Hearing Research Inc. Overcomes the Catch 22 of Early Research

“Our fundamental philosophy is to get young researchers off the ground in hearing research at UCSF,” explains David Schindler, MD, founder of Hearing Research Inc. (HRI), a non-profit organization established more than 40 years ago when a bold concept that eventually became the cochlear implant needed funding.

Back in 1974 three farsighted UCSF otolaryngology faculty — Robin Michaelson, MD; Robert Schindler, MD; and Michael Merzenich, PhD — envisioned the cochlear implant, but they had a difficult time getting funding because nobody believed in the concept, Dr. David Schindler recalls. “In those days physicians and scientists believed that if you entered the cochlea, you would kill the ear.”

“Unable to obtain an NIH grant, we originally started HRI to raise money for the cochlear implant project,” he says.

“I was one of the surgeons involved in the project, and because I was in private practice in downtown San Francisco, my task was to get some funding,” Dr. David Schindler continues.

“HRI got its initial funding through Ms. Sally Terry, a longtime friend of my wife, Diana’s, family. As a trustee for the Bowles estate she was interested in funding projects to combat deafness, a condition afflicting several members of the Bowles

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Message from the Chair

Divergent Views of Innovation

This issue of Heads Up! contains contrasting stories about innovation: One story is about innovation being recognized after a lifetime of contribution, while another focuses on innovation at the beginning of one’s career.

Mike Merzenich, PhD, has returned from Oslo, Norway, where he received the Kavli Prize in Neuroscience in recognition of his lifetime achievement in advancing our knowledge pertaining to neural plasticity. Mike deserves the recognition, and the article on page 4 of this newsletter discusses his innovative work in that area. As many know, Mike was recruited to UCSF in the early 1970s to provide scientific rigor to the concept of cochlear implantation. It is amazing how that technology has become so widely disseminated and how the indications for implantation continue to expand. UCSF is on the forefront of this work.

Charles Limb, MD, leads our Division of Otology and Neurotology, and we have a powerful presence in pediatric care with our combined faculty team at UCSF Benioff Children’s Hospitals in Oakland and San Francisco.

This issue also looks at one philanthropic organization’s passionate pursuit of advancement in research devoted to hearing loss and communication disorders. David Schindler, MD, is highlighted because of his multi-decade work with Hearing Research Inc. (HRI). HRI has funded many studies that have advanced our knowledge of the underpinnings of hearing loss. At the same time, HRI has jumpstarted the careers of many new investigators within our department and allowed them a higher degree of freedom in their pursuit of federal funding. HRI supports work in the Coleman and Epstein labs each year, and some of the glow from Mike Merzenich’s solid gold Kavli medallion is certainly derived from HRI’s constant mission to spark innovation.

We are pleased to welcome several new faculty to the UCSF team. Three new faculty are profiled on page 5 of this issue: Jeffrey Sharon, MD, is a vestibular otologist who comes to us following a fellowship in Otology, Neurotology, and Skull Base Surgery at Johns Hopkins School of Medicine; JoAnn Czechowicz, MD, comes to us from Seattle Children’s Hospital at the University of Washington where she completed a fellowship in Pediatric Otolaryngology – Head and Neck Surgery; and Patricia Loftus, MD, who comes to us following a Rhinology and Endoscopic Skull Base Surgery fellowship at Emory University, is a rhinologist and skull base surgeon. The spring issue of Heads Up! profiled other new faculty: Jordan Virbalas, MD, from the University of Colorado, joined the pediatric team; and Dan Johnson, PhD, from the University of Pittsburgh, joined the head and neck oncology laboratory founded by Jennifer Grandis, MD.

I hope to see you at one of our upcoming CME courses. I urge you to start planning now to attend the UCSF Pacific Rim Update in Honolulu, Hawaii in February, 2017 or the UCSF Otolaryngology Update in San Francisco in November, 2017.

Warmly,
Andrew H. Murr, MD
Chairman, Professor of Clinical Otolaryngology – Head and Neck Surgery, Department of Otolaryngology – Head and Neck Surgery
family, and we were able to convince her that UCSF was well-positioned for a breakthrough."

