

Biopolymers

Special Issue: Tribute to Jack Aviv

Guest Editor: Kenneth J. Breslauer (Rutgers, The State University of New Jersey, U.S.A.)

EDITORIAL

Jack Aviv: Scientist, instrument wizard, humanist and philanthropist

Kenneth J. Breslauer, *Biopolymers* 2018, doi: 10.1002/bip.23227

EDITORIAL

Jack Aviv: An incredible, generous and humble human being

Shuguang Zhang, *Biopolymers* 2018, doi: 10.1002/bip.23228

REVIEWS

Jack Aviv and brains of children

Angelo A. Lamola, *Biopolymers* 2018, doi: 10.1002/bip.23092

Discovery of the first self-assembling peptide, study of peptide dynamic behaviors, and G protein-coupled receptors using an Aviv circular dichroism spectropolarimeter

Shuguang Zhang, *Biopolymers* 2018, doi: 10.1002/bip.23235

ARTICLES

A long-lived A β oligomer resistant to fibrillization

Mimi Nick, Yibing Wu, Nathan W. Schmidt, Stanley B. Prusiner, Jan Stöhr and William F. DeGrado, *Biopolymers* 2018, doi: 10.1002/bip.23096

Thermal melt circular dichroism spectroscopic studies for identifying stabilising amphipathic molecules for the voltage-gated sodium channel NavMs

Sam M. Ireland, Altin Sula and B. A. Wallace, *Biopolymers* 2018, doi: 10.1002/bip.23067

The burst-phase folding intermediate of ribonuclease H changes conformation over evolutionary history

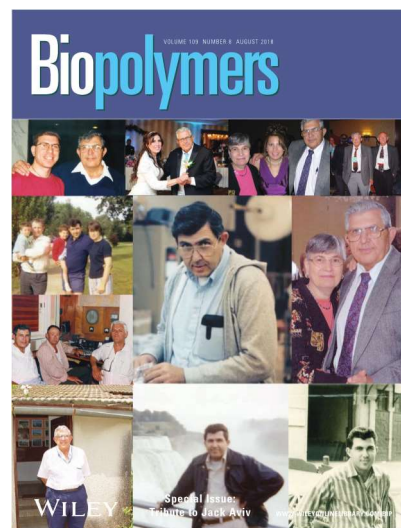
Shion A. Lim and Susan Marqusee, *Biopolymers* 2018, doi: 10.1002/bip.23086

Impact of bistrand abasic sites and proximate orientation on DNA global structure and duplex energetics

Conceição A. Minetti, Jeffrey Y. Sun, Daniel P. Jacobs, Inkoo Kang, David P. Remeta and Kenneth J. Breslauer, *Biopolymers* 2018, doi: 10.1002/bip.23098

"Cooperative collapse" of the denatured state revealed through Clausius-Clapeyron analysis of protein denaturation phase diagrams

Alexander Tischer, Venkata R. Machha, Jörg Rösger and Matthew Auton, *Biopolymers* 2018, doi: 10.1002/bip.23106



EDITORIAL

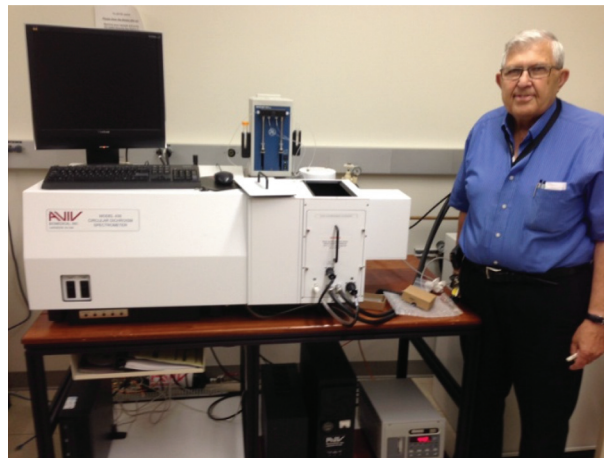
Jack Aviv: An incredible, generous and humble human being

I first met Jack Aviv in the summer of 1997 when Alexander Rich and I jointly purchased a circular dichroism (CD) instrument from Aviv Biomedical to be installed in Alex's laboratory. At that time, MIT already had five Aviv CD spectropolarimeters in several laboratories in the Departments of Biology and Chemistry, and I personally used all of the instruments to study various aspects of self-assembling peptides. However, these five units were frequently overbooked, therefore I sometimes had to wait several weeks before I could perform experiments. Eventually, using a special instrumentation grant in which we had specifically requested to purchase an Aviv CD spectrometer, we bought our own instrument. On the day of its arrival, I was there to meet the field engineer who was going to install our instrument.

