



Frederick Sachs PhD

January 8, 1941 - December 27, 2023

In Memoriam: Frederick Sachs (1941 – 2023)

It is with profound sadness that we announce the passing of Frederick Sachs, a distinguished American biologist and SUNY Distinguished Professor in the University at Buffalo's Department of Physiology and Biophysics. Born in 1941, Sachs' remarkable journey from a farm in Hudson Valley to becoming a pioneering figure in the field of physiology is a testament to his unwavering dedication and passion.

Frederick Sachs earned his Bachelor of Arts degree in physics from the University of Rochester in 1962. After briefly working in the aerospace electronics field in Los Angeles, he returned to pursue a Ph.D. in physiology from the State University of New York Upstate Medical University in 1971. His thesis, "Electrophysiology properties of cultured heart cells in a linear array" was based on a novel cell culture technique that he developed. His illustrious career spanned decades, leaving an indelible mark on the scientific community.

After a postdoctoral research position with Nobel Prize biophysicist George von Békésy in Hawaii, he joined the National Institutes of Health as a staff fellow. In 1978, he accepted an assistant professor position in the University at Buffalo's Department of Pharmacology. It was in this role that in 1983,

Sachs made his seminal discovery, identifying and characterizing the first mechanosensitive ion channels, which form the basis of our senses of hearing, touch, balance and tissue volume.

This discovery led to the creation of a revolutionary drug called GsMTx4 which inhibited these channels. Undeterred by initial industry reluctance, Sachs co-founded Rose Pharmaceuticals in 2009, naming the company after his grandmother and pet tarantula. Later the drug was designated as an orphan drug for Duchenne muscular dystrophy by the Food and Drug Administration, and his laboratory rapidly became a center for researchers worldwide to learn his investigative techniques. This finding opened doors to a new class of compounds for treating the causes of atrial fibrillation. Other research was done to address arthritis, Alzheimer's disease, and cancer. Sachs also developed novel experiments through the innovative use of quantitative electrophysiology, Bright Field, fluorescence, internal reflection, atomic force and electron microscopy, auditory biophysics, mathematical modeling, programming, instrument design, and microfabrication. He also developed a software program called QuB so that other researchers could analyze their data.

In 2012, Sachs and his colleague Harvey transformed Rose Pharmaceuticals into Tonus Therapeutics, setting up headquarters at UB's New York State Center of Excellence in Bioinformatics and Life Sciences.

In addition to his numerous accomplishments, Frederick Sachs was recognized by the 1987 Guinness Book of World Records as the inventor of the world's smallest thermometer, the ultra micro-thermometer. This device, about 1/5 of the thickness of a human hair, played a pivotal role in measuring the temperature of single cells.

Recognized for his exceptional contributions, Sachs received several

prestigious awards, including the SUNY Chancellor's Research Recognition Award (2003), SUNY Distinguished Inventor (2002), UB Distinguished Professor (2002), UB MiniMed Lecture (2002), Stockton-Kimball award (2001), NSF Nanotechnology Review Panel (2001), and a Fogarty Fellowship (1992), and the 2013 Kenneth S Cole award from Biophysical Society. He was awarded the Entrepreneurial Spirit Award by SUNY in 2015. He was nominated for a Nobel Prize in 2017.

Beyond the scientific realm, Fred enjoyed playing banjo and regularly joined a folk music group for weekly jam sessions. Kayaking, a favorite form of meditation, allowed him to immerse himself in the rhythmic flow of the intersecting waves of the Niagara River. Additionally, Sachs expressed his artistic side through metal sculptures, using principles of physics to explore motion, wind, and balance.

Frederick Sachs is survived by his wife, Jane Jacobson, and his four children: Shana Pergande, Janna Willoughby–Lohr, Benjamin Sachs, Robert Sachs, four grandchildren, and two brothers Jon and Dan Sachs. His son Chris predeceased him in 2008.

Frederick Sachs leaves behind a legacy of scientific innovation, resilience, and a profound impact on the world of biology. His work will continue to inspire future generations of researchers and clinicians as they strive to unlock the mysteries of the natural world. Our thoughts are with his family, friends, and colleagues during this difficult time.

Everyone is cordially invited to attend a Celebration of Life for Dr. Sachs which will take place on SUNDAY, MAY 12, 2024, at 11:00 am at the BUFFALO HISTORY MUSEUM 1 Museum Court Buffalo, New York 14216. [716] 873-9641. A brunch reception will take place immediately follow at the same location. If desired floral tributes may be sent directly the Buffalo History

Museum. Floral tributes can be ordered at the funeral home website, www.kevinmasonfuneralhome.com

Please feel free to share a favorite memory, leave a message of condolence or light a candle here on Dr. Sachs tribute page.

