

May 21, 2014 | By Catherine Hockmuth

Remembering Anouchka Mihaylova

Anouchka Mihaylova, a project scientist in the Department of Bioengineering at the University of California, San Diego died on May 17 after being struck by a hit-and-run driver while walking with her husband in Rancho Bernardo. Mihaylova joined the department in 2000, where she was a researcher in the Cardiac Mechanics Laboratory, led by bioengineering professor Andrew McCulloch in the UC San Diego Jacobs School of Engineering. Mihaylova was a key investigator of the National Biomedical Computation Resource.



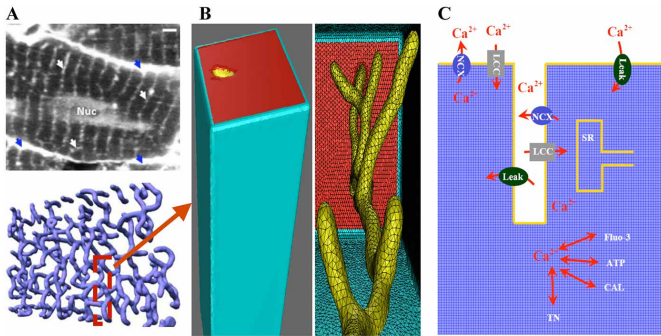
Anouchka Mihaylova

A mathematical biophysicist, Mihaylova's depth of knowledge of cardiac cell physiology and ability to create sophisticated mathematical models produced "beautiful 3D models that provided really important insights into how heart cells work," said McCulloch. For example, her work showed how reduced blood flow to heart tissue caused by coronary heart disease alters the electrical and mechanical function of the heart muscle cells.

"She was very brilliant and very kind and gentle," said McCulloch.

Mihaylova was very active in the PRIME summer undergraduate program that provides summer opportunities for UC San Diego students to study abroad in Pacific Rim countries. "She was an admired and revered mentor to post-doctoral researchers, graduate and undergraduate students," said McCulloch. Several PRIME alumni shared how Mihaylova contributed to their positive experiences as undergraduates at UC San Diego.

"Anouchka was my mentor during my time with PRIME in 2004-2005. She was always kind, warm and patient with me as a student and complete novice, and truly dedicated to her work in a way that was contagious to people around her - myself included," said John Colby, who earned bachelor's degrees in bioengineering and molecular biology at UC San Diego in 2005. Colby will graduate from the M.D./Ph.D. program at UCLA next week. "I will be thinking of her and her surviving family during this difficult time."



Mihaylova created mathematical models that illustrated the electrical and mechanical function of heart cells. This figure published in the journal *PLOS Computational Biology*, shows a part of the heart cell membrane known as a “transverse tubule,” which tunnels into the cell interior to improve the synchrony of muscle cell contraction in response to electrical excitation during each heart beat.

Raymond Tran, who is a bioengineering undergraduate at the Jacobs School of Engineering and PRIME summer program student in 2013 said: “I will always be grateful for Dr. Mihaylova’s mentorship. She was very passionate about her work with cardiac modeling and challenged me to become a better student. When I returned from my PRIME experience this past year, she continued to give me advice and kept me updated on her research interests. I appreciate all the conversations we had, and I am grateful that I got to know her better in the past month. She was a genuine and

caring person who loved her work. My deepest thoughts and prayers are with her son and husband.”

The Department of Bioengineering plans to endow an Undergraduate Student Award in Mihaylova’s memory. “Anouchka is survived by her husband and son, to whom we extend our heartfelt sympathies, thoughts and prayers at this time of their terribly sudden and tragic loss,” said McCulloch.

Mihaylova earned a master’s in physics and a Ph.D. in molecular biology and genetics from Sofia University in Sofia, Bulgaria.

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