**Speaker Name:** Michael Sacks  
**Affiliation:** Goizueta Business School, Emory University  
**Professional Title:** Professor in the Practice of Organization & Management  
**Title:** Negotiations  

**Biosketch:** Michael Sacks has been a faculty member at the Goizueta Business School for the past twenty years after earning his Ph.D. in Organization Behavior and Sociology at the Kellogg School of Management at Northwestern University. Michael recently completed a term as Emory’s Vice Provost for University Strategies where he integrated multiple school initiatives towards common university goals. He also previously served as Associate Dean and Director of Emory’s Evening MBA Program.

Professor Sacks teaches extensively in Goizueta’s executive education department, currently serving as Faculty Director for several open enrollment and custom programs. Michael additionally serves as Academic Director for Emory Healthcare’s Woodruff Leadership Academy, and he coordinates several other leadership programs across Emory’s campus. He also teaches for HEC Paris and UCLA’s executive education programs.

Michael’s teaching is centered in the area of Strategic Leadership -- aligning the leadership skills of employees with an organization’s culture in order to best execute strategy. This approach integrates traditional leadership topics with the cultural and strategic contexts in which an organization operates. As such, Michael’s teaching spreads across topics such as: leadership development, organizational management, and strategic alignment.

**Abstract:**

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**Speaker Name:** Linda Cork  
**Affiliation:** Stanford University, School of Medicine  
**Professional Title:** Professor of Comparative Medicine, Emerita  
**Title:** Adventures in Comparative Medicine  

**Biosketch:** Dr. Linda Cork will present the James Russell Lindsey Memorial Lecture as part of the ACLAM Forum on Monday, May 4, 2020. This Lectureship recognizes individuals that have made significant contributions to the mission of the College in education, training and research. Dr. Cork is a member of the National Academy of Medicine and has served on advisory committees for the National Institutes of Health and the National Academies of Science. She is currently Emeritus Faculty and past Professor & Chair of Stanford University School of Medicine Department of Comparative Medicine. She is a Diplomate and Distinguished Member of the American College of Veterinary Pathologists, an Active Member of the Institute of Medicine, Distinguished Alumni of Texas A&M University and a Fellow of the American Association for the Advancement of Science. Dr. Cork is well known for her research concerning neurologic disease in humans and animals. Dr. Cork’s lecture is titled “Adventures in Comparative Medicine”. We are proud to invite you to join us in listening to Dr. Cork describe her experiences as a scientist, pathologist and mentor.
Abstract:

**Speaker Name:** Michael J. Huerkamp, DVM, DACLAM  
**Affiliation:** Emory University  
**Professional Title:** Director, Division of Animal Resources  
**Title:** Innovation In The Domain of Research Animals: When Preparation, and Mostly the Ideas of Others, Meet Opportunity  
**Biosketch:** BS and DVM from The Ohio State University, residency training at the University of Michigan, at Emory since 1987, and program director since 2002.

Abstract:

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**Speaker Name:** Sharron Kirchain, DVM, MBA, DACLAM  
**Affiliation:** Brigham & Women’s Hospital, and Vivarium Operational Excellence Network  
**Professional Title:** Associate Director at Brigham & Women’s Hospital, and President at Vivarium Operational Excellence Network  
**Title:** The High Reliability Leader in Laboratory Animal Science  
**Biosketch:** Sharron Kirchain is currently the Associate Director at Brigham & Women’s Hospital where she oversees the program of veterinary care and manages a workforce of talented clinical veterinarians and veterinary technicians, as well as supporting the department strategic goals in a large academic, medical, and teaching institution. Brigham and Women’s Hospital is a High Reliability Healthcare Organization which is actively engaged in the Collaborative Culture of Safety™. Sharron has also been active in the growth of the Vivarium Operational Excellence Network which started in 2014 and incorporated in 2018, is a founding officer (Secretary) and serves as current President of the Board of Directors. The VOEN mission is to promote and exchange innovative methods and knowledge for managing animal programs around the world. Sharron has a passion for animal welfare, human creativity, and operational risk management, which are critical elements in high stakes environments. A Diplomate of the American College of Laboratory Animal Medicine, she received her Doctor of Veterinary Medicine from Tufts University and completed her postdoctoral fellowship in Laboratory Animal Medicine at the Massachusetts Institute of Technology, her Master of Business Administration from Simmons College, and her Bachelor of Science in Zoology from the University of Florida. Her previous roles have included Attending Veterinarian and Animal Welfare & compliance at Pfizer Inc, Acting Director and Attending Veterinarian at Boston University, Clinical Veterinarian at McClean Hospital Alcohol and Drug Abuse Research Center, and consulting for various biotech research organizations. Sharron has been active in the American College of Laboratory Animal Medicine, including service on the Mentoring Committee, the Foundation, and Position Statement task forces, and is an active ad hoc consultant for AAALAC International.