Dr. Schindler describes a common quandary faced by young researchers: they have an idea but can’t get funding because they are presenting only an idea. They need to show evidence that the idea may work, but such proof requires equipment, which cannot be obtained without funding. “So they are in a Catch 22,” he says. “We started HRI in 1974 to help overcome that predicament, an obstacle afflicting much scientific research. If a project looks promising to the HRI Board of Directors, we will try to fund it at least partially to get it going.”

Austen D. Warburton, another family friend who was a philanthropist and well-known attorney in San Jose, was a notable founding member of HRI; his enthusiasm for HRI-funded scientific research brought in significant additional support for HRI. Three prominent individuals were also members of the original advisory board: Francis Sooy, MD; Roger Boles, MD; and Michael Merzenich, PhD.

The success of the cochlear implant fueled funding of other projects in their infancy, and today HRI continues its original mission of supporting hearing research at UCSF.

Recently funded projects include:

- Image-Guided Radiosurgery for Tinnitus in Single-Sided Deafness, led by Steven W. Cheung, MD, and Srikantan Nagarajan, PhD
- Tinnitus Rehabilitation with Hearing Amplification, led by Jolie Chang, MD
- Pathophysiology of Connexin 26-Associated Hearing Loss, led by Dylan Chan, MD

HRI provided key early support to the Coleman Memorial Laboratory and the Saul and Ida Epstein Laboratory for Auditory Physiology and Genetics in the Department of Otolaryngology – Head and Neck Surgery. A major achievement of the labs was the development, under the direction of Drs. Robin Michaelson, Robert Schindler, and Michael Merzenich, of the cochlear implant. HRI is acknowledged in more than 400 scientific papers.

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The Schindler Dynasty at UCSF

Dr. David Schindler, founder of Hearing Research Inc., is one of five Schindlers in a three-generation dynasty that changed the landscape of otolaryngology and has had far-reaching implications for research, administration, teaching, and patient care at UCSF.

Dr. Meyer Schindler graduated from UCSF in 1938 and was a member of UCSF’s clinical faculty for 43 years, including serving as co-chair of the Department of Otolaryngology – Head and Neck Surgery. All the while he ran a private otolaryngology practice that today, after 76 years, is still providing ear, nose, and throat medical care for the patients of San Francisco.

Dr. David Schindler, a clinical professor in the Department of Otolaryngology – Head and Neck Surgery, graduated from the UCSF School of Medicine in 1966 before completing an internship at San Francisco General Hospital and a residency at UCSF. While serving in the US Army at Madigan General Hospital near Tacoma, Washington, he and Harvard-trained otolaryngologist KJ Lee, MD started an ENT residency program that is still going strong today. He then returned to San Francisco in 1973 to join his father, Meyer Schindler, MD, in private practice at 450 Sutter Street.

Dr. David Schindler’s younger brothers — Drs. Robert and Brian Schindler — graduated from UCSF in 1967 and 1974, respectively. In addition to significant contributions to the development of the cochlear implant, Dr. Robert Schindler chaired the Department of Otolaryngology – Head and Neck Surgery for a decade in the late 20th century, while Dr. Brian Schindler maintained their father’s private practice with Dr. David Schindler, whose son, Dr. Joshua Schindler, graduated from UCSF in 1998. All followed the patriarch’s path to UCSF and into the specialty of otolaryngology.
Dr. Michael Merzenich Awarded Kavli Prize for Neural Plasticity Work

Michael M. Merzenich, PhD, professor emeritus of Otolaryngology – Head and Neck Surgery, has been honored with the Kavli Prize in Neuroscience, one of the most prestigious awards for scientific research.

The Norwegian Academy of Science and Letters announced the 2016 Kavli Prize Laureates in Astrophysics, Nanoscience, and Neuroscience on June 2. Dr. Merzenich shares the Kavli Prize in Neuroscience with Eve Marder, PhD, from Brandeis University and Carla Shatz, PhD, from Stanford University. The Kavli Prize includes a one million dollar cash award as well as a gold medal and a scroll.