Dr. Sachs arrangements have been entrusted to the Kevin M. Mason Funeral Home 154 Weimar Street Buffalo New York 14214. 716-362-0199 Fax: 716-462-5355

Previous Events

Celebration of Life

MAY 12. 11:00 AM - 1:00 PM (ET)

The Buffalo History Museum
1 Museum Court
Buffalo, NY 14216

Immediately following the Celebration of Life for Dr. Sachs, a brunch reception will take place also at the Buffalo History Museum. Is desired, floral tributes may be sent directly to the Buffalo History Museum and may be ordered online through the Kevin M. Mason Funeral Home website @ www.kevinmasonfuneralhome.com.

Tribute Wall

GV

“ I lived in the attic apartment of the Sachs home in Buffalo as an undergraduate in 1978-79. I grew to admire, respect and like Fred. He was an amazing person, there seemingly was no topic he wasn't well versed in. That year living in that wonderful apartment was one of the best of my life largely due to Fred and his family. I will miss him dearly

Gregory Vigrass - May 10, 2024 at 11:13 AM

YI

“ Ye Chen-Izu and Leighton Izu purchased the Vivid Recollections for the family of Frederick Sachs PhD.



Ye Chen-Izu and Leighton Izu - January 04, 2024 at 06:45 PM

YI

“ Ye Chen-Izu and Leighton Izu planted a [Memorial Tree](/store/Product.aspx?ProductId=4518) in honor of Frederick Sachs PhD.

Ye Chen-Izu and Leighton Izu - January 04, 2024 at 06:45 PM

NL

“ I am so sorry for your loss. May his memory be a blessing.
Norah Lincoff



Norah Loncoff - January 03, 2024 at 07:10 PM

ZY

“ *I still remember the kind words of Fred when I came to UB for a job interview in 1999, which prompted my decision of coming to work at UB. His outstanding scholarship is a tremendous inspiration for me and many scientists in the world. May Fred rest in peace! We will miss you!*

Zhen Yan - January 02, 2024 at 09:15 PM

“Ladies and gentlemen, esteemed colleagues, friends, and family, Today, I would like to say farewell to a remarkable individual, Professor Frederick Sachs, a mentor whose impact on our lives and the academic community is immeasurable. His passing leaves a void that cannot be easily filled, but his legacy will forever endure in the hearts and minds of those fortunate enough to have known him. Professor Sachs was not just a teacher; he was a beacon of wisdom, compassion, and inspiration. For many of us, his guidance was the guiding light that shaped our academic and personal journeys. As a distinguished member of the academic community at the State University of New York at Buffalo, he dedicated his life to the pursuit of knowledge, leaving an indelible mark on the institution and its students.

In the realm of academia, Professor Sachs was a visionary. His pioneering work in Biophysics not only expanded the boundaries of human understanding but also paved the way for countless researchers and scholars who followed in his footsteps. His passion for discovery was contagious, and his commitment to excellence set a standard that continues to drive the pursuit of knowledge in our academic community.

Beyond his scholarly achievements, Professor Sachs was a mentor who cared deeply for the success and well-being of his students. His door was always open, and his gentle guidance helped shape the careers of many aspiring individuals. He had a unique ability to instill confidence, nurture talent, and ignite a passion for learning that extended far beyond the classroom.

In addition to his academic prowess, Professor Sachs was a warm and compassionate human being. His kindness, sense of humor, and genuine interest in the lives of those around him created a supportive and nurturing environment. He was not just a mentor but also a friend, always ready with a word of encouragement or a listening ear.

As we mourn the loss of Professor Frederick Sachs, let us also celebrate the extraordinary life he led. His contributions to academia, his impact on the lives of his students, and his legacy of knowledge will endure as a testament to the power of a dedicated

educator. May we carry forward the lessons he imparted, the values he embodied, and the spirit of curiosity that defined his life. In this time of grief, let us remember the joy he brought into our lives, the knowledge he shared, and the inspiration he provided. Professor Frederick Sachs will be sorely missed, but his legacy will continue to inspire generations to come. May his soul rest in eternal peace. From Abdul M Ruknudin, Ph.D. Reference:ChatGPT

Abdul M. Ruknudin, Ph.D. - January 02, 2024 at 08:17 AM

KH

“*Dear Jane and Family, Please accept our deepest condolences on the passing of Dr. Sachs. You and your family are in our thoughts at this difficult time. We are always available to assist you in any way possible. Kevin M. Mason, Daniel R. LaRussa & Maggie Taberski ~ Kevin M. Mason Funeral Home~*

Kevin M. Mason Funeral Home - December 29, 2023 at 08:51 AM

AW

Fred was the best Stage Manager for our senior play, "Our Town ," held in 1958 at Mahopac Central High School. At 17 years of age, he brought such gravitas to the role. His sense of humor was off the wall and delightful, and he loved to share a good story. I will miss his friendship. May he rest in peace.

Alixandra Williams - January 02, 2024 at 03:07 AM

YH

Professor Sachs was such a great mentor. I am very thankful for his kind words, help and guidance. May he rest in peace. He will be missed.

Yiemeng Hoi - January 03, 2024 at 08:31 PM

JN

I worked with Fred for many years at UB. A brilliant scientist, his best qualities were his humanity and kindness to others. A good man, he will be missed.

Jim Nash

Jim Nash - January 04, 2024 at 10:34 AM