Bios of Speakers, Panelists and Moderators
# 2025 FaceBase Community Forum

Helen M. Berman

Dr. Berman is a Board of Governors Distinguished Professor Emerita of Chemistry and Chemical Biology. She is currently a Distinguished Professor of Quantitative and Computational Biology at the University of Southern California. Her research has focused on nucleic acids, protein-nucleic acid interactions, and collagen. She has published more than 350 scholarly articles.

Helen was a co-founder of the Protein Data Bank (PDB) archive that was launched in 1971 and has been committed to the continued development and maintenance of this community resource. Major accomplishments on this journey include taking leadership roles in establishing several other data resources including the Nucleic Acid Database, the Nucleic Acid Knowledgebase, the Research Collaboratory for Structural Bioinformatics PDB, the Worldwide PDB, the Structural Biology Knowledgebase, and the Unified Data Resource for 3D Electron Microscopy.

Helen is a member of the National Academy of Sciences, the American Academy for Arts and Sciences and a Fellow of the Biophysical Society, the American Association for the Advancement of Science, the American Crystallographic Association, and the International Society for Computational Biology. She is the recipient of several awards including the Benjamin Franklin Award for Open Access in the Life Sciences.
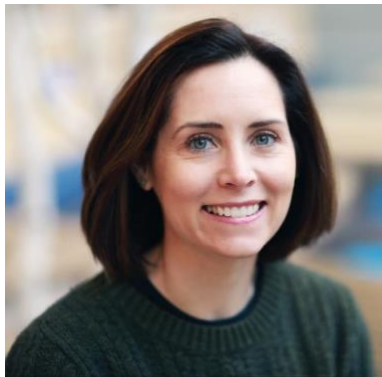
Samantha Brugmann, Ph.D. (Cincinnati Children's Hospital)

Dr. Brugmann is a developmental biologist studying craniofacial development and disease. Her long-term goal is to help children with craniofacial anomalies by generating tissue amenable for surgical repair. To achieve this goal, her lab specifically focuses on the role of the primary cilium during craniofacial development and the craniofacial anomalies that arise when the cilium does not function properly. Projects in her lab utilize avian, murine and human-induced pluripotent stem cells to gain a better understanding of the molecular mechanisms associated with craniofacial anomalies. In addition to using existing animal models to understand human craniofacial disorders, her lab also sequences patients and generates cell-based models to uncover novel genetic causes for craniofacial ciliopathies.

Yang Chai, DDS, PhD (University of Southern California)

Dr. Chai is the University Professor and the George and MaryLou Boone Chair in Craniofacial Biology at the University of Southern California. He serves as the Director of the Center for Craniofacial Molecular Biology (CCMB) and Interim Dean and Associate Dean of Research at the Herman Ostrow School of Dentistry of USC. Dr. Chai earned a DMD degree from Peking University School of Stomatology where he also did his residency in Oral and Maxillofacial Surgery as well as DDS and PhD in Craniofacial Biology from the University of Southern California. He is most noted for his research on the molecular and cellular mechanisms of craniofacial development and birth defects, which has led to the successful rescue of cleft palate and suture regeneration in craniosynostosis in preclinical studies. He studies stem cells and is currently using innovative 3D-printed scaffolds seeded with stem cells to regenerate tissue for patients who have lost bone due to trauma, congenital defects, or disease.

Dr. Chai is a member of the National Academy of Medicine. He is an elected member of the American Academy of Arts and Sciences (AAAS) and the National Academy of Inventors Senior Member. Dr. Chai has authored more than 180 scientific papers and numerous book chapters, and recently edited a book - Craniofacial Development. Dr. Chai has been continuously funded by the National Institutes of Health for more than 27 years. His work has earned him multiple

awards including the 2011 IADR (International Association of Dental Research) Distinguished Scientist Award and 2023 Paul Goldhaber Award from Harvard University School of Dental Medicine.

