

“Randal was one of the most passionate, direct, and meticulous people I’ve ever met. Being the instructor of an ‘intro to research’ seminar, a course required for all incoming PhD students in computer science, he touched the lives of many graduate students.”



# REMEMBERING PROFESSOR RANDAL C. NELSON

It is with great sadness that we report that Professor Randal Nelson passed away on April 19, 2020. Professor Nelson had been undergoing treatment for cancer but had been active in the department throughout, and his death was sudden and unexpected.

Professor Nelson joined the department in 1988 and was a prominent researcher in the area of computer vision. Much of his work focused on recognition of objects and actions for real-time control in robots. He advised a total of seven PhD graduates at Rochester.

Many readers of *Multicast* will remember Randal as a teacher; he impacted every incoming PhD student for many years by teaching the introductory graduate seminar CS 400, which he approached as an introduction to the culture and practice of

research in computer science. He also developed a number of unique classes for undergraduates. His Robot Construction class was an intensive team experience in which students designed and built a new robot from the ground up each year. One year’s robot moved like a snake, while the next year’s was a spheroid blob that was able to roll along the ground by slightly expanding one side while contracting the other. Randal’s class on Creative Computation aimed to give students a seat-of-the-pants engineering sensibility through back-of-envelope estimation problems. (Quick—do you have any atoms in your body that were once part of Julius Caesar?)

Randal contributed to the life of the department in many ways, and in particular he volunteered to lead the committee for PhD admissions for many years. This

is probably the most labor-intensive committee assignment one can take, given the huge number of applications to read and consider. It is also the most vital to the future of the department, and Randal always strove to build a balanced and cohesive class. He believed that the department should put the interests of its students first.

Randal played in our department’s very own rock band, the Algo-Rhythms, with Ted Pawlicki, Chris Brown, and Marty Guenther. He was always an interesting person to talk to in the hallway, whether it was about scanner technology or his latest personal projects that ranged from cataloging wildflowers to smelting iron from sand in a homemade furnace. He leaves a void that will be very difficult to fill.



**SPYRIDOULA GRAVANI (URCS PHD STUDENT):** “Randal was one of the most passionate, direct, and meticulous people I’ve ever met. Being the instructor of an ‘intro to research’ seminar, a course required for all incoming PhD students in computer science, he touched the lives of many graduate students. Coming from a different country, Randal’s classes helped me to quickly get acquainted with a new and quite different reality. I will always be grateful to him for these lessons. As the head of the committee for admitting new graduate students, he was always very organized and energetic! He deeply cared for the department and wanted all events to be a success. He was never afraid to speak his mind, even if that would not please everyone. I found this aspect of his personality very refreshing.”

**LENHART SCHUBERT (URCS PROFESSOR):** “I was greatly saddened by the sudden and premature loss of my esteemed colleague Randal. He was a creative, incredibly versatile contributor to all our departmental missions and activities, bringing high standards and savvy insights to all he did, along with a great sense of fun—including the performance of satirical songs that brightened our festive occasions. I was impressed with the scope and depth of Randal’s knowledge right from my arrival in 1988. Randal and I were in a lunch group, and at one point the conversation took a turn towards the interpretation of quantum mechanics. I had recently audited a course on the philosophy of quantum mechanics at the University of Alberta and thought that a tidbit I had learned about the violation of hidden-variable theories by certain quantum-mechanical properties of orthohelium would impress. However, Randal—whose physics expertise I had little inkling of—promptly countered with simpler evidence for the same conclusion, and he had a better intuitive grasp of his example than I had of mine! I also particularly remember Randal’s astute

questioning of some of our colloquium speakers; we could be sure of our faculty candidates’ secure command of their area if they were able to handle “the full Nelson”! Over the years I had many conversations with Randal on topics ranging from AI to politics to cosmic theories. His views were always insightful and often surprising. Whenever I walk down a couple of doors from my own office, I will remember going past his and seeing the festively decorated and lit-up skeleton looking out at me through the glass partition long after Halloween or Dia de Muertos, and I will miss the chance to chat with him.”

**BENNET HEDERGAARD ’22 (PRESIDENT, UR ROBOTICS):** “I came to know him best when I took his course, CSC 230: Robot Construction, during this past spring semester. From that experience I came to understand that Professor Nelson had a very particular view of robotics. His viewpoint on mechanical intelligence, or designing physical systems whose very construction leads to intelligent behavior, was new to me. The creative robots he designed and readings he assigned (pages upon pages of which he wrote himself just for the course) showed a deep appreciation for the art of fabricating such systems. Under his keen eye for precision, I saw many of the machines throughout the Robotics Lab (Wegmans 2007) in full use during the first half of the semester. Even when the semester moved online, he did everything he could to pivot the class to build robots at home, mail us supplies, and stay connected on the course’s Facebook group. It was all too surreal to hear of his passing when that very morning he had emailed me about my robot’s progress. I’m grateful to have had the chance to better meet him during that semester. I hope that the club he helped found (UR Robotics) can continue to bring a love for creating robots to campus for years to come.”

## Making a Difference in Memory of Randal

In memory of Randal and in recognition of his commitment to recruiting and retaining the very best graduate students, the department has established the **Randal Nelson Graduate Student Fund**. Our goal is to raise at least \$25,000 to create a self-sustaining endowment in support of URCS graduate students—for research funding, academic fellowships and awards, conference attendance costs, etc., as determined by the department chair. Donations in Randal’s honor can be made at <http://uofr.us/nelson>.

