



Clinical Science Trumpet

Newsletter of the Association of Clinical Scientists

Charles D. Hawker, Ph.D., M.B.A., FACSc, Interim Editor

Vol. 43, No. 3—October, 2023

JACKSONVILLE TO WELCOME ACS ANNUAL MEETING

Tuesday–Thursday, April 2–4, 2024 • Jacksonville Beach, Florida

by Jonathan B. Hoyne, Ph.D., FACSc, and Charles D. Hawker, Ph.D., M.B.A. FACSc

The 2024 ACS Annual Meeting, celebrating the 75th year of the Association, will be held in Jacksonville, Florida April 2-4, 2024. This meeting, the Association’s 145th, is being held in April instead of the Association’s normal May schedule to avoid Florida’s hot and humid weather. In addition, the meeting will have a Tuesday-Thursday format as every hotel in Florida has weddings booked every weekend from April through August.

The host hotel for the meeting will be the Casa Marina in Jacksonville Beach, FL and co-hosted by Margaritaville Hotel. The hotels are across the street from one another and both have views and beach access to the Atlantic Ocean. Casa

Marina Hotel was established in 1925 and is a member of Historic Hotels of America. As a historic hotel, its style, amenities and number of rooms are typical of a boutique hotel. ACS has also contracted with the Margaritaville Hotel, which is across the street. This hotel stands as a contrast for those who prefer their rooms and amenities more modern. Details of both hotels can be found on the ACS website at <http://clinicalscience.org> and click the “Meetings” tab [or copy/paste into your browser: <http://clinicalscience.org/meetings/html>].

The Program Committee, chaired by **Jonathan B. Hoyne, Ph.D.**, is developing another outstanding agenda for attendees to both engage

with outstanding clinical science and enjoy. The overall meeting theme is *Tomorrow’s Diagnostics and Therapeutics Today*. The Tuesday morning session theme of “*Neuropathology Disease and Treatment*” begins with the Abraham J. Gitlitz Honorary Lecture, presented by **Dennis W. Dickson, M.D.**, the Robert E. Jacoby Professor for Alzheimer’s Research at Mayo Clinic, Jacksonville. He is the winner of the 2011 Potamkin Prize for Research in Pick’s, Alzheimer’s and Related Diseases from the American Academy of Neurology.

Tuesday afternoon has two sessions: the first with a theme of “*Transforming Transplant*” and the second on “*Emerging Therapeutics*.”

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Jacksonville, FL

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Jacksonville in 2024...

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Other significant presentations will be a luncheon seminar by **Jorge M. Mallea, M.D.**, also of the Mayo Clinic Florida on ex vivo lung perfusion and the Annual Awards Banquet speaker, Russell Brodie of Florida Fish and Wildlife Marine Science Research Institute and Jacksonville University.

On Wednesday afternoon, the Association's traditional cultural tour takes us to St. Augustine by bus, where we will tour the Spanish fort, Castillo de San Marcos. It is the oldest surviving masonry fortress in the continental United States. Built by the Spanish between 1672 and 1695 to defend their claims in the new world, the fort was never captured. Its walls are made of coquina, a sedimentary soft limestone comprised of seashells, which was impenetrable to enemy attack and also fire resistant.

At the Annual Reception and Awards Banquet on Wednesday evening, several awards will be presented, including the Young Clinical Scientist Award to **Anthony Maus, Ph.D.**, the FW Sunderman, Jr., Diploma of Honor to **Joshua A. Bornhorst, Ph.D.**, the Clinical Scientist of the Year Award to **Shuko Harada, M.D.**, and the Gold Headed Cane award to **Charles D. Hawker, Ph.D., M.B.A.** See elsewhere in this newsletter for biographical sketches and photos of these awardees.

The Program Committee for the Annual Meeting includes: **Jonathan B. Hoyne, Ph.D., DABCC, FACSc**, Mayo Clinic - Florida, Chair, **Christopher Marquez, M.D.**, Mayo Clinic - Florida, **Melissa E. Murray, Ph.D.**, Mayo Clinic - Florida, **Nina Tatevian, M.D., Ph.D., FACSc**, Brown University, **Christopher Crutchfield, Ph.D., FACSc**, Northwestern University, and **Charles D. Hawker, Ph.D., M.B.A, FACSc** (ex officio).



The historic Casa Marina Hotel, Jacksonville Beach, Florida



Castillo de San Marcos, St. Augustine, Florida



The modern Margaritaville Hotel, Jacksonville Beach, Florida

Jacksonville in 2024...

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The Mayo Clinic Hospital, Jacksonville, Florida



The unique coquina stone at St. Augustine



Jacksonville, Florida



Among the Speakers to Present in Jacksonville

The Abraham J. Gitlitz Honorary Speaker

DENNIS W. DICKSON, M.D.

Robert E. Jacoby Professor for Alzheimer's Research, Mayo Clinic Jacksonville

Luncheon Speaker

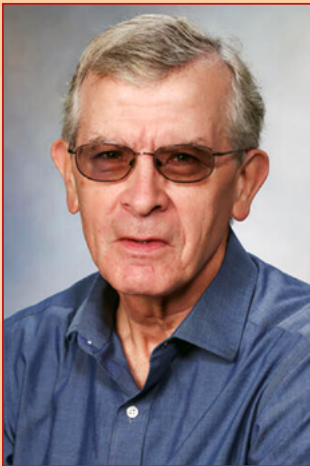
GEORGE M. MALLEA, M.D.