Peter Claes, Ph.D. (KU Leuven, Belgium)

Dr. Claes' research blends technology and biology. He earned his MSc in electrical engineering (2002) and PhD in medical image analysis (2007) at KU Leuven, Belgium, developing a craniofacial reconstruction system for victim identification. He pursued postdoctoral research at Melbourne Dental School, Australia, and became a senior research expert at KU Leuven in 2015. Claes is an honorary research fellow at Murdoch Children's Research Institute, Australia, and was a visiting scholar at University of Oxford (2018-2019). Since 2019, he is a professor at KU Leuven, focusing on imaging genetics. His research spans forensic science, 3D facial shape analysis, and human complex traits. These tracks share technical innovations, impacting information and engineering science, such as geometric deep learning on 3D surface data.
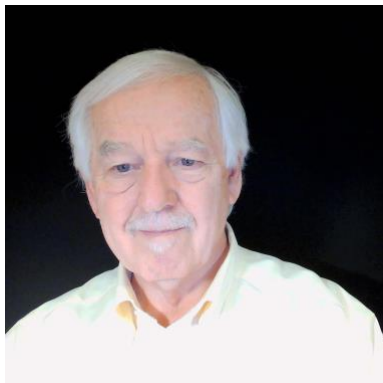
Glenn Clark, D.D.S., M.S. (University of Southern California)

Dr. Clark is president-elect of the American Board of Orofacial Pain. He has conducted extensive research in temporomandibular disorders and trigeminal motor function and served as principal investigator on several National Institute for Dental Research grants. He has authored more than 250 scholarly articles, papers and chapters, has served as editor or co-editor of five books, and has received numerous professional accolades.

Justin L. Cotney, Ph.D. (Children's Hospital of Philadelphia)

Dr. Cotney is an Associate Professor of Genomic Sciences in the Department of Surgery of The Children's Hospital of Philadelphia and The University of Pennsylvania. He also holds the Friends of Brian Endowed Chair in the Center of Craniofacial Innovation. He earned his PhD in Genetics and Molecular Biology from Emory University and completed postdoctoral training at Yale University. His research has focused on gene regulatory mechanisms in early mammalian development. He is particularly interested in long-range control of gene expression through cis-regulatory elements known as enhancers. His work has identified hundreds of thousands of enhancer sequences in human and mouse genomes that are active during critical stages of craniofacial and heart development. For this work he received the Society for Craniofacial Genetics and Developmental Biology Marylou Buyse Distinguished Scientist in Craniofacial Research Award.

Benedikt Hallgrímsson, Ph.D. (University of Calgary)

Dr. Hallgrímsson is Professor and Head of the Dept of Cell Biology & Anatomy at the University of Calgary. He is the Deputy Director of the Alberta Children's Hospital Research Institute and co-leads the Canada First Research Excellence Program "One Child Every Child" which aims to improve outcomes for child health in Canada. The central motivating question of his research program is how genetic and environmental influences impact developmental systems to produce anatomical variation. His program uniquely integrates advanced imaging and measurement (morphometrics) with developmental biology to understand the underlying mechanisms for phenotypic variation. His work extends to the mechanisms that underlie structural birth defects such as craniofacial anomalies, to the anatomical aspects of genetic disease as well as the relationship between evolution and development. Hallgrímsson was awarded the Rohlf Medal for Excellence in Morphometrics in 2015 and is a Fellow of the American Association for the Advancement of Science (2019) as well as the Canadian Academy of Health Sciences (2020).

Jennifer Kalish, MD, PhD (Children's Hospital of Philadelphia)

Dr. Kalish received her MD and PhD in Genetics from Yale University where she studied the biochemistry of DNA. She completed her residency and fellowship in Pediatrics and Genetics at the Children's Hospital of Philadelphia (CHOP) and post-doctoral training in Epigenetics with Dr. Marisa Bartolomei at the University of Pennsylvania and received a Master's in Translational Research from Penn. She is currently an Assistant Professor of Pediatrics and Genetics and Director of the Beckwith-Wiedemann Syndrome (BWS) Program of Excellence through the Orphan Disease Center. Dr. Kalish's clinical work and research focuses on epigenetic and cancer predisposition disorders, most prominently BWS. Dr. Kalish is an international expert in BWS and holds the Lorenzo "Turtle" Sartini Jr Endowed Chair in BWS Research. Dr. Kalish established the BWS Program at CHOP which includes comprehensive care from diagnosis through management for patients and their families. She cares for patients with BWS from all over the world. Dr. Kalish's work extends into the ultrarare disease space including WAGR syndrome, Simpson-Golabi-Behmel syndrome, and Malan Syndrome. Dr. Kalish also established and oversees the BWS Patient Registry at CHOP and initiated biennial educational conferences for families and health care providers on BWS. She lectures broadly on clinical practice guidelines and using rare diseases as models to understand normal growth and cancer. Dr. Kalish's translational research program focuses on studying the transition between normal growth, overgrowth, and cancer in the laboratory. She has published numerous clinical and basic science papers on BWS and other rare diseases.

