KK:** Physical Education and Health Content Leader. 13 years as Physical Education Teacher, 2 years in my current role as content leader.

**KJ:** Currently, I am a physical education teacher for grades 6-8 and the Athletics Advisor for Parkville Middle School. I have been at Parkville Middle for 9 years.

What steps did you take to get this role?

**KK:** Graduated from Towson and started at Parkville Middle School right after graduation. I worked on my Masters and then look Department Chair Training through Baltimore County Public schools. I wanted to be a leader within my school. I became the schools union rep and was Chair of our Schools Faculty Council. This then led me to being a part of the leadership team which eventually I became content leader.

**KJ:** Getting a job in Baltimore County Public Schools (BCPS) takes a lot of networking, resume building, and a little bit of good fortune. Towson University prepared me well for a teaching position in the county. Working with supervisors in BCPS, working in various BCPS schools, building relationships with other teachers and principals certainly helped in getting into my position.

What experiences have been the most influential/impactful in regard to your career?

**KK:** The most influential experience was working with my mentor Jim Phiefer. He helped me early on how to build relationships and trust with students and co-workers. Daily, I use his lessons he gave me to work with my students.

**KJ:** One of the most impactful experience I have had in my career is working with a mentor homeroom. Starting in the 7th grade, I begin working with 12 boys who have been chosen to be a part of a mentor homeroom by me. I work with them through the end of their 8th grade year. These students usually have a combination of attendance, academic, and behavioral issues. My goal with these boys is to teach them about integrity and the value of their education. I want them to see that the value of hard work and visualize their success through that lens of hard work. I think we all learn a lot from each other. It is great to build a special relationship with them throughout the 2 years.

What was your favorite class while you were a student at Towson?

**KK:** My favorite classes were classes with Dr. Uhrich and Dr. Crowe. Both guided me throughout my time in Towson to become a better person and teacher.

**KJ:** This is the easiest question: any class with Jim Harrison. Jim was as down to earth as they come. He taught from many years of practical experience in the schoolhouse. Jim’s love for teaching and getting students active was infectious. Jim passed away a few years ago, but his legacy for those who had him as a teacher will always carry on in our teaching. Rest easy, Jim!

Do you have any advice for current students in the PETE program?

**KK:** Build relationships with your students through the love of Physical Education. Love what you do!

**KJ:** Get out there and teach! I cannot speak enough about taking any opportunity to teach that I could. The experience is invaluable. Get a job as a camp counselor in the summers, go coach a sports team, volunteer at a rec program in Baltimore and teach kids. Not only will this help you with classroom management and instruction, but you will meet and network with people that may be offering you a job someday.

With you teaching together at Parkville Middle School, could you also comment on the dynamic of both being Towson Alum?

**KK:** Having our whole department as TU Alum allows us to uphold to high expectations because we were all taught the same core values for teaching PE.

**KJ:** Our PE department at Parkville Middle is the best in the county! We are all truly friends. We hang out together after work, attend our kid’s parties, and share the joys and trials of life with each. It is one big family here in our department. We like to say, “Who’s got it better?” All of us being Towson alumni gives us that common thread and a similar teaching philosophy which has made our so department strong.
What is your current position and how long have you been in this role?

SW: My current position is faculty/professor of Sport Management at Texas A&M University. I have been in this role for 5 years now.

What steps did you take to get this role?

SW: After graduating from Towson, I came to Texas A&M (main campus in College Station) for grad school and to work in the athletic department. I ended up getting both my Master’s and PhD here at Texas A&M, and then took my first academic faculty job teaching Sport Management at Texas A&M University – Commerce, where I was able to start a Sport Management undergraduate program with the support of a former advisor of mine, Dr. Frank Ashley. After spending a few years at Texas A&M-Commerce, I had the honor of returning to Towson University and teaching for a year, before returning to back Texas A&M University. So, I guess to recap, after grad school, I have been faculty/taught at three different universities in total (Texas A&M-Commerce, Towson, and Texas A&M)

What experiences have been the most influential/impactful in regard to your career?

SW: Working in the A&M athletic department as a grad student really opened my eyes to college athletics and the administration of those programs, and ultimately (in a way) steered me towards the academic side of things. The faculty and professors that I have met, both as a grad student and as a faculty member, have been hugely impactful. Seeing the impact that a professor can have on students, not just while the student is in their class, but well beyond, is something that really drew me to wanting to be a professor and work with college students. Another thing that has been very impactful on me, and my perspective of the sport industry, is taking students on study abroad experiences.

