Science Societies

Impacting futures through a commitment to mentoring

The Gaylon and Judith Campbell Soil Physics Mentoring Program Fund

By Denice Rackley

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Gaylon and Judy Campbell.

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One stone thrown into a lake is seemingly inconsequential. However, the resulting ripples from one act have an ever-widening impact; such is the case with mentoring. Having experienced how mentoring can influence the trajectory of another's life and initiate a path of vision and purpose, the Campbell family is all about setting good things in motion, transforming ripples into waves.

An Agronomic Science Foundation mentoring fund named for Gaylon and Judith Campbell is encouraging and supporting students and young scientists, ensuring the

realm of soil physics and hydrology continues to thrive.

The Campbell name is nearly synonymous with soil physics and environmental biophysics, but that association was far from planned. A father's love of education and commitment to providing his children with opportunities was the stone destined to begin the first small ripple impacting lives and carrying the science forward.

A Father's Legacy Continues to Ripple through Each Generation Since

Gaylon Campbell was the oldest of 11 children born in the 1940s and 1950s on a southern Idaho farm to Sanford and Rosalie Campbell. A decade earlier, Sanford's parents' family farm was lost due to the many depression-era complications. Nevertheless, Sanford continued his unyielding push forward. He brought his family back to stability, purchased another farm, and kept a house in Logan, UT, to provide his children access to a high quality education.

At his core, Sanford believed in doing good, hard work, and getting a good education. Sanford instilled these same beliefs in his children. Little did he know that he was setting in motion a persistent ripple that would echo in future generations.

Gaylon, naturally gifted as a student, gravitated toward physics in high school under the tutelage of his physics teacher. However, as the oldest son, he accepted his role as helping to provide for his family. After college, he planned to return to the farm, but a determined college professor at Utah State University changed his mind.

Thinking a class in soils would be useful on the farm, Gaylon enrolled in an introductory soils course as a freshman. As fate would have it, that was the one and only year Dr. Sterling Taylor was teaching the class.

Taylor had a way of teaching the fundamental principles of environmental biophysics, detailing the relationship among soils, plants, and the atmosphere, that intrigued

Gaylon. Due to their interactions in that class, Taylor offered Gaylon a position in his lab. Gaylon declined due to commitments on the farm.

Random Meeting Leads to an Unexpected Path

The following fall, Gaylon and Taylor met randomly in downtown Logan. Again, Taylor put forth the idea of Gaylon using his talents for something other than farming, saying the position in his lab was still open. That chance meeting would alter the course of Gaylon's future, sending more ripples forth that would impact environmental science.

After harvest that year, Gaylon began working in Taylor's lab. The work in the lab centered around coming up with novel approaches to measure water and energy in the soil–plant–atmosphere continuum. Not only did Gaylon enjoy environmental biophysics, he recruited his brother Eric to join him in the lab. Gaylon continued working with Taylor throughout his undergraduate education in physics and his master's degree in soil physics.

Thinking his future may indeed be somewhere besides the farm, Gaylon continued his education at Washington State University (WSU), earning a Ph.D. in Soil Physics in 1968. He then completed his military service working in meteorological research at White Sands Missile Range in New Mexico.

Gaylon's brief time at the missile range would set more ripples in motion. A laser anemometer he helped design for meteorological support of the Army's high energy weapons laser program became the first product of Campbell Scientific, a new company Gaylon helped start with brothers Eric and Evan in 1973. Since that small beginning, Campbell Scientific has become a key player in environmental instrumentation worldwide.

After his service in 1971, Gaylon returned to WSU as an Assistant Professor of Biophysics and Assistant Soil Scientist, fueling his passion for research and education.

Passion for Education

Gaylon's love of learning and mentoring students and young scientists blossomed over the following 27 years at WSU as did his mastery of environmental biophysics principles.

In an interview about his book, *An Introduction to Environmental Biophysics*, he said, "When you lecture about it and write about it, those processes help to deepen your knowledge and understanding." When asked about how he was able to teach his students about such complex topics, he said, "When I was in the Army, the philosophy they had was, 'If the student hasn't learned, the teacher hasn't taught.'

"I think it comes down to some extent to the teacher's philosophy. We often see teachers come in and fill the board with equations and wonder why their students don't understand them. It's likely the teacher hasn't looked at it from the students' standpoint. Professors work to put together a wonderful picture of things, and they tend to want to dump the whole thing on the student. Students can't assimilate the whole picture all at once; they have to go step by step too."