Carl Kesselman, PhD (University of Southern California)

Dr. Kesselman leads ISI's Informatics Systems Research division. Created to understand how to build informatics systems that can help tackle the hardest problems of great societal impact, the work of the division spans grid computing, information security, service-oriented architectures, and sociotechnical systems and reproducibility.

Kesselman is an ISI Fellow, the Institute's highest honor. One of the fathers of grid computing and the GLOBUS open-source toolbox, now the de facto grid computing standard, he has received numerous honors for his pioneering research including the IEEE Internet Award, the Lovelace Medal from the British Computer Society and the Goode Memorial Award from the IEEE Computer Society. He is a Fellow of the British Computer Society and the Association for Computing Machinery.

Kesselman joined ISI in 1997 as a USC Computer Science Department research associate professor. Kesselman received his PhD in Computer Science from the University of California at Los Angeles, an MS in Electrical Engineering from the University of Southern California and a BS in Electrical Engineering from the State University of New York at Buffalo.

Mohammad Khalifeh, D.D.S., M.S. (University of Southern California)

Dr. Khalifeh is a board-certified Orofacial Pain Specialist and a leader in the diagnosis and management of complex orofacial pain, TMJ disorders, and headaches. With advanced training in both dentistry and pain medicine, Dr. Khalifeh bridges the gap between oral health and systemic pain conditions. He holds a Master of Science degree in Orofacial Pain and Oral Medicine and is recognized for his evidence-based, multidisciplinary approach to chronic pain management.

In addition to his clinical expertise, Dr. Khalifeh is the creator of myTMJ, an AI-powered mobile app designed to empower patients with orofacial pain by helping them track symptoms, receive personalized insights, and navigate treatment options. He collaborates with academic institutions, technologists, and healthcare organizations to innovate digital health solutions that improve quality of life for underserved pain populations. Dr. Khalifeh is deeply committed to patient education, clinical excellence, and advancing the field through technology and research.

Krishna Nayak, Ph.D. (University of Southern California)

Dr. Nayak is Dean's Professor of Electrical and Computer Engineering at the University of Southern California (USC), with joint appointments in Biomedical Engineering and Radiology. He directs the Magnetic Resonance Engineering Laboratory and the Dynamic Imaging Science Center. He is a Fellow of the IEEE, SCMR, and AIMBE, and has published >150 journal papers, >450 conference papers, and >10 US patents. His expertise is the development and clinical translation of MRI technology, including pulse sequences, data sampling and reconstruction, and artifact mitigation.
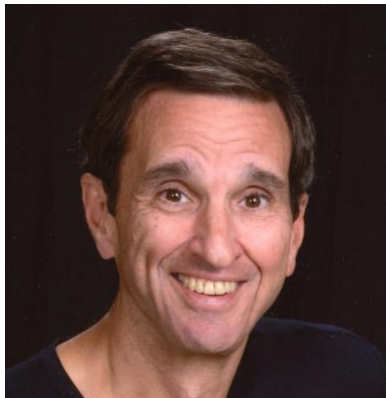
Christopher Nemeth, Ph.D., C.H.F.P. (Applied Research Associates, Inc)

Dr. Nemeth is a Principal Scientist with Applied Research Associates, a 2000+ member national science and engineering consulting firm. He earned his doctorate in human factors and ergonomics from the Union Institute and University in 2003. His 26-year academic career includes seven years in the Department of Anesthesia and Critical Care at the University of Chicago Medical Center, and adjunct positions with Northwestern University's McCormick College of Engineering and Applied Sciences, and Illinois Institute of Technology. He has served as a National Academy of Sciences committee member and is widely published in technical journals. He is a Fellow of both Applied Research Associates and the Design Research Society, a Life Senior Member of the Institute of Electrical and Electronic Engineers (IEEE), and served 8 years on the IEEE Systems, Man and Cybernetics Society Board of Governors. He retired from the Navy in 2001 at the rank of Captain after a 30-year active duty and reserve career.