Abstract:
Speaker Name: Paul Makidon, DVM, PhD, DACLAM

Affiliation: Abbvie

Professional Title: Senior Principal Research Scientist

Title: Translational Imaging in Drug Discovery

Biosketch: Paul is a Senior Principal Research Scientist with AbbVie. His research focuses on translational efforts to enable moving pipeline assets from pre-clinical proof of concept and safety studies to first-in human trials. Paul currently directs the AbbVie Global Translational Imaging Network (AGTIN). He has earned degrees in electrical engineering (B.S), doctor of veterinary medicine (DVM), and in biomedical engineering (PhD). He is a Diplomate of the American College of Laboratory Animal Medicine and is an expert in comparative and translational medicine. He was an Assistant Professor and previously served as the Director of Vaccine Development at the Michigan Nanotechnology Institute for Medicine and Biological Sciences at the University of Michigan (UM), and the Associate Director of the In Vivo Translational Core for the University of Michigan Medical School. He has also undergone post-doctoral training in emergency medicine and surgery at the Angell Memorial Animal Hospital system and a post-doctoral fellowship in comparative medicine at the Unit for Laboratory Animal Medicine at UM.

Abstract: Preclinical and translational imaging are extremely useful strategies in the drug discovery and development process. Gold standard molecular imaging methods such as positron emission tomography (PET) or single photon emission computed tomography (SPECT) as well as magnetic resonance imaging (MRI) have been utilized translationally to enhance the efficiency and safety of drug discovery and development. Continuous progress in modern imaging technologies holds a great potential to extend efficiencies and to reduce clinical attrition. Newer technologies such as photoacoustic tomography and confocal laser endomicroscopy lend the ability to identify critical and highly specific biomarker information for the development of new oncology, neurology, and immunology drugs. This discussion will provide an overview and introduction to the value of preclinical and translational imaging in the drug discovery and development process and will focus on scientific translational applications in oncology, neurology, immunology, and safety.

Speaker Name: Jamie Müller

Affiliation: Caterpillar Spirit

Professional Title: Principal

Title: Saying thank you for a life we never planned

Biosketch: Jamie Müller combines 20+ years of experience in personal, organizational and leadership development with a strong focus on managing intercultural relations. She is the founder and owner of Caterpillar Spirit as well as The Healthy Expat.

Her background includes program administration and planning for the University of Minnesota, USA, consulting and advising for the US Foreign Commercial Service in Germany, as well as global leadership
development and delivery for Fortune 100 & 500 companies, governments, non-profit organizations and universities around the world. In addition, she has extensive experience in account management and business development working with organizational development departments in developing programs and policies appropriate for their global workforce. Jamie has broad knowledge, expertise and experience in intercultural issues relating to global teams, expatriates and their families.

She is an Adjunct Professor in Intercultural Communication at the University of Tübingen, Germany and was an Adjunct Professor at the University of Cooperative Education, DHBW, in Stuttgart, Germany.

Jamie received her degree in German and International Relations from the University of Minnesota-Twin Cities and the University of Hamburg, Germany. She has completed MBA graduate and Intercultural Communication coursework at the University of St. Thomas. She is an ICF, International Coaching Federation, Associate Certified Coach (ACC). Jamie also holds a certificate from the Steinbeis Hochschule-Berlin as Systemic Business Coach. She has a certificate in Adult Education from the University of Educational Sciences, Ludwigsburg, Germany. In addition, Jamie is a certified COM / COI practitioner and a certified Natural Juice Therapist from the CMA. She is the Secretary of the German-American Business Club in Stuttgart.

She has active membership in SIETAR & Young SIETAR, the International Women’s Club, Stuttgart and serves as Ask the Expert for Expatica.

Jamie currently lives in Gärtringen, Germany, a small city close to Stuttgart and the Black Forest. Prior to this, she lived in the United States, Italy and Hungary and has traveled and worked throughout the United States and Eastern and Western Europe. She is fluent and works in English and German and has basic knowledge of Spanish.

She is married to Roland, a native German and is the mother to four-year old twins, Pia and Felix.