“I offer congratulations to Mike Merzenich and all of his colleagues and collaborators,” said Chairman Andrew Murr. “The prize recognizes Dr. Merzenich’s instrumental role in defining the properties of neural plasticity. His research showed that many aspects of brain function are ‘plastic’ and that the brain can rewire itself after injury.”

Dr. Merzenich’s work has focused on defining the neural basis of learning, recognition and memory; defining mechanisms underlying the origins of functional brain illnesses and disabilities; and developing training strategies for remediating learning-disabled and movement-disabled adults and children.

Dr. Merzenich earned his PhD in physiology at Johns Hopkins University in 1968. After postdoctoral research at Madison, Wisconsin, he joined the UCSF Department of Otolaryngology – Head and Neck Surgery and was on the team that developed a prototype for today’s electronic cochlear implants. From 1996 to 2003 he led the Scientific Learning Company and then developed computer-based “brain training” for enhancing cognitive performance as the co-founder of Posit Science. Dr. Merzenich was elected to the National Academy of Sciences and the National Academy’s Institute of Medicine. After a long career at UCSF as Francis A. Sooy Professor and Co-Director of the Keck Center for Integrative Neuroscience, Dr. Merzenich retired in 2007.

“The prize recognizes Dr. Merzenich’s instrumental role in defining the properties of neural plasticity. His research showed that many aspects of brain function are ‘plastic’ and that the brain can rewire itself after injury.”

Andrew Murr, MD

Honors & Awards

Dr. Andrew Goldberg Appointed to Boles Academy Chair

Andrew Goldberg, MD, MSCE, was appointed in August 2016 to the Roger Boles, MD endowed Academy Chair in Otolaryngology Education. The Boles Chair was previously held by Andrew Murr, MD.

“In this role Andy plans to develop and study techniques for assessment of surgeons in the operating room,” noted Dr. Murr. “We look forward to seeing Andy implement the Teaching Observation Program for surgical teachers, a program that will have important benefits for surgical trainees, teachers, and ultimately, patients.”

Dr. Goldberg, a Professor of Clinical Otolaryngology, received his medical degree from Boston University, and he completed an internship at the Los Angeles County-Harbor/UCLA Medical Center. He completed his residency at the University of Pittsburgh School of Medicine’s Eye and Ear Hospital, which was followed by a fellowship in clinical epidemiology of cancer from the National Cancer Institute Center for Epidemiology and Biostatistics in Philadelphia, PA. He also earned a master’s degree in Clinical Epidemiology (MSCE) from the University of Pennsylvania.

Academy Chair holders are members of the Haile T. Debas Academy of Medical Educators and serve as liaisons between the Academy and their academic departments. The mission of the Haile T. Debas Academy of Medical Educators is to support the people who execute and advance the educational mission of the UCSF School of Medicine with the goal of promoting an educational climate that accelerates advances in teaching and learning, champions educator careers and improves health.
Welcome to the Department

New Faculty Members Join OHNS

JoAnn Czechowicz, MD, will join UCSF as a Clinical Assistant Professor in the pediatric otolaryngology – head and neck surgery division in January 2017. Dr. Czechowicz completed both her MD and her Otolaryngology – Head and Neck Surgery residency in 2010 and 2015 respectively at Stanford University School of Medicine. In July 2016 she completed her pediatric OHNS fellowship at Seattle Children’s Hospital at the University of Washington.

Chairman Murr notes that “JoAnn has been energized by opportunities in global health and has been the recipient of a Stanford Center for Innovation in Global Health Seed Grant, has served as an NIH-Fogarty International Clinical Research Scholar studying hearing impairment and encephalomyocardiatis in Peru, has been in the Stanford Traveling Scholars Program in West Africa, and spent a year as an NIH Cancer Research Training Fellow.” Dr. Czechowicz will be sited at UCSF Benioff Children’s Hospital San Francisco but will also contribute at UCSF Benioff Children’s Hospital Oakland.