What was your favorite class while you were a student at Towson?

SW: My favorite class while I was at Towson was "Bat and Ball Games" with Dr. Zang! It wasn’t too academic, but I learned a lot (still remember playing Massachusetts Town Ball), and it was a lot of fun! And, Dr. Zang was a great teacher!

Do you have any advice for current students in the Sport Management program?

SW: Advice…few things. First, and this can apply both professionally and personally, is find something that you are passionate about and go after it. Second, and you probably hear this a lot from your professors, but if you want to work in the sport industry, get as much experience as you can before you even get to your senior year, internship, graduation. Even if you don’t get credit, volunteer, get out there…and don’t wait for others to give you those opportunities. I had a student here recently, whom all on his own basically persuaded a major college athletic conference to create a position for him, because of the persistence and passion he showed them. Finally, if you have the opportunity, go on a study abroad trip. Doesn’t have to been an entire semester, even if it is just a two-week trip over winter or summer break. I never went on any abroad trips as a student but have had the opportunity to go on a few as a faculty member, and for both myself and the students, these are life-changing experiences!
Andy Freed

What is your current position and how long have you been in this role?

AF: This is my 15th season as play-by-play broadcaster for the Tampa Bay Rays - mostly on the radio, but sometimes on TV. It is a dream job, and I never could have expected just how perfect a fit this job has become. I truly like and respect the people I work for and with. The Rays have been nothing short of wonderful to me and my family since we moved to Florida in 2005. The saying goes “if you can find a job you love, you'll never work a day in your life,” and that has been the case. I am a very lucky guy and I only hope it goes on forever.

What steps did you take to get this role?

AF: After graduating from Towson in January 1994, I began an 11-year trek through the Minor Leagues. Looking back, it was like getting a post-graduate degree in broadcasting baseball. Spending 2 years with St. Lucie Mets (New York Mets A-ball affiliate), 5 years with the Trenton Thunder (Boston Red Sox AA-ball affiliate), and 4 years with the Pawtucket Red Sox (Boston Red Sox AAA-ball affiliate) fully prepared me for broadcasting the Major Leagues.

What experiences have been the most influential/impactful in regard to your career?

AF: Professionally, spending all of that time in the Minors allowed me to learn about both the broadcasting and baseball businesses. And make no mistake, they both are businesses that need to make money to survive, and my jobs have always been a blending of both fields. I was able to learn about the importance of all the aspects of both of them. Becoming fully immersed in what the different departments of these companies do was truly educational and gave me respect and understanding of what my fellow employees need to do. So, even though my main job has always been to broadcast the games, learning what others do along the way continues to help make my occupational experience more rewarding. Personally, joining the Rays when they were a perennial last place team and seeing the franchise grow within our community, make the playoffs four times, reach the World Series, and blossom into a highly-respected, cutting-edge team has been rewarding in so many ways. Also, forging a strong partnership and friendship with my broadcast colleague, Dave Willis, with whom I’ve shared the broadcast booth for the past 15 seasons, has been one of the best parts of this job. Having someone to share the inevitable good and bad moments with has made the wins more fun and the losses tolerable.

What was your favorite class while you were a student at Towson?

AF: I really enjoyed “Sport and the Media” with Dr. Zang. The curriculum was really good, of course, but also getting the chance to learn his perspectives opened my eyes to a different way of looking at things in this field. I also really enjoyed “Broadcast Performance” with Mr. Jim English. While he could be brutal in his critique of the student’s broadcast work, it was extremely helpful in teaching what an aspiring broadcaster needed to learn to become better. To this day, I think of both of those classes often.

Do you have any advice for current students in the Sport Management program?

AF: I always tell young people to not hold back in finding something you really like to do. You are young enough where you can take risks in your career. Also, please don’t ever let anyone discourage you. There will always be people along the way that will momentarily zap your enthusiasm for whatever your dream might be. Use that as fuel for proving them wrong. Always keep your mind open to learning new things. After being in this field for over 25 years, I still routinely learn things about baseball and broadcasting. Utilize the terrific internship programs Towson has to offer. There are people I’m still friends with, and were important references on my resume, that I originally met as a result of my internships. And lastly, realize that you have something to offer an employer. I am living proof that your wildest dreams can come true. I had no connections at all when I decided to “follow my dream.” But through a lot of dedication, it did happen. It can for you, too.
What is your current position and how long have you been in this role?