Abstract:

Speaker Name: David Stout, PhD
Affiliation: Crump Preclinical Imaging Center at UCLA
Professional Title: Retired
Title: Physiological/Metabolic Management Impacts in Translational Imaging and Setting up Imaging Cores

Biosketch: David is a retired professor with degrees in Biology (BS), Management and BioMedical Physics (PhD). His work spans radiochemistry robot development to kinetic modeling of metabolic rate constants in a wide range of species using PET, CT and MR. He created the Crump Preclinical Imaging Center at UCLA and published some of the first work using thermography to non-invasively measure in-vivo metabolism. This comprehensive imaging center includes cyclotron and radiochemistry facilities, training and technical support to image using PET, CT, optical, autoradiography and thermal imaging modalities, along with a complete vivarium suitable for work with biohazardous and radioactive rodents. David has also developed various imaging systems and rodent imaging chambers for use with gas anesthesia. These chambers provide the ability to seal animals inside and be used with multiple imaging
devices, keeping the animal physiology stable and reproducible. He has worked extensively with DVM students and post-docs, served on the IACUC and designed imaging centers for sites worldwide. His time is currently split between coaching high school robotics and building new BSL3 mouse imaging chambers for use with CT and optical systems.

**Abstract:** Preclinical imaging systems have matured into reasonably easy to use devices. The physics and instrumentation side are well understood and fairly reliable and usually very reproducible. However, what you put into these imaging devices is rarely ever as well understood or reproducible, especially between different imaging facilities. There is often little communication or consideration of decision impacts between investigators, veterinary personnel and physicists, leading to choices and equipment that may not be ideal for obtaining useful information. This discussion will highlight some of the options for handling and housing rodents, and potential effects on the imaging results. We will cover aspects of imaging center and vivarium design and provide some tips and suggestions on how to get useful data. Our goal is to reduce costs, number of animals and time, while at the same time generating data that is useful, reproducible and accurate.

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**Speaker Name:** Walter Akers, DVM, PhD  
**Affiliation:** Center for In Vivo Imaging and Therapeutics at St. Jude Children’s Research Hospital  
**Professional Title:** Director  
**Title:** Preclinical Modalities in Translational Imaging  
**Biosketch:** Walter is the Director of the Center for In Vivo Imaging and Therapeutics (CIVIT) at St. Jude Children’s Research Hospital (SJCRH). He holds degrees in biochemistry (BS), veterinary medicine (DVM), and biological engineering (PhD). The CIVIT facilitates the use of cutting-edge imaging technology, surgical expertise, and image-guided therapies to complement the efforts of SJCRH investigators in discovering cures for catastrophic childhood diseases. Walter and his team partner with SJCRH researchers in planning and conducting experiments to ensure in vivo studies are conducted to the highest standard to maximize quality results and repeatability. Before joining SJCRH, Walter was Assistant Professor and Associate Director of the Optical Imaging Core at the Mallinckrodt Institute of Radiology at Washington University, where he contributed to the development of molecular imaging and fluorescence-guided surgery technologies.  
**Abstract:** Preclinical imaging modalities provide anatomic, physiologic, and molecular readouts from within from living animals in a non-destructive manner. Therefore, imaging supports the Three Rs in research by reducing the number of animals needed for studies and refinement of these models. Preclinical imaging technologies include clinical diagnostic modalities such as ultrasound, MRI, PET/CT, and SPECT/CT as well as translational and research modalities such as bioluminescence and fluorescence imaging, photoacoustic tomography, and magnetic particle imaging. This discussion will provide an overview of preclinical imaging in biomedical research, focusing on applications in oncology, cardiology, and neurobiology that support basic research and drug discovery and development.

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**Speaker Name:** Natalie Fleury, JD
**Affiliation:** Ombuds with the Medical College of Wisconsin, an Adjunct Professor of Law and Program Coordinator for Dispute Resolution at Marquette University Law School, and the primary consultant for Conflict Management Concepts, LLC

**Professional Title:** Ombuds and Adjunct Professor of Law

**Title:** Introduction to Emotional Intelligence

**Biosketch:** Natalie Fleury, JD is an Ombuds with the Medical College of Wisconsin, an Adjunct Professor of Law and Program Coordinator for Dispute Resolution at Marquette University Law School, and the primary consultant for Conflict Management Concepts, LLC. Ms. Fleury earned her JD from the University of Wisconsin Law School and a Graduate Certificate in Dispute Resolution from Marquette University. Ms. Fleury has 20+ years of experience in mediation services, conflict management training, ADR program compliance, and dispute systems design. She is a member of the ABA Dispute Resolution Section Ombuds Committee, a member of the International Ombudsman Association, Past-Chair of the State Bar of Wisconsin (SBW) Section Leaders Council and former Chair of the SBW ADR Section. She has been recognized annually by Best Lawyers in the Dispute Resolution category since 2009.