Patricia Anne Loftus, MD, joined the Department of Otolaryngology – Head and Neck Surgery in October 2016 as a Clinical Assistant Professor. Dr. Loftus received her MD in 2010 from Jefferson Medical College in Philadelphia. She completed her residency in Otorhinolaryngology – Head and Neck Surgery at Albert Einstein College of Medicine in New York in June 2015. During her final year of residency she served as Chief Resident and received the Chief Resident of the Year Award in June 2015. Dr. Loftus completed a Rhinology and Endoscopic Skull Base Surgery fellowship at Emory University Hospital in Atlanta in June 2016. Chairman Murr commented on Dr. Loftus’s strong research, noting that “Patricia is the lead author in seven published papers in scientific journals in our field.”

Dr. Loftus will contribute both at Zuckerberg San Francisco General Hospital and Trauma Center in partnership with Dr. Marika Russell and within the rhinology and skull base practices at UCSF. She will also partner with Dr. Matt Russell on the hospitalist service. Dr. Murr noted that “Patricia’s contributions to both the skull base team and the rhinology practice will enable us to provide greater access to our patients and expand our capacity to partner with our neurosurgical colleagues.”

Jeffrey D. Sharon, MD, joined the department in October 2016 as a Clinical Assistant Professor. Dr. Sharon received his MD from Mount Sinai School of Medicine in New York in 2009. He completed both his one-year internship and his OHNS residency at the Barnes-Jewish Hospital/Washington University School of Medicine in St. Louis, MO. He received the Washington University School of Medicine Michael Paparella Resident Research Award in 2013. His fellowship, in Otolaryngology, Neurotology, and Skull Base Surgery, was completed in July 2016 at Johns Hopkins School of Medicine in Baltimore.

“Jeffrey will be part of our otology and skull base team, however he brings with him a concentrated focus on vestibular disorders from a diagnosis and treatment perspective from two of the top institutions in this field — Johns Hopkins and Washington University,” commented Chairman Murr. “I know that he will be highly appreciated by both our clinical team and our research community — not to mention our patients seeking care for vestibular problems.”

Members of UCSF Otolaryngology – Head and Neck Surgery, 2015-2016

SECOND ROW (L-R): Jolie Chang, Shauna Brodie, Elizabeth Cedars, Kristina Rosbe, Rahul Seth, Chase Heaton, Steven Pletcher, Conor McGlaughlin, Nicholas Dewyer, Joseph Chang, Philip Perez, Molly Naunheim, Jason Park.
Welcome to the Department

New Residents and Fellows

RESIDENCY CLASS OF 2021

Adrian Elliott House, MD
Dr. Adrian House received his undergraduate degree in 2010 from the University of California, Davis. In 2012 he received his master’s in Medical Sciences from Boston University. Dr. House earned his medical degree in 2016 from Boston University School of Medicine, where he served as co-chair of the Otolaryngology Interest Group for Medical Students. Dr. House performed research in a combined effort with the departments of Anatomy and Neurobiology, in which they focused on developing methods for CT/fluorescent imaging of cadaveric nasal vasculature, with hopes of applying this methodology in vivo to assist in the selection of viable mucosal flaps in the repair of skull base defects.

Madeleine Perkins Strohl, MD
Dr. Madeleine Strohl received her undergraduate degree from Yale University in New Haven, CT. Her medical degree was earned at Case Western Reserve University School of Medicine in Cleveland, OH. At the UH Cleveland Medical Center (formerly known as UH Case Medical Center) she served as a research assistant on several investigations including an examination of outcomes following tracheal reconstruction using auricular cartilage compost grafting.

Nancy Wang, MD
Dr. Nancy Wang’s undergraduate degree was completed at Stanford University. Her medical degree was completed at the University of California, Davis School of Medicine. At UC Davis she received a UC Davis Medical Student Research Fund Grant. She served as a research assistant at the UC Davis Voice and Swallow Center, where she assisted in the investigation of the effect of treatment and site of cancer on objective swallowing outcomes in head and neck cancer patients. She also served as a research assistant in a clinical trial investigating transdermal lidocaine on patients suffering from chronic subjective tinnitus. In addition, she was an officer in the American Medical Women’s Association, an organization with the goal of promoting women in medicine and mentorship for female medical students.