DN: Currently, I am working as a Senior Clinical Research Coordinator for Pediatric Endocrinology at Johns Hopkins School of Medicine and have been in this role for over 1 year. Overall, my role is to perform all necessary functions for the Cardiometabolic Health in Adolescents of South Asian Ancestry: The Charisma Study. These duties have included; initial study planning and start-up, Institutional Review Board applications and maintenance, patient recruitment, conducting study visits, performing clinical procedures, monitoring the study budget, measuring anthropometrics, and managing research staff.

What steps did you take to get this role?

DN: I have only been at Johns Hopkins for about a year, but I have been involved in clinical research for nearly 5 years. I worked for two years as an undergraduate research assistant at TU. After TU, I progressed into a larger role as a research staff member during graduate school at Wake Forest University on three clinical trials. To date, I have a Bachelor’s in Exercise Science and a Master’s in Health and Exercise Science.

What experiences have been the most influential/impactful in regard to your career?

DN: The most impactful experience for me was engaging in research outside of the classroom mainly with Dr. Devon Dobrosielski. This is not to say the coursework wasn’t important. Clinical research is especially challenging as it combines science and clinical care. To work in both of these areas, you need hands-on clinical experience as well as a strong scientific background. Several skills that I learned at TU ended up being helpful. Normally considered mundane skills like measuring hip and waist circumference, taking blood pressures, and conducting risk stratifications have proven crucial to my functions as a clinical researcher. I actually still conduct the same hip and waist circumference measurements at Johns Hopkins that I learned as an undergrad at TU. The coursework at TU also directly transferred over into my Master’s program at Wake Forest University to become a certified clinical exercise physiologist (C-EP). Also, I need to give some credit for life lessons, resilience, and work ethic I gained while serving as an Infantryman in the United States Marine Corps.

What was your favorite class while you were a student at Towson?

DN: The most important class I took at Towson was “Research Methods” with Dr. Dobrosielski. I took about 140 undergraduate credits with many coming via the “hard” sciences. Research methods still challenged me in ways a typical course could not. It made me think instead of just memorizing the material. After this class, my mentality switched from getting a grade to critically evaluating and understanding information. I have carried this approach with me since. As for my favorite class, I really enjoyed “Advanced Exercise Physiology” with Dr. Nicolas Knuth. It was a great hands-on learning experience that allowed the students to perform and collect data as you would in the real world.

Do you have any advice for current students in the Exercise Science program?

DN: I will say that you have to make the degree work – as is the case with every degree. A Bachelor’s degree in almost any field will no longer give you a great career in our current landscape. This tends to be a challenging concept for most new graduates. However, do not underestimate the knowledge and skills you have learned from Exercise Science. Practically, this means getting involved in research, shadowing clinicians, getting credentialed, and typically doing some grunt work that most don’t want to do before you graduate. Lastly, don’t be afraid to find your own path.
Dr. Kristen Herbst is a 2002 graduate of the Towson Athletic Training Program. She is currently an orthopedic surgeon at Bassett Healthcare Network and the team physician for Hartwick College and SUNY Oneonta in New York. Although her career path started in athletic training, an opportunity given to her through the program redirected her career path to orthopedic surgery. While working with the Towson lacrosse team, Herbst had a patient who tore his ACL and needed surgery. The team physician at the time allowed her to observe the patient’s surgery, and from that point forward she knew that she wanted to be an orthopedic surgeon.

After graduating with a degree in athletic training, she began working for Towson Sports Medicine. She worked at their physical therapy clinic in the mornings and as the athletic trainer for CCBC Essex in the afternoons. One year later, she became a physician extender under an orthopedic surgeon at the University of Maryland, while continuing as the athletic trainer for CCBC in the afternoons. Eventually, she completed four years of medical school at Touro University in California. Then, she completed five years of orthopedic surgeon residency at the University of Cincinnati - Wellington Orthopaedics, and finally a year of fellowship at the University of Medicine and Dentistry of New Jersey. Her ultimate goal was to specialize in sports medicine so that she could “get back on the sideline”.

Herbst was able to use her experience in athletic training to her benefit as a physician extender. She was able to take a patient’s medical history and present it to her mentor, come up with treatment plans for patients, and show patients how to perform exercises included in their home exercise program. In addition, she was able to research and publish a meta-analysis review on PCL reconstructions with her mentor (Bennett & Herbst, 2004). Herbst believes that her background in athletic training gave her a huge advantage over her colleagues going into residency. She believes she had a more in-depth knowledge of anatomy and physiology going into medical school, as well as a better knowledge of post-operative rehabilitation from a surgeon’s perspective. Even now, she admitted that her athletic training background allows her to have a better understanding of her duties as a surgeon on the sideline, her patients’ needs, and the athletic trainers’ needs.