**Abstract:** According to John D. Mayer, PhD, emotional intelligence is the capacity to reason about emotions and emotional information. People with higher levels of emotional intelligence have more rewarding relationships with friends and more successful relationships at work. This session will introduce you to methods for recognizing, understanding and managing your own emotions and the basics of connecting with the emotions of others to help raise your "EQ."

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**Speaker Name:** Natalie Fleury, JD

**Affiliation:** Ombuds with the Medical College of Wisconsin, an Adjunct Professor of Law and Program Coordinator for Dispute Resolution at Marquette University Law School, and the primary consultant for Conflict Management Concepts, LLC

**Professional Title:** Ombuds and Adjunct Professor of Law

**Title:** Conflict Resolution 101

**Biosketch:** Natalie Fleury, JD is an Ombuds with the Medical College of Wisconsin, an Adjunct Professor of Law and Program Coordinator for Dispute Resolution at Marquette University Law School, and the primary consultant for Conflict Management Concepts, LLC. Ms. Fleury earned her JD from the University of Wisconsin Law School and a Graduate Certificate in Dispute Resolution from Marquette University. Ms. Fleury has 20+ years of experience in mediation services, conflict management training, ADR program compliance, and dispute systems design. She is a member of the ABA Dispute Resolution Section Ombuds Committee, a member of the International Ombudsman Association, Past-Chair of the State Bar of Wisconsin (SBW) Section Leaders Council and former Chair of the SBW ADR Section. She has been recognized annually by Best Lawyers in the Dispute Resolution category since 2009.

**Abstract:** Conflict is a part of life, and our reactions to conflict is part nature and part nurture. Learn about some typical causes of conflict, your own default response to conflicts, and basic skills to transform conflict from a destructive force to an opportunity for change.
Liquefying Our Assets: Using Data to Improve Operational Efficiency and Animal Welfare

Dr. Joe Hampel is a Principal Veterinarian at Charles River Laboratories – Mattawan with primary clinical responsibility for nonhuman primates. He is a member of the Institutional Biosafety Committee and the Institutional Animal Care and Use Committee. He is a Diplomate of the American College of Laboratory Animal Medicine and American Board of Toxicology. He received his training in Laboratory Animal Medicine at the Unit for Laboratory Animal Medicine in the University of Michigan Medical School. He studied veterinary medicine, pharmacology, and toxicology at the University of Wisconsin. Dr. Hampel specializes in data analytics and has experience extracting and visualizing data using Power BI and the DAX functional language. He is passionate about using data-driven approaches to improve animal welfare and operational efficiency.

The purpose of this talk is to give the audience a glimpse of how to leverage electronic medical records and study data to improve operational efficiency and animal welfare. One of the most common challenges we face is integrating, extracting, and transforming data into a useable form to answer basic questions. We usually have the data we need, it’s just not that accessible to us. I’ll give a brief overview on how I integrate data from multiple systems to create a robust model and effective visualizations. I’ll present a case study where this model was implemented to improve operational efficiency and animal welfare. In the end, the audience should have a greater appreciation for integrating and implementing one of our greatest assets to improve animal welfare and operational efficiency.

Mouse math: Improving reproducibility with basic arithmetic and reporting guidelines

Penny Reynolds, PhD, is an American Statistical Association certified research statistician in the Department of Anesthesiology, College of Medicine, University of Florida. Her PhD at the University of Wisconsin–Madison involved fieldwork and mathematical modelling of wildlife behaviour. She has over 60 publications on such diverse topics as physiological ecology, comparative physiology, avian behaviour, fluid resuscitation, shock/trauma, oxygen deficit and debt, and coagulopathy. She has collaborated on several investigations of vasoplegia and coagulopathy in human cardiac surgery and prehospital medicine. Recent research has focused on methodological quality of preclinical research, and how poor reporting quality jeopardises translational potential. She is a member of the International Working Group for the revision of the ARRIVE (Animal Research: Reporting In Vivo Experiments) guidelines, based in London UK.
Abstract: Reproducibility and translation potential of much animal-based research is extremely poor. The prerequisite for reproducibility is ‘preproducibility’, the clear and complete communication of relevant methodology to allow others to replicate or verify results. Consensus guidelines, such as ARRIVE, list key items that ensure transparent, accurate and complete reporting of research studies. ARRIVE has been available for 10 years, and is the gold standard for ensuring reproducibility of animal research. However, both protocols and published literature are still critically deficient. Reporting deficiencies result from either ignorance of the guidelines, or ignorance of mission-critical methods that are not performed, and so cannot be reported. The result is that hundreds of millions of animals are wasted in non-informative experiments.