Rob Schuler, Ph.D. (University of Southern California)

Dr. Schuler is a Lead Scientist at the USC Information Sciences Institute, where he currently serves as the technical lead for the NIH/NIDCR-supported FaceBase Data Hub, focusing on craniofacial research. He previously held a leadership role in the NIH/NCRR's Biomedical Informatics Research Network, directing large-scale research data Grid projects for neuroimaging and veterinary pathology. Earlier, he was a senior research engineer on the Globus project and the Earth System Grid, supporting major scientific efforts such as LHC, LIGO and the IPCC. He holds B.S., M.S., and Ph.D. degrees in Computer Science from the University of Southern California.

Parish P. Sedghizadeh DDS, MS

Dr. Sedghizadeh is a Professor of Clinical Dentistry at the University of Southern California, Herman Ostrow School of Dentistry. He is a board-certified Oral and Maxillofacial Pathologist and Diplomate of the American Board of Oral and Maxillofacial Pathology. He serves as the Department Co-Chair of Diagnostic Sciences, Anesthesia & Emergency Medicine, which also includes the disciplines of Oral and Maxillofacial Pathology, Oral and Maxillofacial Radiology, Oral Medicine, and Orofacial Pain. Dr. Sedghizadeh is a clinical and surgical oral pathologist with an active practice profile. He is Director of the Oral Pathology and Radiology certificate program at the Ostrow School of Dentistry. As a clinician-scientist, Dr. Sedghizadeh conducts clinical and laboratory research, publishes, consults, and teaches. He has over 100 peer-reviewed publications, a track record of NIH grant funding, and his research laboratory and clinical research projects focus on the characterization and treatment of microbial biofilm infections, particularly osteomyelitis and osteonecrosis of the jaw where he has developed and tested novel bisphosphonate-fluoroquinolone drug conjugates that target bone infections.

Thomas Peterson, Ph.D. (University of California, San Francisco)

Dr. Thomas Peterson is a core member of the Bakar Computational Health Sciences Institute (BCHSI), Director of the UCSF REACH Analytics Core, and Director of the Laboratory for Digital and Computational Health Sciences (LCDHS) in the UCSF Department of Orthopaedic Surgery. Dr. Peterson's team works closely with expert UCSF clinicians using prospective clinical trials and retrospective Electronic Health Records for hypothesis-driven research, patient phenotyping, knowledge integration, and machine learning prediction tools.

Debara L. Tucci, M.D., M.S., M.B.A., National Institute on Deafness and Other Communication Disorders (NIDCD/NIH)

Dr. Tucci is Director of the National Institute on Deafness and Other Communication Disorders at the National Institutes of Health, a position she has held since September 2019. In her work at NIH, she oversees the development and implementation of strategic priorities to advance science and population health related to the mission areas of hearing, balance, voice, speech, language, taste and smell.

Prior to coming to NIH, Dr. Tucci was a longtime faculty member at Duke University, in the Department of Head and Neck Surgery & Communication Sciences. Dr. Tucci's research has focused on understanding the biological effects of hearing loss in animal models, on treatment of otologic disease, and on accessibility and affordability of hearing health care. She partnered with the Duke Clinical Research Institute and colleagues at Duke to develop a national practice-based research network, and led a research team that implemented and studied outcomes and cost-benefit of adult hearing screening in primary care clinics at Duke.
She has trained and mentored many resident physicians, junior faculty, and graduate students, both informally and through development of formal research training and mentoring programs. Current work as co-chair of the Lancet Commission on Global Hearing Loss allows her to pursue her passion for understanding and impacting hearing loss disability in diverse and underserved populations worldwide.

Axel Visel, Ph.D. (Lawrence Berkeley National Lab)

Dr. Visel is a Senior Staff Scientist at Lawrence Berkeley National Laboratory and Deputy Director of Science at the DOE Joint Genome Institute. He also serves as an Adjunct Professor at the University of California, Merced. His research focuses on functional genomics across animals, plants, and microbes, with a particular emphasis on decoding the biological roles of non-coding DNA in the human genome. His group has developed methods for identifying and characterizing distant-acting enhancers, using mouse models to study their roles in development, disease, and evolution. Dr. Visel has been involved as a PI, contributor, and advisor with FaceBase since its launch in 2009, supporting efforts to advance craniofacial research through collaborative genomics. As a member of the NIDCR Advisory Council, Dr. Visel chaired the NIDCR Data Science Strategy Working Group, helping to shape the institute's long-term vision for data-intensive research.