Mary Jue Xu, MD
Dr. Mary Jue Xu received her undergraduate degree in 2011 from the Massachusetts Institute of Technology, in Cambridge, MA. Her academic gap year was based at Butaro Cancer Center in Rwanda, a collaboration among Partners in Health, Dana-Farber/Brigham and Women’s Cancer Center and the Rwandan Ministry of Health. Dr. Xu’s medical degree was completed at Harvard Medical School, in Boston, in 2016.

INCOMING FELLOWS

Jon Mallen-St. Clair, MD, PhD
Dr. Jon Mallen-St. Clair received both his medical degree and PhD from NYU School of Medicine in 2011. He completed a surgery internship in 2012 at the University of California, Los Angeles, followed by completion of a residency in Otolaryngology from UCLA School of Medicine in 2016. In July 2016 he joined the department as a Head and Neck Oncologic Surgery Fellow.

Glenda Lois Montague, MD
Dr. Lois Montague received her medical degree form the University of Mississippi Medical Center School of Medicine in 2011. Her surgery internship was completed at the University of Chicago School of Medicine, which was followed by completion of her residency in Otolaryngology – Head and Neck Surgery at the University of Chicago School of Medicine in 2015. Her resident research project was on the Thirty Million Words Newborn Initiative in the Section of Otolaryngology at the University of Chicago. Dr. Montague joined the department as a Pediatric Otolaryngology – Head and Neck Surgery Fellow in July 2016.

Dana K. Peterson, MD
Dr. Dana Peterson earned a Master of Science degree in Oral Biology/Pathology in 2001. He received his dental degree in 2005 from the University of Sydney School of Dentistry and received his medical degree from the same institution in 2009. He completed an internship in medicine in 2010 at New South Wales Health Service, Australia. In 2011 he completed a general surgery internship at UCSF and Kaiser Permanente Medical Center in Oakland, CA. His residency in Otolaryngology – Head and Neck Surgery was completed at the University of Tennessee Health Science Center in June 2015. That was followed by a fellowship in Head and Neck Surgical Oncology and Microvascular Reconstruction at the University of Nebraska Medical Center in Omaha, NE. He joined the department as a Facial Plastic and Reconstructive Surgery Fellow in July 2016.
In Memoriam

Dieter Gruenert, PhD
1949–2016

Long-time UCSF Otolaryngology – Head and Neck Surgery faculty member Dieter Gruenert, PhD, passed away April 9, 2016.

Dr. Gruenert received his PhD in Biophysics from UC Berkeley in 1982 and was a postdoctoral fellow (1982-1984) in the Department of Carcinogenesis at the Swiss Institute for Experimental Cancer Research in Lausanne, Switzerland.

In 1986 Dr. Gruenert came to UCSF, where he pioneered many of the human cystic fibrosis and non-cystic fibrosis airway epithelial cell lines used in research around the world.

At UCSF School of Medicine and Medical Center he instructed young physicians and participated in facial nerve research as well as in the early research that led to the development of the cochlear implant.

“Dr. Dieter Gruenert was especially talented at mentoring young scientists and students. He was always excited to bring medical students, graduate students, post docs, residents, and other faculty into his projects” noted Chair Dr. Andrew Murr. “He was extraordinarily generous with his time when it came to teaching.”

From 1992-1999 he was the Co-Director of the UCSF Gene Therapy Core Center, but in 2000 he left UCSF to join the University of Vermont as a Professor of Medicine and Director of the Division of Human Molecular Genetics.

In 2003 Dr. Gruenert found his way back to the Bay Area to take the position of Senior Scientist at the California Pacific Medical Center Research Institute. In 2010 he rejoined UCSF as a Professor of Otolaryngology – Head and Neck Surgery, where he focused his research on human cell and molecular biology.

Dr. Gruenert is survived by his wife, Carole, and sons, Aaron, Jordan and Lukas of Mill Valley, and numerous relatives in the United States and Germany. The attributes that made Dr. Gruenert so beloved by those he cared for — patience, kindness, courtesy, integrity, humor, faith and an open heart — were also enjoyed by his large and loving family.