The core of most reporting guidelines are items related to study design and statistical methods, areas where veterinary training is deficient. Sample size justification in particular is often overlooked in protocol oversight reviews. I will discuss how reporting guidelines can be used to identify features of the proposed study design that require clarification, and how simple arithmetic can be used to assess study feasibility, and ensure animal numbers are “justifiable, appropriate, reasonable, and ethical”. Implementation would be a key 3Rs refinement measure, both by reducing numbers of animals wasted, and by providing additional rationale for upfront denial of approval for poorly thought-out, unfeasible studies.

Speaker Name: Malcolm Macleod, BSc, MBChB, MRCP, Certificate in Health Economics, PhD
Affiliation: University of Edinburgh
Professional Title: Professor of Neurology and Translational Neuroscience
Title: Increasing value and reducing waste in the use of laboratory data to inform the design of human clinical trials
Biosketch: Malcolm Macleod is Professor of Neurology and Translational Neurosciences at the University of Edinburgh, member of the UK Commission for Human Medicines and the UK Reproducibility Network, and he leads the European Quality in Preclinical Data IMI project. Since founding the Collaborative Approach to Meta-analysis and Review of Animal Data form Experimental Studies (CAMARADES) in 2004 his research has largely focused on how best to increase the value of biomedical research. This has included work with funders, journals (including randomized studies of different approaches to improve quality, and the proposed MDAR Minimum Standards Framework) and most recently with institutions (recently appointed Research Improvement lead at the University of Edinburgh). He led the development and implementation of the SyRF platform (app.syrf.org.uk) which supports systematic reviews of in vivo research. via ORCID id at https://orcid.org/0000-0001-9187-9839 and talks at https://osf.io/de6qh/.

Abstract:

Speaker Name: Joshua T. Bartoe, DVM, MS
Affiliation: Northern Biomedical Research
Professional Title: Attending Veterinarian

Title: 2020 vision: a look into the future of ocular gene therapy development.

Biosketch: Dr. Josh Bartoe serves as Vice President of Ophthalmology Services and Attending Veterinarian at Northern Biomedical Research. NBR is a contract research organization, based on the central western coast of Michigan, focused on targeted delivery expertise for CNS, ophthalmology, cardiology, and orthopedic indications. He is also the Director of Finance for Northern Biomolecular Services. NBS is a contract research analytical laboratory focused on providing comprehensive, GLP-compliant qPCR-qRT-PCR assays to support development of gene, cell, and other biological therapeutics. Dr. Bartoe is a Diplomate of the American College of Veterinary Ophthalmologists and started his career on the faculty of Michigan State University. During his 10 years at MSU he also provided consulting ophthalmology services to MPI Research. He left MSU to become the Director of Ophthalmology Services at MPI in 2014. Following the Charles River acquisition, Dr. Bartoe was selected to lead global CRL ocular center of excellence and was promoted to Senior Director of Ophthalmology Services for the Mattawan, Michigan site. He has authored >30 peer-reviewed manuscripts focused primarily in ocular gene therapy space, along with 6 textbook chapters. He is an active member of the Association for Research in Vision and Ophthalmology, American Society of Gene and Cell Therapy, Society of Toxicology, and the American College of Veterinary Ophthalmologists.

Abstract: Gene therapy is revolutionizing treatment of previously incurable orphan ocular diseases, such as retinitis pigmentosa and Leber congenital amaurosis, and is poised to become a management tool for high-prevalence acquired diseases including: age-related macular degeneration, diabetic retinopathy, and glaucoma. With approval of the first adeno-associated virus (AAV)-based ocular gene therapy for management of LCA-2, Luxturna in 2018, strong market interest is driving development of exciting new technologies in vector-delivered therapeutics. This presentation will provide an overview of how modern imaging modalities and ocular examination techniques are used to efficiently develop novel gene and cell therapeutics. Slit-lamp biomicroscopy, indirect ophthalmoscopy, ocular lesion scoring schemes, tonometry, wide-field digital fundus imaging, optical coherence tomography, confocal scanning laser ophthalmoscopy, electroretinography, and visual evoked potentials will be discussed in relevance to supporting non-clinical safety studies generating data for regulatory submission. Targeted surgical delivery techniques including intravitreal, subretinal, and suprachoroidal will be reviewed. Case examples will be provided.