Anette Vistoso Monreal, D.D.S., M.S. (University of Southern California)

Dr. Vistoso is a board-certified Orofacial Pain specialist with a DDS from Universidad de Chile, an Advanced Certificate in Prosthodontics from Universidad del Desarrollo, a Master's in Orofacial Pain and Oral Medicine from USC, and additional clinical training in Oral Medicine at UCSF. As Assistant Professor of Clinical Dentistry at USC's Orofacial Pain and Oral Medicine Center, she directs the OralCare Precancer and Pain Clinic, Distance Learning Programs, and the Orofacial Pain Certificate Program. Her leadership extends to the American Board of Orofacial Pain, where she serves as both a board director and Recertification Chair. Dr. Vistoso's research combines clinical expertise with technological innovation, focusing on oral precancer detection and the application of artificial intelligence in orofacial pain and oral medicine to improve patient outcomes through precision healthcare.

Jennifer Webster-Cyriaque, D.D.S., Ph.D., Acting Director, National Institute of Dental and Craniofacial Research

Dr. Jennifer Webster-Cyriaque is the acting director of the National Institute of Dental and Craniofacial Research, National Institutes of Health. An accomplished clinician, researcher, and leader, Dr. Webster-Cyriaque had previously served as a faculty member at the University of North Carolina (UNC) schools of dentistry and medicine for more than two decades.

As a tenured full professor at UNC, Dr. Webster-Cyriaque also served as the attending on clinical service at the UNC Hospital's dental clinic. While there, she led research into a potential etiologic agent for salivary gland disease in patients living with HIV, assessed the oral microbiome and its implications for cancer-causing viruses, and studied the impact of the oral microbiome and oral health on HIV outcomes.

In addition to her research, Dr. Webster-Cyriaque has held leadership roles as the chair/vice chair of the Oral HIV/AIDS Research Alliance, as research director at the National Dental Association Foundation, as director of postdoctoral CTSA training, along with multiple roles within the American Association for Dental, Oral, and Craniofacial Research and the International Association for Dental Research. Since 2004, she has led the UNC Malawi project and provided assistance in founding Malawi's first dental school in 2019.

Dr. Webster-Cyriaque earned her Ph.D. in microbiology/immunology from the University of North Carolina-Chapel Hill in 1998, her D.D.S. from SUNY Buffalo in 1992, and her B.A. in biology and interdisciplinary social science from SUNY Buffalo in 1988.

Benjamin Yixing Xu, M.D., Ph.D. (University of Southern California)

Dr. Xu attended Yale University where he graduated cum laude with a bachelor of science in biomedical engineering. He received his MD and PhD degrees from Columbia University where he was part of the NIH-sponsored Medical Scientist Training Program. He completed a well-received thesis studying how the brain uses eye position signals to coordinate accurate eye movements. Dr. Xu completed his residency in ophthalmology at the LAC+USC Medical Center and USC Roski Eye Institute, where he served as Chief Resident and was recognized for his academic and teaching achievements. He completed his glaucoma fellowship with Dr. Robert Weinreb at the UCSD Shiley Eye Institute and Hamilton Glaucoma Center.

Dr. Xu's current research focus is developing novel interventions to enhance glaucoma care and prevent glaucoma-related vision loss. Dr. Xu's research combines non-invasive ocular imaging and artificial intelligence to develop precise and convenient tools to detect and evaluate patients with or at risk for glaucoma. Dr. Xu studies the impact of glaucoma on diverse populations in the United States, using big data to identify and elucidate disparities in glaucoma care. He also uses data from NIH-funded population-based epidemiological studies, including the Chinese American Eye Study (CHES) and Los Angeles Latino Eye Study (LALES), to study the prevalence and impact of glaucoma in the United States. Dr. Xu has a particular interest in studying primary angle closure glaucoma (PACG), a visually devastating form of glaucoma.