To my great surprise, the 'field engineer' was Jack Aviv himself, the founder of the famous Aviv Instruments company! I learned that he had got up about 3 am and driven five hours from Lakewood, New Jersey to MIT in Cambridge, Massachusetts. As I watched, he loaded the CD instrument bearing his name onto a large cart, moved it to the right location in the lab, unloaded it, systematically installed it, and ran various controls to make sure everything worked perfectly. I later learned Jack had personally installed nearly every Aviv instrument worldwide since the early 1970s. I believe he is the only founder and CEO who carried out such installations. For me, it was such a rare observation and humbling experience.

I met and talked with Jack at numerous locations around the world. We also frequently talked on the phone. I learned a great deal from Jack, about his background, his ideas, and why he was so eager to support young people. Jack told me that in New York when he was young, he met a generous person from Mexico who recognized that Jack was a promising young student, later sponsoring his college education but never requesting financial remuneration. Jack felt he needed to pay by doing the same for others, namely support promising young scientists. He did indeed!

Jack Aviv was not only an excellent businessman who founded a successful scientific instrument company, and built specific instruments to help scientists make discoveries, but was also a generous and humble human being. I learned that Jack Aviv came to the U.S.A. as a child with his family from Israel. His real family name was Bromberg. However, Aviv is more Israeli, (as in Tel Aviv). Jack served in the US Air Force and was stationed in Greenland. He learned to operate the hammer radio and throughout his life was a member of a large number of ham radio enthusiasts worldwide.



Jack installing a new unit of his Aviv CD spectrometer at Boston University Medical School, May 2016.

Jack met many leading scientists because of his business, one of them was the pioneer protein scientist, Charles Tanford who had a tremendous influence on Jack. I also learned that Elkan Blout, another giant in peptide and protein science, was among one of the first investors that helped Jack to establish Aviv Instruments. When Jack was young, Elkan Blout met Jack many times and encouraged him to start a company to build reliable scientific instruments. That is exactly what Jack did for most of his productive life. The Aviv CD spectropolarimeter is a superb instrument that is a true reflection of Jack's labor of love.

Jack Aviv was also extremely generous with his hard-earned money made by selling instruments that usually do not have a high profit margin. The Aviv Family Foundation generously supported 10 workshops and symposia that I initiated in 1999. They include five self-assembling peptide and protein workshops in Crete, Greece (1999, 2001, 2003, 2005, and 2007); a membrane protein workshop in Mykonos, Greece (2009); a peptide and protein conference in Chengdu, China (2006); biotechnology of peptides and proteins workshops in Le Mans, France (2013) and Geneva, Switzerland (2016); and, Alex in Wonderland II at MIT Media Lab in Cambridge, U.S.A. (2014). During each meeting, we had a time-honoured, most anticipated and fun Aviv Banquet where participants spanning the range of young undergraduates, graduate students, post-docs, young and experienced researchers in academia and industry, to world-class leading scientists, gathered together and enjoyed good food, stimulating conversations and sometimes, lively dancing.

Students and post-docs presented their research, exchanged ideas, and received sound advice from experienced scientists in the field. These intimate workshops of ~70–80 people comprised a multi-disciplinary array of participants, and stimulated further interests in pursuing novel areas of exploration. This research domain, within peptide/protein nanotechnology is not only thriving and advancing at a rapid pace, but also generating many novel products that have been commercialized for a variety of useful applications.

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Jack and Florence Aviv at the 3rd Self-assembling Peptide and Protein Crete workshop, Crete, Greece, 2003.



Jack Aviv (3rd from the right) at the Mykonos Workshop of Protein Biotechnology, May 2009 (left). Jack Aviv (3rd from the left) and others including Uwe Sleytr, Robert Langer, Steve Yang, Joel and Changming Janin, Alan and Marilyn Fersht, Jörg Labahn, Lotta Tegler and Shuguang Zhang at the Workshop of Protein Biotechnology, Le Mans, France, July 2013 (right). (Courtesy of Dr Marc Rioult, with permission.)



Jack was invited to celebrate Professor Sir Alan Fersht's lifetime achievement award at the University of Cambridge, U.K., 2010. Jack Aviv and Alan Fersht at Trinity College Cambridge (left). Jack Aviv in front of the DNA plaque at the Eagle Pub where the DNA double helix structure was first announced - "We have discovered the secret of life" - by Francis Crick (right).