Herbst’s advice for current students is to make sure they have a strong work ethic. She believes that work ethic goes a long way, and that students will go far if their strong work ethic is noticed by the people around them. She says to “focus on what you want, do everything you need to do to get there, and things will fall into place for you.” In addition, she recommends that students allow themselves to be open and teachable and allow others to impact them. For those that are thinking about going into orthopedic surgery, Herbst encourages them to take the extra science classes, reach out to potential mentors, and “pick a lot of brains” to make sure that orthopedic surgery is right for them. If anyone is thinking about orthopedic surgery and needs help getting there, Herbst states she would be more than happy to help get them pointed in the right direction.
TOWSON CENTER LAB SPACES
TC 214 serves as the activity space for several courses that focus on individual fitness programming for adults to develop toward goals of health-related fitness. In 214, students are typically working to develop general fitness plans to improve body composition, flexibility, muscular endurance and strength, and cardiorespiratory fitness – and for these purposes, the room has been outfitted with a variety of cardio machines, resistance exercise machines, along with dumbbells, benches, stability balls, etc. Students in these classes learn to develop their own personal fitness programs as well as programming for a population of low-risk adults; and some may pursue Personal Training certification to further their careers.

TC 117 was designed to differ from 214 by serving courses that focus on performance enhancement programming for athletes (strength & conditioning). In 117, students work on testing and implementing exercises that target performance-related fitness goals – muscular strength and endurance, cardiorespiratory endurance, as well as speed, power, and agility. The room is outfitted with less machine-based equipment but instead barbells and plates, kettlebells, bands, etc. which better align with more complex forms of resistance training. This room also offers more means of progression and regression of exercise technique demands in order to tailor exercises to the needs of novice to advanced athletes as well as needs for prevention or rehabilitation of athletic injuries and other special populations. Many students in these classes may be preparing for the Certified Strength and Conditioning Specialist credential to pursue opportunities to work with individual athletes or teams in training.
FACULTY RESEARCH SPOTLIGHT
FROM THE DESK OF DR. RIAN LANDERS-RAMOS:

“The goals for our ongoing research project are to determine whether differences in novel biomarkers of vascular repair and vascular damage exist in healthy younger adults based on physical activity habits and how this relates to vascular endothelial function. We isolate and quantify cells, microparticles and proteins from human blood and assess vascular endothelial function using ultrasound measures before and after a single bout of submaximal treadmill running. We plan to compare these responses across three groups of college-aged individuals: physically inactive, recreationally active and highly active. The findings from this study will allow us to better understand the effects of physical activity status independent of other risk factors (older age and cardiovascular disease) on these novel biomarkers and how this is related to clinical measures of vascular function. This will be the first in a series of studies that will aim to better understand the role of these novel biomarkers across the lifespan and healthspan in relation to endothelial function.” – Dr. Landers-Ramos

Dr. Landers-Ramos research team includes: Katie Dondero (Clinical Assistant Professor in Exercise Science) and several students including: Liz Dalton (Research Assistant and Graduate student in Occupational Therapy), Elizabeth Boyle (Junior, Exercise Science), Kailyn Gates (Senior, Exercise Science), Ian Imery (Sophomore Independent Study student from JHU), Urvi Patel (Exercise Science, ’18), Dakota Siok (Junior, Exercise Science) and Sarah Syme (Sophomore, Exercise Science).”
2018-2019 Outstanding Seniors

Physical Education
- Kourtney Lewis-Orr

Sport Management
- Emily Fornatora

Athletic Training
- Claire Adkinson

Exercise Science
- Christina Rubin

2018-2019 University Scholars

Brianna Frutchey

Matthew Miklosovich

Andrew Synder

Jessica Welch

Christina Rubin

Rebecca Palmer

2019 Research Impact Award Recipients

Emily Fornatora '19 - Project Title: Impact of Applied Electives in Sport Management Education and Career. Faculty Mentor: Dr. Jaime DeLuca

Kevin Hamidi '19 - Project Title: Greater Forearm Blood Flow is Associated with Better Walking Economy and Gait Speed in Older Adults. Faculty Mentor: Dr. Nicolas Knuth