Speaker Name: Joseph D. Thulin

Affiliation: Medical College of Wisconsin

Professional Title: Attending Veterinarian and Biomedical Resource (BRC) Director, Medical College of Wisconsin

Title: Burden: Regulatory and Self-Imposed

Biosketch: Dr. Thulin is the Attending Veterinarian and Director of the Biomedical Resource Center at the Medical College of Wisconsin in Milwaukee, WI. He received his DVM in 1988 from the University of Illinois, and his MS in veterinary pathobiology in 1990, also from the University of Illinois. Dr. Thulin
achieve ACLAM board certification in 1992. He has been professionally active in a number of laboratory animal science and medicine organizations. He is immediate past president of ACLAM, a past-president of ASLAP, and served as a member of the AAALAC International Council on Accreditation for 12 years.

Abstract:

**Speaker Name:** Heather Narver

**Affiliation:** Animal Health and Care Section National Institute of Neurological Disorders and Stroke (NINDS) National Institutes of Health

**Professional Title:** Clinical Veterinarian and Staff Scientist

**Title:** Regulatory Burden in the Government: The Chicken or the Egg?

**Biosketch:** Dr. Heather Lyons Narver graduated from the University of California at Berkeley with a BA in Political Science and from the University of Pennsylvania’s School of Veterinary Medicine. She has been a laboratory animal veterinarian for 17 years, primarily for the National Institute of Neurological Disorders and Stroke (NINDS) at the National Institutes of Health in Bethesda, Maryland. She was ACLAM board certified in 2010 and achieved a second board certification by the American College of Animal Welfare (ACAW) in 2019. Her professional interests include gender differences; analgesia; antimicrobial stewardship; and legislation impacting animal welfare and use. Dr. Narver has been a member of ACLAM’s Governmental and Regulatory Affairs Committee (GRAC) for seven years and is in her second year as Chairperson. Dr. Narver is an equestrian, a yogi, and a distance jogger. Her support system includes her husband of fifteen years and her 5-year-old and 2-year-old daughters.

Abstract:

**Speaker Name:** Gary L. Borkowski

**Affiliation:** AAALAC International

**Professional Title:** Global Director

**Title:** Perspectives on Regulatory and Administrative Burden

**Biosketch:** Gary L. Borkowski, D.V.M., M.S. is Global Director for AAALAC International, and in this role he is responsible for overseeing the accreditation program for AAALAC International, with over 1000 accredited units in 49 countries. Dr. Borkowski has a long history of service with AAALAC International, starting in 1998 as an Ad Hoc Consultant to AAALAC, and then serving multiple terms as a member of AAALAC’s Council on Accreditation, and also on the AAALAC International Board of Trustees. Dr. Borkowski received his veterinary degree from Iowa State University and a master’s degree in laboratory animal medicine from Pennsylvania State University. He has 31 years of experience in academic and pharmaceutical laboratory animal medicine. Dr. Borkowski previously served as program chair for the American Association for Laboratory Animal Science (AALAS) Annual Meeting, is past President of the American Society of Laboratory Animal Practitioners (ASLAP) and past president of the American College of Laboratory Animal Medicine (ACLAM).
Abstract:

**Speaker Name:** George E. Sanders, DVM, MS, Certified Fish Pathologist (AFS/FHS)

**Affiliation:** University of Washington

**Professional Title:** Senior Lecturer & Aquatic Animal Program Director at the University of Washington, School of Medicine, Department of Comparative Medicine

**Title:** Zebrafish (Danio rerio) Facility Management & Trouble Shooting

**Biosketch:** Dr. George E. Sanders received his Bachelor's of Science in Biology from Morehouse College in Atlanta, GA. He earned a Doctorate in Veterinary Medicine from Louisiana State University's School of Veterinary Medicine. He completed an NIH-sponsored post-doctoral training program in Laboratory Animal Medicine in the Department of Comparative Medicine (DCM) at University of Washington. After earning his Master's of Science in Comparative Medicine from the Department of Comparative Medicine, he joined the faculty half-time as a Senior Fellow and clinical aquatic animal specialist in the position of Associate Attending Veterinarian for Fish and Amphibians. He was also the Veterinary Medical Officer for the U.S. Geological Survey’s Western Fisheries Research Center in Seattle, WA at 50% FTE through until 2013. Dr. Sanders is certified as a Fish Pathologist by the American Fisheries Society Fish Health Section. Currently, Dr Sanders is a Senior Lecturer and the Aquatic Animal Program Director for DCM, which provides multiple resources, training, instruction, regulatory compliance, and coordinates veterinary care for aquatic research animals at the University of Washington.