Passion for Others

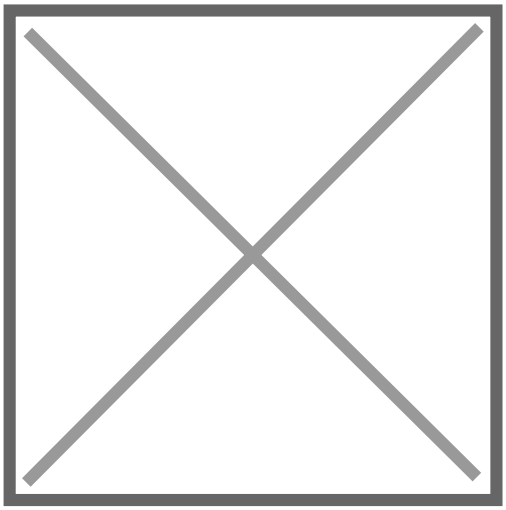
Upon retiring from the university, Gaylon steered his businesses with the same joy and commitment for science and for people he displayed as a professor. "It's in his DNA to help others," says Doug Cobos, Ph.D. who met Gaylon during graduate school. "Gaylon is a brilliant individual; he has mastered the science and engineering in a way that enables him to turn science ideas into instruments.

“He could have done anything he wanted in life; we are fortunate he chose soil science.” Cobos continues emphasizing that Gaylon’s companies, METER and Campbell Scientific, and the instruments they design, are vital tools used to extend the science and careers of others. “He is a gifted communicator and the most genuine, well-meaning person I have ever met. Everything he does is in the service of others,” says Cobos, a research scientist and the director of research and development at METER.

Assisting the Next Generation

“Our family has always focused on the next generation,” says Colin Campbell, Vice President of Research, Development, Engineering, and Software at METER. “Mom and dad (Judy and Gaylon) instilled in all nine of us children the belief that education is vital and we have a responsibility to use our talents for good.”

“We were taught who we were as a family and where we came from. We were given a vision of what we could become and how we could impact society.” Raising children to see their potential and purpose while encouraging a spirit of giving continues in all the Campbell households and has naturally flowed into their work and businesses.



Gaylon Campbell in the field working on an instrument.

Soil Physics Mentorship Fund

“We all feel a strong connection with the Society and believe in mentoring young people in the field,” says Leo Rivera, METER’s Director of Client Success. Rivera, who became a member during his undergraduate studies, understands how essential it is to bring young people up within the Society.

“It’s important to be able to ask questions and bounce ideas off of experienced scientists. Bringing established scientists and students together at meetings is vital to grow agronomic science.”

Michael Young, Senior Research Scientist at the Bureau of Economic Geology, University of Texas–Austin, says it’s transformative to hang out with professors and scientists whom students have read about through their studies. To fund these opportunities, Glenn Wilson first established a mentoring fund for what was then known as Division S1 and is now know as the Soil Physics and Hydrology Division.

“We wanted to honor Glenn’s gift and raise money for a permanent fund that would add historical continuity to our support, regardless of volunteer turnover within the committees,” Young says. “Mentor–mentee relationship opportunities help young scientists understand the history, the science, and where soil physics and they fit into the Society.”

In 2017, when Young was chair of the mentoring committee, he and Yan Jin approached Colin with an opportunity to create a new version of the mentoring fund. “It’s imperative to bring new minds into soil physics and hydrology. The growth of the science is best accomplished through supporting young scientists,” Colin says.

It took two years and the effort of many people, including Michael Young, Yan Jin, Scott Jones, Marcus Flury, Scott Bradford, Tyson Ochsner, Wei Zhang, John Nieber, and Keith Bristow, to work out the details and convince Gaylon and Judith Campbell to allow the fund to carry their name. “My dad has always taken the time to talk to others and is genuinely interested in what they are doing and trying to accomplish,” Colin says. The Societies’ Annual Meeting encourages personal interactions. “Being able to interact with luminary scientists fuels our passion for the science. Relationships begun at

conferences and forged through face-to-face interactions have profoundly impacted my life and have shaped my career."

Having creative freedom, not putting restrictions on the use of these funds, is important to Gaylon and was written into the funding language. A picnic, a pizza party, bowling, and a catered business meeting with awards for students have all been offered. The welcoming atmosphere and time spent building relationships will have a lasting impact on individuals and agronomic science.

What began with a father's love of education, commitment to providing opportunities for his children, and instilling a responsibility to use their talents for good has rippled through generations to touch the Campbell family, WSU students, METER and Campbell employees, and Society members. The Gaylon and Judith Campbell Soil Physics Mentorship fund will ensure that the Soil Physics and Hydrology Division remains in good hands for generations to come by attracting bright new minds, supporting their growth, and fueling their passion.

More people

Back to issue

Back to home