Mayo Clinic Florida "Ex Vivo Lung Perfusion"

Annual Awards Banquet Speaker

RUSSELL BRODIE

Florida Fish and Wildlife, Marine Science Research Institute, Jacksonville University



Dr. Dennis Dickson



Dr. George Mallea



Russell Brodie

Awards Introduction

The Association's Awards Committee, chaired by **Myra Wilkerson, M.D.**, announced the following awards to be presented at the 2024 Annual Meeting in Jacksonville, Florida:

Young Clinical Scientist Award presented to **Anthony Maus, Ph.D.**,

F.W. Sunderman, Jr. Diploma of Honor presented to **Joshua A. Bornhorst, Ph.D.**,

Clinical Scientist of the Year Award presented to **Shuko Harada, M.D.**,

and **Gold Headed Cane Award** presented to **Charles D. Hawker, Ph.D., M.B.A.**

Dr. Sarrah Lahorewala

In addition, there is a biographical sketch of **Sarrah Lahorewala, Ph.D.** who was presented the **Young Clinical Scientist Award** at the 2023 Annual Meeting, but whose sketch and photo were inadvertently omitted from the newsletter in September, 2022.



The 2024 ACS Awardees

Clinical Scientist of the Year

SHUKO HARADA, M.D., FACSc

Shuko Harada, M.D., FACSc is currently Professor and Vice Chair for Diversity, Equity, and Inclusion (DEI), Department of Pathology at University of Alabama at Birmingham (UAB).

Dr. Harada received her Medical Degree and completed an Internal Medicine residency from University of Tokyo Faculty of Medicine, Japan. After three years working as an internist, subspecialized in diabetes and endocrinology, she crossed the Pacific Ocean to the US to join Dr. Leonard Jarett's laboratory at the University of Pennsylvania as a postdoctoral research fellow. She stayed there as Senior Research Investigator and Research Assistant Professor. Her research topic was insulin signaling and its gene regulation. She became interested in precision medicine/molecular diagnostics and then completed a residency and fellowship training in AP/CP (anatomic and clinical pathology), surgical pathology and molecular genetic pathology at Drexel University, University of Pennsylvania, and Johns Hopkins University, respectively.

She joined the University of Alabama at Birmingham (UAB) in 2011 as an Assistant Professor of Pathology, and was promoted to tenured Professor in nine years. She has been leading the Molecular Diagnostic Laboratory at UAB Hospital, expanding the oncology and infectious disease molecular test menu, which built a fundamental ground for a cutting-edge joint venture, the "Genomic Diagnostic Laboratory." She has been playing a major role in teaching at UAB as well as on national and international levels. She has given many invited lectures including IAP (International Academy of Pathology) in Thailand and Jordan, Japanese Society of Pathology, and CME in Pathology in India. She also serves as the Program Director for the UAB's Molecular Genetic Pathology Fellowship and mentors fellows and junior faculty members.

Dr. Harada is one of the most collaborative clinical faculty in the department. She has published over 85 peer-reviewed manuscripts in high impact-factor journals, 41 of them as first or corresponding author, with 34 of them published since 2020. She is on the editorial boards for the *Annals of Clinical & Laboratory Science*, the *American Journal of Clinical Pathology* (Associate Editor for Molecular Diagnostics), *Lab Medicine*, and *Modern Pathology*.



Dr. Shuko Harada



Dr. Harada bio continues on page 7

F.W. Sunderman, Jr. Diploma of Honor

JOSHUA A. BORNHORST, PH.D., DABCC, FACSc

Joshua A. Bornhorst, Ph.D., DABCC, FACSc served the Association of Clinical Scientists as Treasurer for two terms (2014 – 2018) and President in 2021. He was the Program Committee Chair for the 2016 Annual Meeting in Hot Springs and Little Rock, Arkansas and the 2023 Annual Meeting in Rochester, Minnesota.

He is a Consultant and Assistant Professor in the Department of Laboratory Medicine and Pathology at the Mayo Clinic in Rochester where he serves as Co-Director of the Clinical Immunoassay and Metals Laboratories. His research interests include neurological and tumor markers, as well as the investigation of allergy component markers and assessment of the presence of trace and toxic metals.

Previously he was Associate Professor of Pathology in the School of Medicine at the University of Arkansas for Medical Science. He was technical and operations director of the AP and CP sections of the University of Arkansas Clinical Laboratory and was also the Director of the Chemistry, Toxicology, Immunology, Pediatric Clinical Laboratory, and Point-of-Care Testing sections of the University of Arkansas hospital system.

Dr. Bornhorst received a PhD in biochemistry from the University of Colorado at Boulder under the mentorship of Dr. Joe Falke and entered the clinical chemistry fellowship program at the University of Utah/ARUP Laboratories. At Arkansas, he worked to fully automate chemistry testing, reduce turnaround time, improve results reporting, and expand in-house testing menus, as well as educate pathology residents.

He has received several honors and awards throughout his career and is a past recipient of the AACC Scientific Achievement by a Young Investigator award (2009). He is a Diplomate of the American Board of Clinical Chemistry and a Fellow of the National Academy of Clinical Biochemistry. Past AACC responsibilities include serving on the Board of Editors of *Clinical Laboratory News*. He has been a Chair of the Management Sciences and Patient Safety Division of AACC and was a previous member of the AACC Publications Committee.



Dr. Joshua Bornhorst



2024 ACS Awardees continued

Gold-Headed Cane Award

CHARLES D. HAWKER, PH.D., M.B.A.

Dr. Charles Hawker is honored to be the recipient of the Association of Clinical Scientists Gold Headed Cane Award in 2024, which will mark the 50th anniversary of when he first joined the Association (1974). In November of that year, he presented his first paper to ACS on *Practical Aspects of Radioimmunoassay of Parathyroid Hormone* at the Applied Seminar on the Laboratory Diagnosis of Skeletal, Muscular, and Nervous Diseases. Over the years he presented nearly two dozen papers on laboratory automation in addition to parathyroid hormone radioimmunoassay.



Dr. Charles Hawker



Charlie served ACS as Vice President in 2008, President in 2009, and as Secretary from 2011–2015. He was a member of the Program Committees for the ACS meetings in Salt Lake City in 1997 and 2002 and Chair of the Program Committee for the Salt Lake City meeting in 2015. The Association has previously honored Charlie with the Diploma of Honor in 2011 and the Clinical Scientist of the Year Award in 2015.