Abstract:

**Speaker Name:** Linda Cendales, MD

**Affiliation:** Duke University Medical Center

**Professional Title:** Associate Professor of Surgery; Duke Health Scholar; Director, Vascularized Composite Allotransplantation

**Title:** Human Transplantation

**Biosketch:** Dr. Cendales, the only person in the United States to have completed formal fellowship training in both Hand and Microsurgery and Transplant Surgery, is a Duke Health Scholar and the Director of the Vascularized Composite Allotransplantation at Duke University Medical Center. Vascularized composite allotransplantation (VCA) is the transplantation of multiple tissues such as skin, muscle, bone, nerves, and tendons as a functional unit (e.g. hand). Dr. Cendales helped organize the first VCA team in the U.S. and participated in the country's first two hand transplants. She was subsequently the first surgeon accepted into the Transplant Surgery and Immunobiology Fellowship at the National Institutes of Health (NIH). During her time at the NIH, Dr. Cendales established and published a model of VCA in nonhuman primates and has one of the largest experiences in VCA in non-human primates reported in the scientific literature. She organized the first international symposium on VCA histopathology at the International Banff Conferences on Allograft Pathology leading to the published
classification system now used as a standard for clinical reporting of rejection worldwide. Prior to joining Duke, Dr. Cendales established the VCA program at Emory University and led the multi-disciplinary team that performed Georgia’s first hand transplant in March 2011. While at Duke, she established the VCA program and led the multi-disciplinary team that performed North Carolina’s first hand transplant in May 2016. Dr. Cendales is the Principal Investigator of clinical and translational studies in VCA funded by the Department of Defense. Dr. Cendales is an Associate Editor of the American Journal of Transplantation and of Clinical Transplantation, is the Past-President of the International Society of Vascularized Composite Allotransplantation Society (ISVCA), is the Chair of the VCA Advisory Council of the American Society of Transplantation, is the Co-Chair of the American Transplant Congress, and the Chair of the Organ Procurement and Transplantation Network / United Network for Organ Sharing (OPTN/UNOS) Vascularized Composite Allograft (VCA) Committee. She has co-authored numerous scientific manuscripts, abstracts, and invited publications. Similarly, Dr. Cendales has made countless presentations at national and international meetings.

Abstract:

Speaker Name: George Voros
Affiliation: Tulane University
Professional Title: Veterinary Resident
Title: Effects of blue-Enriched Light-At-Day (bLAD) on the Basic Physiological Parameters of Three Common Strains of Mice Housed on an IVC System
Biosketch: George Voros is a second year resident at Tulane University in the Department of Comparative Medicine. He graduated from The Ohio State University College of Veterinary Medicine in 2018 after completing undergraduate degrees in biology and biochemistry from The University of Akron in Akron, Ohio. Previous research interests include studying the adhesive system of geckos and best practices to cleaning water valves of an IVC system. Current research involves the effects of light quality on research animals.

Abstract:

Speaker Name: Debra L. Hickman, DVM, MS, DACLAM, DACAW
Affiliation: Laboratory Animal Resource Center, School of Medicine, Indiana University, Indianapolis, IN
Professional Title: Director and Attending Veterinarian
Title: Evaluation of Carbon Monoxide for the Euthanasia of Small Rodents
Biosketch: Dr. Hickman is the Director, Laboratory Animal Resource Center, Indiana University School of Medicine, Indianapolis, Indiana. She received her veterinary degree and post-doctoral training from University of Illinois, Urbana. Her research interest is behavioral and physiological assessment of animal welfare with a special emphasis on euthanasia, biomethodology, and husbandry. She currently serves
Abstract: Although carbon monoxide has been used to euthanize a variety of species, its use in laboratory rodents has been limited. In this study, the welfare of laboratory rats (Sprague Dawley and Brown Norway) and mice (ICR and SJL) euthanized with carbon monoxide was assessed as a potential alternative to carbon dioxide and isoflurane. Volume displacement rates per minute of 30%, 50%, or 70% carbon monoxide (8% in room air) or an intraperitoneal injection of pentobarbital (approximately 500mg/kg) were used to euthanize these rodents. Each euthanasia was digitally recorded from the administration of the euthanasia agent to the exhibition of ataxia to determine the approximate time to loss of consciousness. An observer blinded to treatment scored each video for rearing, freezing, jumping, and grooming behaviors. After achieving a surgical plane of anesthesia, a terminal blood collection was performed. Serum noradrenaline, corticosterone, and glucose were compared between treatment groups. Although there were significant strain and sex differences in the behavioral and physiologic responses of the rodents euthanized with carbon monoxide and those euthanized with pentobarbital, the overall responses were not remarkable. For example, female ICR mice reared more overall, but there were no significant differences in rearing behaviors of female ICR mice between treatment groups. Male rats of both strains engaged in freezing behavior with carbon monoxide, but not with pentobarbital, while female rats of both strains engaged in freezing behavior in all treatment groups. These findings suggest that carbon monoxide may be a potential alternative to the use of carbon dioxide or isoflurane. Additional assessment of the effect of this gas on research outcomes is desirable.