William Francis Boyle, MD
1929–2016

Dr. William Francis (Bill) Boyle passed away peacefully April 10, 2016 in San Francisco with his wife Phyllis and family by his side. Dr. Boyle was a widely respected otolaryngologist in private practice in San Francisco for almost 50 years. He was a clinical professor at the UCSF School of Medicine as well as a consulting physician at Laguna Honda Hospital. A long-time San Franciscan and part-time resident of Napa, California, he and his wife moved permanently to Napa upon his retirement.

Dr. Boyle received his medical degree from Hahnemann Medical College in 1954. Hahnemann merged with Drexel University College of Medicine and Bill considered himself an alumnus of both. He completed his medical internship at Thomas M. Fitzgerald Mercy Hospital, where he met his wife of 61 years, who was training to become a registered nurse.

Dr. Boyle served as a commissioned officer in the Navy and accepted a surgical residency at Ft. Miley Veterans Administration Hospital in San Francisco. Upon completion of his residency he entered into private practice and began a life-long affiliation with UCSF.

He is survived by his wife, daughters Mary Ann Vangrin, Aimée Dunn, Jennifer Duffy and Nora Leaf, and two grandchildren.

Memorial contributions in Dr. William F. Boyle’s name may be made to St. Joseph’s University in Philadelphia, Hanna Boys Center in Sonoma, or to the charity of your choice.

Xavier Barrios, MD
1928–2016

Xavier Barrios, MD, died peacefully on September 7, 2016 at the age of 88, surrounded by his loving family and friends.

Dr. Barrios received his medical degree at the University of Texas at Galveston. He completed his medical internship at St. Mary’s Hospital in Milwaukee, WI, where he chose to specialize in ear, nose and throat medicine. There, he met charge nurse Ann McDermott. Their affection for each other blossomed, and Ann joined Xavier when he moved to San Francisco to complete his residency in Otolaryngology at UCSF in 1960. They married in 1961 and settled in San Francisco.

As Dr. Barrios developed his private medical practice in San Francisco, he also quickly developed a well-deserved reputation as a kind and gentle physician whose bedside manner was second only to his surgical skill. He took great pride in his role as head of Ear, Nose and Throat medicine at St. Mary’s Hospital and served on the staffs at St. Luke’s Hospital and Children’s Hospital of San Francisco (now parts of California Pacific Medical Center) as well as maintaining a clinical appointment at UCSF. He also served as President of the San Francisco Medical Society and was active in the CMA and AMA. His dedication to others earned him the prestigious St. Thomas More Award for Distinction in Public Service from the University of San Francisco in 1972. Dr. Barrios continued his practice for the next three decades in San Francisco’s Mission District, serving an ethnically diverse population, until retiring in 2011.

Dr. Barrios was predeceased by his wife. He is survived by his children Bill, Jim and Patricia, and six grandchildren.
The Annual Robert A. Schindler, MD Endowed Lecture in Otology

Wednesday, December 8, 2016, 5:00 pm
Speaker: Michael McKenna, MD
Director, Division of Otology and Neurotology
Department of Otolaryngology
Harvard Medical School and Massachusetts Eye and Ear Infirmary
Mission Bay Hospital, A1602 B, 1855 4th Street, San Francisco, CA

23rd Annual Advances in Diagnosis and Treatment of Sleep Apnea and Snoring
February 17–19, 2017
Disney Boardwalk Inn Resort, Orlando, Florida

UCSF OHNS Pacific Rim Otolaryngology Head and Neck Surgery Update Conference
February 18–21, 2017
Moana Surfrider Hotel, Waikiki Beach, Honolulu, HI

Laryngeal Endostroboscopy and FEES: Performance and Interpretation
March 8–10, 2017
2330 Post Street, 5th Floor San Francisco, CA 94115

UCSF Otolaryngology Update
November 2–4, 2017
Palace Hotel, San Francisco, CA

For further information about CME courses, please go to http://cme.ucsf.edu. For information on Ground Rounds and departmental events, please visit http://ohns.ucsf.edu or contact Linh Nguyen at linh.nguyen@ucsf.edu.