He retired as Scientific Director for Automation and Special Projects after 26 years at ARUP. He also retired as Professor (Adjunct) of Pathology in the University of Utah, School of Medicine. Prior to joining ARUP, over a twenty year period, he held various positions in research and development and management at Laboratory Procedures, Inc. (Upjohn) and SmithKline Beecham Clinical Labs. He has received numerous awards including AACC's highest award, the Outstanding Lifetime Achievement Award in Clinical Chemistry and Laboratory Medicine, and other awards from the National Academy of Clinical Biochemistry (NACB), the Clinical and Laboratory Standards Institute (CLSI), and the Association for Laboratory Automation.

Charlie was a co-author of chapters on clinical laboratory automation in the 4th through 7th Editions of the *Tietz Textbook of Clinical Chemistry and Molecular Diagnostics*, and the 6th through 8th Editions of the *Tietz Fundamentals of Clinical Chemistry*. He is a frequent lecturer on laboratory automation to national and international audiences. He holds three patents and has published 50 peer-reviewed papers, 18 book chapters or invited reviews, three invited editorials, and 49 abstracts.

Young Clinical Scientist Award

ANTHONY MAUS, PH.D.

Anthony (Tony) Maus received his Ph. D. from University of Wyoming under the mentorship of Franco Basile where he worked on methods for identification of antibiotic resistant bacteria using MALDI-ToF mass spectrometry. Immediately after graduate school, he joined the Department of Laboratory Medicine and Pathology at Mayo Clinic and developed clinical tests for the Clinical Mass Spectrometry and Clinical Forensic Toxicology Laboratories. During this time, he developed innovative solutions for identification of variants of insulin-like growth factor-1 and a novel quantitation technique. He was also a key member of a team that published numerous papers on development of a mass spectrometry-based test for SARS-CoV-2 based on detection of tryptic peptides. Additionally, he worked on countless improvements to historical methods that positively impacted the laboratory and patient care, such as lowering the lower limit of quantitation of thyroglobulin and improving the precision of measurements of vitamin B6.



Dr. Tony Maus

Currently, Tony holds the title of Associate Consultant I and in this role he supports labs throughout the Division of Clinical Biochemistry and Immunology at Mayo Clinic by serving as technical resource for laboratory and development staff. Implementation of emergent technologies is a passion of his, and he is currently working to bring ion mobility instrumentation to the clinical laboratories. Performing discovery and proof-of-concept studies on potentially clinically useful biomarkers is also significant component of his work, with extensive recent effort going into evaluation of several biomarkers of neurocognitive diseases. Dr. Maus was awarded the Young Clinical Scientist Award for his presentation at the 2023 Annual Meeting entitled "In-solution Ion Pairing Benefits Measurements, Instruments, and the Environment." The award will be presented at the 2024 Annual Meeting in Jacksonville, FL.



At ARUP **Dr. Hawker** installed several major automation and robotic systems that helped make ARUP the most automated clinical laboratory in North America. These systems collectively improved productivity and quality, especially enabling ARUP to become the first laboratory to achieve Six-Sigma quality levels for lost specimens. He later developed an automated camera system that used optical character recognition (OCR) to identify specimens mislabeled by patient name.

2023 ACS Awardee

Young Clinical Scientist Award

SARRAH LAHOREWALA, B.D.S., PH.D.

Sarrah Lahorewala, B.D.S., Ph.D. is a Clinical Chemistry fellow at Houston Methodist Hospital in Houston, Texas. She graduated with a Bachelor of Dental Surgery degree from the Maharashtra University of Health Sciences, India, in 2014. Having always been interested in pathology as a subject, she went on to join her undergraduate institute as a lecturer with the Department of Oral Pathology and Microbiology, where she taught dental anatomy, dental histology, and oral pathology to undergraduate dental students. She also conducted research assessing the prevalence of tobacco-associated oral mucosal lesions and precancerous conditions among tobacco users and investigated the oral Candidal carriage rate in the saliva of autistic adults.



Dr. Sarrah Lahorewala

In 2016, she began her Ph.D. at the Medical College of Georgia at Augusta University. Sarrah's graduate research focused analyzing novel predictive and prognostic biomarkers in bladder and colorectal cancers. She also investigated novel therapeutic targets in clinical management of invasive bladder cancer. Sarrah graduated with her Ph.D. in Biochemistry and Cancer Biology in December 2020.

In her current role, Sarrah has worked to calibrate Houston Methodist Hospital's in-house anti-SARS-CoV-2 Spike ELISA assay to the WHO International Standard unit and compared its analytical performance with three commercial quantitative SARS-CoV-2 antibody tests. She is currently working on developing and validating a new spectrometry method for the detection of alcohol marker phosphatidylethanol species.



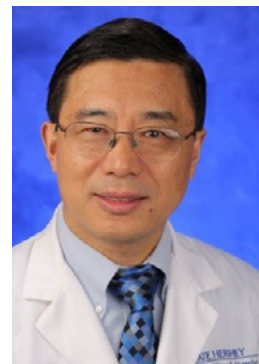
Dr. Harada continued from page 5

Dr. Harada has been participating in leadership roles at the national level of several professional societies, including Association of Pathology Chairs (APC), National Comprehensive Cancer Network (NCCN), American Society of Clinical Pathology (ASCP), Association of Clinical Scientists, and the Association for Molecular Pathology (AMP). Recently, as Vice Chair for DEI, she has taken a leadership role for the Faculty Association for Asian American Pacific Islander (AAPi) as well as the departmental DEI committee.



President's Corner

I hope all of you are doing well as we still celebrate the successful 144th Annual Meeting of the Association of Clinical Scientists in Rochester, Minnesota. This meeting was accomplished through the steadfast efforts of **Joshua Bornhorst, Charlie Hawker, Jonathan Hoynes, Chris Crutchfield, Alicia Algeciras-Schimmich, Anara Baimetova**, and other members of the Executive and Program committees, and most of all, the members who made the effort to travel to Rochester and attend the meeting.



Dr. Yusheng Zhu

The features of this remarkable meeting included several cutting-edge topics such as "Advances in Alzheimer's and Neurological Disorder Diagnostics", "Artificial Intelligence in Medicine", and "Applications of Pattern Recognition and Digital Imaging", etc. The meeting was highly appraised and the attendants had active discussions on the applications of these novel technologies in laboratory medicine.

A core identity of the Association is the close relationships developed between its members. To that end, if you are reading this newsletter, and are a member, please consider recommending a colleague you know to join the Association. Information on how to join the Association can be found at:

www.clinicalscience.org and follow the tab for "Membership." [or copy/paste into your browser: <https://clinicalscience.org/membership.html>].

Our Vice President, **Jonathan Hoynes**, along with the 2024 Annual Meeting Program Committee is actively working on the programs for our 145th Meeting in Jacksonville, FL. Please save the dates from April 2 to 4, 2024. More information can be found on our website at <http://clinicalscience.org> and follow the tab for "Meetings." [or copy/paste into your browser: <https://clinicalscience.org/meetings/html>]. We look forward to another successful meeting.

To further promote the visibility of the Association and recruit more clinical laboratory scientists to ACS, we are revamping our website. Another initiative for this year is to use social media to showcase the activities of the Association and its journal, *Annals of Clinical & Laboratory Science*. In addition to LinkedIn, thanks to the Chair of Young Fellows Section Oversight Committee, **Jessica Claus**, we recently opened a Twitter (X) account: @ACS_scientists. I encourage all of you to follow this account.

2024 is the 75th anniversary of the founding of the Association of Clinical Scientists. To celebrate the great journey of the Association, more activities will be coming.

Yusheng Zhu,
Ph.D., HCLD (ABB), D(ABCC), FACS
President (2023-2024)



Annual Meeting in Rochester Energizes Attendees

by Joshua A. Bornhorst, Ph.D., FACS, and Charles D. Hawker, Ph.D., M.B.A. FACS

The Association's 144th Meeting, held May 3-6 in Rochester, Minnesota and hosted by the Mayo Clinic, excited the members and guests in attendance with outstanding talks, delightful social events, and highly interesting tours of Mayo facilities. Chaired by **Joshua Bornhorst, Ph.D.**, the Program Committee developed a most interesting program on the general theme of "Advances in Laboratory Medicine and Pathology: Integrating Diagnostics and Data Analytics." Attendees of the meeting were eligible for 14.5 Category 1 Physician CME or ACCENT education credits.

The Claude P. Brown Memorial Lecture was delivered by **Ronald C. Petersen, M.D., Ph.D.**, Professor of Neurology, Cora Kanow Professor of Alzheimer's Disease Research, and Director of the Mayo Alzheimer's Disease Research Center, on *Alzheimer's Disease Diagnosis in the Era of Biomarkers*. Other significant lectures were presented by **Melissa Murray, Ph.D.** (Mayo Clinic, Jacksonville, Florida) on *From Microscope to Bedside How Postmodern Observations Can Impact Biomarker Research* and **Edward Creagan, M.D.**, a past president of the Mayo Clinic staff and recipient of Mayo's highest honor, the Distinguished Clinician Award, on *The Burnout Pandemic: Proven Insider Tips to Go the Distance*.

The speaker at the Annual Reception and Awards Banquet was **W. Bruce Fye, III, M.D., M.A.**, Professor of Medicine and Professor of History of Medicine at the Mayo Clinic, who spoke on *The Origins and Evolution of the Mayo Clinic from 1864 to 1939: A Minnesota Family Practice Becomes an International "Medical Mecca."*

Finally, in recognition of a career of distinguished service and fellowship, the Association's Gold-Headed Cane Award was presented to **Frederick L. Kiechle, M.D., Ph.D.** Other Association awards presented were the Clinical Scientist of the Year Award to **Yusheng Zhu, Ph.D.**, the F.W. Sunderman, Jr. Diploma of Honor to **Christopher Crutchfield, Ph.D.**, and Young Clinical Scientist awards to **Sarrah Lahorewala, Ph.D.** and **Müge Sak, Ph.D.**

Attendees were able to visit many of the Mayo Clinic's historical buildings including Foundation House (the home of Dr. & Mrs. William Mayo, where the Annual Reception and Awards Banquet was held), the Hilton Building, the Plummer Building, Heritage Hall, and Mayowood, the home of Dr. Charlie and Edith Mayo. There was also an optional historic trolley tour of Rochester.



Plummer Building, Rochester, MN



Tour group at Mayowood, the home of Dr. Charlie and Edith Mayo



Dr. Fritz Kiechle playing piano at the Annual Musicales



Dr. Yusheng Zhu receives the Clinical Scientist of the Year Award from Dr. Myra Wilkerson



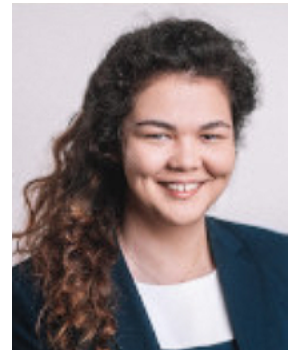
Dr. Sarrah Lahorewala receives the Young Clinical Scientist Award from Dr. Myra Wilkerson

The Young Fellows Section

Dear Readers,

We are thrilled to extend a warm greeting to all current and future members of our Young Fellows Section. Your presence here signifies a shared commitment to fostering professional growth, forging meaningful connections, and driving innovation in the realm of networking and career advancement.

I'd like to start by introducing myself: I am **Dr. Jessica Claus**, a current third-year resident physician and Curriculum Director at Brown University's Anatomic and Clinical Pathology Residency Program in Providence, Rhode Island. I am a medical graduate from Rostock University, Germany. Since I was a medical student, I have been very passionate about pathology education and have created and published multiple book projects in pathology for medical students. I have a broad interest in applied and clinical sciences and given the very early career stage, I am hoping to develop these interests in collaboration with you, the reader, and my fellow members alongside other younger members of our association. As a new appointed addition to the Association's Executive Committee, I would like to thank the Association and its members for the warmest welcome during the 2023 annual meeting in Rochester, Minnesota.



Dr. Jessica Claus

Our Young Fellows Section Committee serves as a dynamic platform for individuals from diverse backgrounds and expertise to collaborate, exchange insights, cultivate lasting relationships and create pathways for personal and career development. Early-career fellows receive the opportunity to network with other professionals in the field, give presentations, receive awards at our annual meetings and receive mentorship from more experienced members. To that end, we encourage young fellows to submit cases and review articles or original research manuscripts for publication to the *Annals of Clinical and Laboratory Sciences*, the journal of ACS. The editorial board is also encouraging trainees to serve as reviewers for the journal, wherein you can be paired with senior reviewers to receive hands-on guidance in the reviewing process. I'm excited to be a part of the Association and to contribute to this capacity as the newest Young Fellows Section Chair. I look forward to working with you all more in the coming months and years. Please do not hesitate to reach out to me in the meantime and I look forward to the new and familiar faces I will see at our next annual meeting.

Note: The Young Fellows Section will be holding a social event during our upcoming Annual Meeting in Jacksonville, Florida. This will be a great opportunity to meet up with your peers and members of the association to build networks and learn more about other ways to get involved in the association. Further information will be provided when we get closer to the conference.

Sincerely,

Jessica Claus, M.D.

Chair, Young Fellows Section Oversight Committee

PGY3 Anatomic and Clinical Pathology Resident, Brown University,
Department of Pathology and Laboratory Sciences



Interview: Dr. Frederick Kiechle

The Young Fellows Section arranges interviews between Young Fellows and more senior Fellows. Young Fellows can obtain scientific and career advice from a senior member who may offer valuable guidance. This interview of Frederick Kiechle, M.D., Ph.D., FACSc. was conducted by Jessica Claus, D.O., Chair of the Young Fellows Section Oversight Committee.

Editor's Note: Dr. Claus transcribed Dr. Kiechle's responses from a verbal interview. Exact quotes by Dr. Kiechle are italicized and have quotation marks.

Dr. Kiechle served the Association as Vice President in 1998 and President in 1999. He received the Gold Headed Cane Award in 2023, the Clinical Scientist of the Year Award in 1996, and the FW Sunderman, Jr. Diploma of Honor in 2006.

Jessica Claus: Please tell me a little bit about yourself. Where did you grow up? Where did you go to school?

Frederick Kiechle shared that he was born in Indianapolis, Indiana, and since his father was in the Air Force, he had the opportunity to grow up in various locations, including Mississippi, Wisconsin, Alabama, and eventually Evansville, Indiana.

"We were moving around the South, so much, I was in 3 different first grades and I also spoke non-southernese."

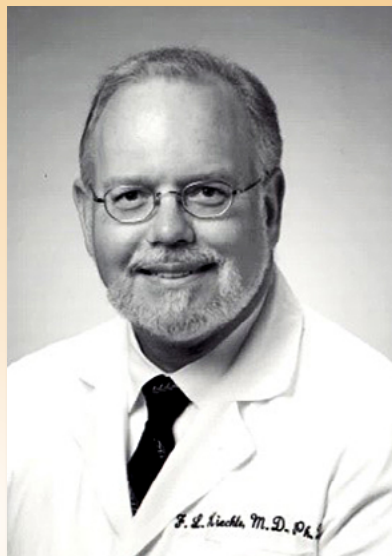
Claus: How did you develop an interest in science and medicine?

Kiechle explained that a chemistry teacher in high school who emphasized studying sparked his interest in science. Later, he pursued a pre-med degree in chemistry, which taught him fundamental research techniques and solidified his career interest in science and medicine. Dr. Kiechle later attended Indiana University, where he was admitted to both the biochemistry Ph.D. program and the medical program. However, he admitted that his only interest in biochemistry at the time came from the book *The Genetic Code* by Isaac Asimov. Due to the university's dearth of an introductory biochemistry course at the time, Dr. Kiechle lacked biochemistry knowledge. However, it was also a chance to network with peers and learn from colleagues. Dr. Kiechle found methods to make the academic challenge enjoyable through his own intellectual rigor and collegial friendship.

"I said to my friend from Notre Dame, what does this 'PP' little 'i' mean? That's how bad my knowledge in the beginning was! So, I had a lot of catching up to do. Which was challenging, but kind of fun."

Claus: Tell me about your career progression. Did your career progression exceed your expectations?

Kiechle noted that his career began with a medical degree and a Ph.D, which took five years to complete. This experience led him to choose pathology as his career choice, inspired by his father's work as an anatomic and clinical pathologist and his trips to Eli Lilly's laboratory while in high school. Dr. Kiechle then pursued a clinical chemistry fellowship at Washington University in St. Louis, working under Leonard Jarrett on the second messenger investment action project. After completing a Hartford Fellowship, he was accepted as a research associate at the University of Pennsylvania. During this time, he became the Director of the Stat Lab and later became Assistant Professor and Assistant Director of the Department of Lab Medicine. This early career allowed him to network with many people and introduced him to new opportunities in his career, including the above-mentioned appointments.



Dr. Frederick Kiechle

He was hired at William Beaumont Hospital from 1983 to 2005, where he served as Chief of Clinical Chemistry from 1983 to 1988, Chairman of the Department from 1988 to 2005, and the Medical Director of the Beaumont Reference Lab. Throughout his tenure at Beaumont, he started several groundbreaking projects, such as the first Molecular Diagnostic Lab, DNA Symposium, Point of Care Program, Lab Automation, Reference Lab, Toxicology lab, Flow Lab, Safety lab, and Molecular Diagnostic Services. These initiatives were all part of a stream of new opportunities, as the organization expanded their chemistry menu and introduced microbiological testing. From 2006 to 2016 Dr. Kiechle also worked for a private practice group called "Pathology Consultants of South Broward" in Hollywood, Florida, where they expanded their chemistry menu, started automation in chemistry and hematology, and introduced various infectious disease tests.

These projects were accomplished with the help of other professionals, demonstrating that laboratory science is not a single sport but rather a team sport. Dr. Kiechle's career has been marked by significant milestones and collaborations with colleagues and mentors. His dedication to his craft and the opportunities that have risen throughout his career demonstrate the power of collaboration and determination in the face of adversity.

"I always like to say, you know the laboratory science is not a single sport, it's a team sport. And if you don't get the team members involved for the project you're interested in, the right

continued on page 11

Dr. Kiechle Interview continued

continued from page 10

ones at the right time, the project will probably suffer a delay to start up or never get started up.”

Claus: How did mentorship influence your professional career?

Kiechle: spoke fondly about the people he’s met and helped him in his career journey, from a father who inspired his curiosity for pathology, to a chemistry teacher, to a friend from Notre Dame who taught him biochemistry, and to a fellowship director who recruited him in his early career and the countless other professionals who have collaborated with him. From these experiences, he’s published a book, titled “Disruptive Technology and Clinical Medicine,” that outlines his career arc and the people who have inspired and influenced him. The book will be published by CAP Press in August, 2023; there is a prologue outlined in the book in 2 to 3 pages.

“In that table there are all a lot of people who are involved in helping me get the projects done.”

The book highlights the importance of machines in medical communication, with a table of pages containing the names of many people involved in project completion. It is worth noting that every project involved multiple people, who played a part in the project’s success.

“But every project had more than one person almost always involved. So, I didn’t do this by myself.”

This perspective can be useful for understanding the challenges faced in the field and be a source of encouragement.

Claus: How did you get involved with the Association?

Kiechle had attended a couple of meetings of the Association in his early career. However, when he started helping a PhD candidate with public speaking and presentations, he rediscovered how much he enjoyed the Association and its activities.

“I got very busy with clinical pathology and committees, until one of my research PhD people really needed help. I thought, you know, this Association group is full of nice people who all would have good questions. Since giving short talks can’t be too stressful, I invited him along to give a talk at the Association. We went to a couple of meetings, and then it dawned on me! I thought, ‘this is really nice belonging to such a group.’ I think I’ll do some stuff myself.”

Knowing that the Association group was full of friendly, supportive peers, Dr. Kiechle invited the individual to give a talk. After attending a few meetings, Dr. Kiechle himself realized the importance of belonging to such a group and decided to continue independently.

Claus: What unexpected turns did you have in your career?

Kiechle describes his experience working at Beaumont, where he was originally recruited as a professor and had a lab with a \$200,000 budget and a granting agency. The lab was involved in basic research and administrative work, with a focus on innovations. He attended meetings sponsored by vendors to learn about new technologies and ideas for automation.

However, after he was given a severance package, he was eventually recruited, and then decided to move south. At the time he had three job offers: a university and academic job in Pennsylvania, a hospital-based position at Beaumont, and a private practice group where the money collected at the end of the month was divided among partners.

Dr. Kiechle explains that he would have gone with the private practice group if given the opportunity. However, he has red-green color blindness and struggles to see stains, which led him to choose a clinical pathology (CP) career. Dr. Kiechle has been doing CP independently for a long time and despite that fact, he still does not own a microscope. Dr. Kiechle’s experience with three jobs at the same time was stressful, but it worked out well. The biggest shocker came when Beaumont decided to list the top 10 salary people for nonprofit institutions, which it did for three years in a row. He knew he would eventually leave. Despite the unexpected trends, the author’s experience at Beaumont was a testament to the resilience and determination of their team.

Claus: How has ACS helped you in your career?

Kiechle discussed his experience as a president and vice president of ACS with fondness, finding it to be highly enjoyable and supportive towards his career. The planning and organization of each meeting event was particularly enjoyable, according to Dr. Kiechle as they were short enough to convey abstract information without being overwhelming. The group allowed people from different fields to provide information about their respective fields, and has sections for AP and CP participants to discuss their work or cases. This helped them stay on top of their work and organized.

“I was involved in the leadership position with the group for some time. But what I found the most fun was the way they organized the meeting. You have lots of intensity, short enough to get the message across abstracts, you know.”

Another aspect of their group Dr. Kiechle particularly enjoyed was ACS’s musicale program.

“And then the other thing that really sort of anchored me to this group is the odd way I got involved in the musicale, which has a history.”

Dr. F.W. Sunderman, Sr, who owned a Stradivarius violin, and his wife, would fly on jet planes with various musicians, focusing on classical music. They would perform quartets and sonatas, and even bring in outside talent. The group was always enjoyable, but one day, a former trumpet player suggested they play jazz. The invitation started a tradition for Dr. Kiechle, who has since played jazz pieces at the end of the Musicale that closes out each ACS meeting. Dr. Kiechle also mentions the support he received from the members, especially when facing career issues, ACS members were very helpful and supportive. Overall, Dr. Kiechle’s experience with the group has been a valuable experience for them.

Claus: Did you have any instances where mentors influenced your professional career? How did they influence you?

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Dr. Kiechle Interview continued

continued from page 11

Kiechle noted that Robert Hunter, a Texas-based scientist, was the most influential, in part for inviting Dr. Kiechle to be a guest lecturer and visiting pathologist and also by providing positive feedback.

“Everybody had something to say about what I was doing. I guess that’s just the way it is. But probably the most positive stuff I got from him.”

Dr. Hunter was the main influential person in ACS, but Dr. Kiechle also mentioned Bill Sunderman, Jr., who taught him how to be cool when running meetings, compared to his chaotic approach at a DNA Symposium.

“To some extent, because he shared with me how to be cool when you run a meeting.”

Claus: Describe the importance for faculty to be involved in national/international organizations and to have administrative responsibilities outside of their current institutions.

Kiechle discussed the importance of fostering a sense of community and collaboration within a professional organization. He first saw participation in professional organizations in this manner when Tom Dutcher, a hematopathology expert, introduced him to the ASCP.

“He was chairman of Clinical Pathology at Beaumont when I was in charge of Clinical Chemistry, and I took over his position after he retired. But he got me started with ASCP as a member.”

From the beginning, Dr. Kiechle enjoyed giving lectures and sharing his work on point of care testing and was initially hesitant to take control of their central lab. However, as time went on, the situation became less confrontational and more open. He also mentions the challenges of being active in both the ASCP and CAP.

Dr. Kiechle suggests that if one wants to do something different, they should consider joining a professional organization like the CAP and participate in various committees as he did, such as the publications committee, patient preparation and specimen handling, editorial board, Chemistry Resource Committee, and Technology Resource Committee. Dr. Kiechle recommends that everyone, even at the residency level, should try to get involved in committees, as both organizations have resident positions available for committees. Both organizations have forums and places where residents can get to know the organization before their launch. This allows them to get a feel for the organization and its members before they begin working on their own projects.

Claus: How did you develop your network of colleagues over the years? How critical has this been towards success in your career?

Kiechle noted that a career in clinical chemistry relies on a network of colleagues, who can provide valuable insights and support.

“I would say, I wouldn’t have a career if I didn’t have a network of colleagues.”

This network includes attending meetings, talking to vendors, and interacting with experts in the field. Attending meetings and talking to colleagues who have the equipment can help identify areas for improvement and avoid mistakes. By getting to know people who do similar tasks, one can avoid making decisions that may not be suitable for their current or future work.

Exploring different labs and cultures can also provide a world view of the industry and help expand one’s horizons. Going to different countries and visiting different labs can provide a better understanding of the industry and help one make informed decisions about their career.

“The different way people in the culture handle the laboratory and all those factors are also important to give you ... a world view of what’s going on around you.”

Dr. Kiechle saw that a strong network of colleagues is crucial for success in clinical chemistry. Attending meetings, talking to vendors, and engaging in discussions can help identify areas for improvement and support. Embracing the support of colleagues and traveling to different locations can provide a comprehensive understanding of the industry.

“So, you find out by going to the meetings [...] You also talk to your colleagues who actually have this equipment, and you get to know who the experts are.”

Dr. Kiechle discussed the importance of keeping an eye on disruptive technologies, such as the Apple Watch and implantables measuring interstitial fluid. Disruptive technologies can be both useful and frustrating, as they can change the way laboratory functions and its workflows. One example is the Edison, which was used to measure multiple assets on a small volume but failed due to poor collection techniques. Another example is the microbiology device, which can identify microseconds with a micro-switch off device.

However, these technologies often have a long development process, with six steps to go through before a product can be marketable. This process can be time-consuming and costly, making it difficult to find a solution for a startup company. By being on the lookout for these developments and ensuring that they are implementable, businesses can stay ahead of the curve in the ever-changing world of technology.

Claus: What advice would you give to someone starting out in their career in clinical chemistry/laboratory medicine?

Kiechle *“So, clinical chemistry is a garage of different things.” [...] Clinical chemistry is a diverse field that offers a wide range of exciting opportunities. It is essential to find what interests you and engage in activities that are exciting and relevant to your interests. If you find*

Dr. Kiechle continued

something interesting, consider becoming an expert in it. [...] I think in any career you decide to go into, you need to do stuff that interests you. [...] One way to become an expert in clinical chemistry is by doing validation of new equipment or specialized testing. However, there is often no protocol for doing certain tasks, so it is crucial to know the LDTs and work them up accordingly. The more complicated the tasks, the larger the lab you will work in. For example, if you work in a small rural laboratory, you will likely be doing routine chemistry tasks and may want to find something else to do. However, the larger the lab size, the more interesting the chemistry lab will be. Another test of a specialist's fortitude in clinical chemistry is when a new system is introduced in the hospital and they have to validate it. [...] This can be a mind-boggling task, but if you like it, it's fun, but if you don't like it, don't do it. [...] Some people may get stuck thinking about themselves as one thing or two, and as their ideas become less relevant, they need to reinvent themselves and find something else to do. Some people may get stuck in doing one thing over and over again", like a professor he observed. "He was going to sequence every microbe and molecule in the animal kingdom. Well, okay, that's interesting for only up to a while. So anyway, you know, eventually you have to stop [...], and maybe sequence something else."

Dr. Kiechle shared that it's important to recognize that a career in clinical chemistry requires a balance of passion, passion, and dedication to one's chosen field.


Claus: What advice would you give someone at the Associate Professor level in their career?

Kiechle suggests evaluating disruptive technologies and working with a startup company with a technology they believe in.

"This is a time when evaluating disruptive technologies comes into play, and they might want to take a bet on working with the startup company that has a technology that they believe in."

If the company fails, they could start another with another company, gaining experience in the non-academic world and industrial world, according to Dr. Kiechle. He suggests starting with a consulting gig or two to gain experience and knowledge in equipment and methodologies.

"You don't have to jump right into it full and quit your academic job, but just have a consulting gig or two that get you involved in it. Some interesting side projects that could lead -to you know- the equipment or changes in methodology that can make a difference in patient care."

Dr. Kiechle emphasized the importance of reinventing oneself and finding a partner who can assist with the work. He believes that each individual situation is unique and that the real goal is to find ways to explore new ideas. 

The Grapevine: News

Dr. Robert Hunter Retires as Director of Scientific Sections

After 35 years serving as Director of Scientific Sections, **Robert L. Hunter, M.D., Ph.D.** has retired from that position. **Yusheng Zhu, Ph.D.**, President of ACS, commented that the Association is most grateful for the many years of service **Dr. Hunter** has given. **Dr. Hunter** served as Vice President in 1987 and President in 1988. The Association awarded him a Diploma of Honor in 1987, the Clinical Scientist of the Year Award in 1989, and the Gold Headed Cane Award in 2015.



Dr. Robert Hunter

Dr. Zhu also announced that the new Director of Scientific Sections will be **Kyle C. Kurek, M.D.** **Dr. Kurek** is currently the Senior Associate Editor of the Association's journal, the *Annals of Clinical & Laboratory Science* and was instrumental, with the Editor-in-Chief, **Nina Tatevian, M.D., Ph.D.** in the recent reorganization of the journal's Editorial Board. **Dr. Kurek** served the Association as Vice President in 2013 and President in 2014 and was the recipient of the Young Clinical Scientist Award in 2008 and the Clinical Scientist of the Year Award in 2014. He is a Professor of Pathology at the University of Utah and Associate Division Chief, Pediatric Pathology. He is based at Primary Children's Hospital in Salt Lake City, Utah.



Dr. Kyle Kurek

New Members

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Washington, D.C.

Larisa Debelenko, M.D., Ph.D.
Assoc. Professor of Medicine
Columbia University College of Physicians & Surgeons
New York, NY

Karen W. Eldin, M.D., M.B.A.
Anatomic & Clinical Pathologist
Mass General Brigham, Salem Hospital
Mass General Brigham, Newton-Wellesley Hospital
Mass General Brigham, Brigham & Women's Faulkner Hospital
Salem, MA

Nidhi Tandon, M.D.
Assistant Professor, Dept. of Pathology & Lab Medicine
University of Texas Health Science Center at Houston
Houston, TX

Liang Cheng, M.D., M.S.
Professor and Vice Chair for Translational Research
Department of Pathology and Laboratory Medicine
Warren Alpert Medical School of Brown University
Providence, RI

ASSOCIATE FELLOWS

Jessica Claus, M.D.
Resident, Anatomic and Clinical Pathology
Warren Alpert Medical School of Brown University
Providence, RI

ACS Announces Alexander Feldman Travel Grant


The Association has announced the addition of a third travel grant for scientists, age 45 or younger. This travel grant is named in honor of **Alexander Feldman, M.D., FACSc** who passed away suddenly May 11, 2022 and had been serving the Association in several capacities including as Chair of the Young Fellows Section. The **Alexander Feldman Travel Grant** is awarded in honor of **Dr. Feldman's** contributions to the Association on behalf of young clinical scientists.



*Dr. Alexander Feldman
(1984-2022)*

The Alexander Feldman Travel Grant is awarded based on the quality of the submitted abstract for an Annual Meeting. The recipient must be a Fellow or Associate Fellow of the Association, age 45 or under. The award enables the recipient to attend the Annual Meeting to which he/she submitted the abstract. The travel grant consists of \$2000 that can be used to pay for travel, expenses, and registration to attend the meeting. Details regarding the **Alexander Feldman Travel Grant** can be found on the website at: <http://clinicalscience.org> [or copy into your browser: <https://clinicalscience.org/awards/html#AnnualMeetingTravelGrants>].





YOU!

Fellow or Associate Fellow to volunteer to serve as Newsletter Editor for the *Clinical Science Trumpet*. This is a great way to serve and learn about the Association. It can also open doors to other responsibilities and opportunities in ACS.

Contact Charles D. Hawker, Ph.D., at:
charlie@charlesdhawker.com

Newsletter Trivia Question

Edited by **Stephen M. Roper, Ph.D., FACSc**

The first person to email the correct answer will have their name mentioned in the following newsletter and the satisfaction of knowing they won. Please respond to, or if you *have a trivia question you would like to submit*, please email to Stephen M. Roper at: smroper@wustl.edu.

PREVIOUS QUESTION

(submitted by **Dr. Stephen Roper**)

Newborn screening (NBS) labs rely heavily on mass spectrometry (MS) analysis. Unlike many clinical MS assays, however, NBS labs do not utilize chromatography. Rather, specimens are injected into a continuous flow of solvent(s) that is aerosolized and directly enters the instrument. What 3-word phrase describes this process? What is the benefit of this approach vs. LC-MS?

ANSWER

No one submitted an answer for the previous trivia question.

The answer is:

Flow-injection analysis (FIA). The benefit of FIA is speed (typically at the expense of sensitivity and specificity).

CURRENT QUESTION

(submitted by **Dr. Stephen Roper**)

S-adenosylmethionine (SAM) is a ubiquitous methyl-group donor utilized in numerous biological reactions. SAM is generated in the transmethylation pathway; a series of reactions that convert methionine to homocysteine. Homocysteine, in turn, can be shunted down the transulfuration pathway (ultimately generating Cysteine or sulfate) or it can be remethylated back to methionine. Name the two vitamin co-factors involved in the remethylation of homocysteine to methionine.

ANSWER

The answer will appear in the next *Clinical Science Trumpet*. The person submitting the first correct answer will have a chance to write the trivia question for the subsequent newsletter.

Submit your answer by email to **Stephen M. Roper, Ph.D., FACSc**, at: smroper@wustl.edu.

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Clinical Science Trumpet

Newsletter of the Association of Clinical Scientists

The Clinical Science Trumpet Newsletter is the official newsletter of the Association of Clinical Scientists and is published three times per year. Back issues may be viewed at: <http://clinicalscience.org/news.html>.

Announcements, commentaries, and news/photos of members are welcome. Please send to the Editor at: charlie@charlesdhawker.com.

Publisher: Association of Clinical Scientists
Interim Editor: Charles D. Hawker, PhD, MBA, FACSc
Graphic Editor: Michael Hawker, MArch, MS, AIA, ACA (Adobe Certified)