Speaker Name: Kris Coleman

Affiliation: Oregon National Primate Research Center

Professional Title: Associate Professor and Head, Behavioral Services Unit

Title: Factors Associated with Compatibility in Pair-Housed Rhesus Macaques

Biosketch: Dr. Kris Coleman is the head of the behavioral management and an associate professor in the Divisions of Comparative Medicine and Neuroscience at the Oregon National Primate Research Center. She has over 25 years of experience in animal behavior, with an emphasis on individual differences in temperament and stress sensitivity. She received her Ph.D. in Behavioral Ecology from Binghamton University before moving to Oregon as a postdoctoral fellow. For the past 19 years, she has overseen the ONPRC behavioral management program, where she has studied ways to improve the psychological well-being of laboratory macaques. She is particularly interested in how temperament can affect pair housing and other behavioral management practices, and how these individual differences can inform management decisions. In addition, Dr. Coleman is Vice-Chair of the ONPRC IACUC, co-chair of the American Society of Primatologists’ Primate Care committee and an ad hoc specialist with AAALAC, International.

Abstract: Pair housing is considered one of the best ways of promoting psychological wellbeing for caged macaques, but can result in aggression and injury if partners are incompatible. Thus, there has been increased interest in finding factors that are associated with compatibility. For example, we
recently found that behaviors, such as proximity and tandem threats, exhibited on the day of the pair introduction predicted pair success (co-housed for at least 28 days) in rhesus macaques (MacAllister et al., 2020). However, we did not assess the behavior of the pair after the initial introduction. In this study, we examined whether factors, such as age, behavior during the pair introduction, and oxytocin, a hormone known to promote affiliative non-sexual behavior in primates, correlated with prosocial behavior in 77 pairs (40 male-male; 37 female-female) of rhesus macaques (Macaca mulatta). To assess compatibility, we conducted cage side behavioral observations on the pairs, cohoused for at least one month, focusing on prosocial interactions (e.g., groom, huddle, touch). We also recorded behavior of the pairs during the night, and collected a blood sample for oxytocin in the same time frame. Behavioral observations were previously taken on the pairs the day of the introduction attempt. As we have reported previously (Berg et al., 2019) oxytocin correlated with social behavior for male pairs (p<0.02). Surprisingly, oxytocin did not correlate with prosocial behavior for the female pairs. Further, there was no correlation between prosocial behavior and age of the monkeys for either sex. Behavior during the introduction correlated with later prosocial behavior; highly prosocial pairs showed fewer anxiety behaviors during the initial introduction than those with low levels of social behavior (p=0.012). An unexpected outcome of this study was the high levels of nighttime social behavior; pairs spent an average of 86% of the night huddled together. This time did not correlate with daytime prosocial behavior. Identifying factors associated with long-term compatibility can help shape management decisions, reducing stress and potential injury.

Speaker Name: Greg Wilkerson

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Professional Title: Associate Professor/ Anatomical and Clinical Pathologist

Title: Transmission Ecology of Trypanosoma cruzi within non-human primate facilities

Biosketch: Greg Wilkerson DVM, PhD, DACVP completed a residency in Anatomical Pathology and then completed a second residency in Comparative Medicine at Colorado State University prior to undertaking a two year fellowship in nonhuman primate medicine at the MD Anderson Cancer Center, Keeling Center for Comparative Medicine Research (KCCMR) in Bastrop, TX. Following his fellowship, Dr. Wilkerson has continued his employment with the KCCMR for over 10 years where he is currently an Associate Professor serving as a researcher, anatomical pathologist, clinical pathologist and Chair of the Educational Training Committee. Prior to joining the KCCMR, Dr. Wilkerson’s work experience included a five-year stint as emergency clinician in a small animal clinic, he has been the attending veterinarian at a state university, and he has been a voting member on two IACUC committees. Dr. Wilkerson has served as a regular lecturer to veterinary students and residents on the topics of nonhuman primate medicine and pathology at Colorado State University, University of Missouri and Texas A&M University.

Abstract:
Speaker Name: Peter Smith

Affiliation:

Professional Title:

Title:

Biosketch:

Abstract: