



## Paul P. Cull PhD

July 11, 1943 - December 17, 2019

Paul Cull, Ph.D.

July 11, 1943-December 17, 2019

He was a neighborhood icon with flowing red beard and Hawaiian shirts and shorts, even in winter. A student once asked a barista at the old Beanery, where he rode his bicycle for coffee every day, who he was.

“Why that’s Dr. Cull,” she said. “He’s a computer science professor.”

“Oh,” said the student. “I thought he was the mailman.”

Even neighbors and friends did not realize that he was a founding member of the Oregon State University Computer Science Department and a Professor Emeritus with more than 40 years of dedicated teaching and research.

Dr. Paul Cull was a passionate teacher with both critics and admirers. Critics focused on his eccentricities. Admirers valued his genius and secured for him an Alumni Professor Award of the College of Engineering. He was a long-time co-director of a National Science Foundation summer program to encourage gifted young men and women to pursue careers in research (REU).

Dr. Cull despised cheating and intellectual laziness. He valued personal contact with students, invited attendance at his office hours, and rewarded those who came to learn. He mentored numerous graduate students in his Friday afternoon coffee hours where he bought the coffee.

He valued the pursuit of knowledge for its own sake because, as he explained, you never knew where an idea would lead. He scribbled ideas on

napkins and authored or co-authored hundreds of publications, including a book on difference equations, book chapters, research papers, technical reports, book reviews, and conference presentations.

Dr. Cull spoke at numerous conferences in the United States, Italy, Spain, France, Germany, and Belgium on topics in mathematical biology, algorithmic theory and Fibonacci numbers. Europeans who had never heard of Oregon heard of OSU through him. He was a consistent contributor to the BIOCAMP conferences at Vietri sul Mare, Italy, and the International EUROCAST (Computer Aided Systems Theory) meetings held at Las Palmas, Spain, where he was a biennial presenter for nearly 30 years.

An avid student of the history of science, Dr. Cull gave his last major lecture at EUROCAST in February. Entitled “Tales from Computer and Systems Theory,” the lecture traced the development of computer theory from the computation of ballistics tables developed during World War II. As a speaker he employed a whimsical approach that brought even dull topics to life. This final lecture was rewarded with a portrait of himself painted by conference director and friend Dr. Roberto Moreno-Diaz.

Dr. Cull achieved Life Membership in the Association for Computing Machinery (2013); the 50 Year Award of the Mathematical Association of America (2013); and the E. R. Caianiello Award for Biocybernetics, European Meeting on Cybernetics & Systems Research (2004 and 2010).

#### Early Life in New Jersey

Paul Cull was born in Jersey City, New Jersey on July 11, 1943. He was the second of seven children and the oldest of three boys in a traditional Catholic family. His father worked for the National Labor Relations Board, while his mother cared for the family at home.

Paul’s parents didn’t give their children middle names because they believed children should choose their own at confirmation. For this reason Paul’s middle name is uncertain but it is probably Patrick—or maybe Peter.

Paul’s academic excellence was recognized early, despite a few false starts. When the nun asked his geography class what Milwaukee was famous for, he

proudly exclaimed, “Beer!” (She was thinking “furniture.”) Nevertheless, Paul graduated Holy Trinity elementary school (Hackensack) in 1957, and Bergen Catholic High School (Oradell) in 1961. He was active in scouting and achieved Eagle Scout status with 52 merit badges he himself sewed on his banner.

### Academic Life

With seven children to support, Paul’s family could ill afford college, but fortunately his excellent grades propelled him forward. He was eligible for the military academies and briefly considered a military career, but ultimately chose Providence College in Rhode Island when they offered him a full scholarship and more concentrated study of math and science. He worked at Bischoff’s Ice Cream Parlor in Teaneck to supplement expenses.

Paul graduated Providence College with honors in 1965, and once again his excellent academic record earned him acceptance and a scholarship at the University of Chicago, where he received his Ph.D. from the Committee on Mathematical Biology in 1970.

Chicago was a life-changing experience for the new Dr. Cull. He pursued his lifelong research interests in the ideas of Warren McCulloch and Norbert Wiener, and met important scientists in the areas of cybernetics and mathematical modeling of biological systems.

At Chicago, Paul’s association with his major professor, Dr. Luigi Ricciardi, opened the door to his lifelong relationship with Italian researchers. He worked with Dr. Eduardo Caianiello at the Laboratorio di Cibernetica in Arco Felice, conducted sabbatical research at the University of Salerno, and attended numerous conferences. As a result of Dr. Cull’s Italian connections, Italian students and researchers, such as Dr. Renato Capocelli and Dr. Luca Tallini, visited OSU.

### Marriage and Moving

At Chicago Paul met his future wife, Elaine Marie Mishkinis, and they married quietly in 1969 at Ft. Collins, Colorado, while Paul was attending the NASA

Conference on Theoretical Biology at Colorado State University. It was a prelude to a life where every subsequent vacation would take place at an academic meeting.

The proposal had been typically terse. Walking down 53rd Street in the University of Chicago's Hyde Park neighborhood, he said, "I guess we should buy you a ring." Whether she agreed to the ring or to the proposal was unclear, but married they were. A recent English major, Elaine worked in public relations at the university hospital while Paul wrote his thesis. She typed it on an IBM Selectric with a changeable symbol ball for mathematical equations. Word processors were not yet in common use.

In fact, when Paul finished his Ph.D. degree in 1970 and began applying for jobs, the field of computer science was very new. There were but a handful of computer science departments at universities across the country. Fortunately, thanks to the foresight of Dr. Arvid Lonseth and Dr. Harry Goheen of the mathematics department, OSU had begun forming a computer science department, so it looked like a good place for a new Ph.D. like Paul. After a phone interview, he was offered sight-unseen a joint position in mathematics and computer science while paperwork for the new computer science department was in process.

Since its beginnings in 1971, computer science at OSU has enjoyed explosive growth and now enrolls over 3,000 students. Among his many contributions to the department, Dr. Cull served as assistant chairman, director of the original student projects laboratory, head graduate advisor, and member of the undergraduate program committee. He developed numerous courses in theory which he championed as the basis of a sound technical education.

#### Home to Oregon

In the summer of 1970 the new Mr. and Mrs. Paul Cull drove into Oregon on Highway 20, looking with consternation at the desert and sagebrush and signs labeled "Congestion", where they saw only a trailer and gas pump. They arrived at the intersection of Highway 20 and Highway 99. There was a field on one corner, a boarded-up flea market on another, a closed gas station and

a dilapidated house. Elaine burst into tears.

“There’s nothing here!” she said. “We came all the way for this?”

“Give me the map,” said the boy from New Jersey who better understood highway naming conventions. “Look—there’s a Highway 99E and a Highway 99W. This is 99E—Corvallis is at the intersection of Highway 20 and Highway 99W.”

“What kind of a dumb state has TWO Highway 99s?” she said.

They found Corvallis. They stayed. And the rest is history.

### A Beautiful Life

Paul Cull—professor, husband, father, brother, brother-in-law, and uncle—died of pancreatic cancer on December 17, 2019, at home under the care of family, friends and Lumina Hospice. He was 76 years old.

He was born during World War II. He lived through Korea, Vietnam, Chicago anti-war protests, the March on Washington, Woodstock, Laugh-In, flower power, bell-bottom trousers and waitresses on rollerskates. He witnessed and contributed to the computer age.

He loved his family, Christmas, crossword puzzles, KenKen and Sudoku, Sherlock Holmes, mysteries, reading and Jeopardy. He came in second in Portland TV’s “On the Spot” game show tournament.

He was dearly loved. Now he is dearly missed.

### Family

Paul Cull is survived by his wife of 50 years Elaine Cull of Corvallis and their son John-Paul Cull of Portland; Paul’s brothers and sisters: Rosemary Lepore (Joe) of Cresskill, NJ; Mark Cull (Vally) of Brick, NJ; Rita Traina (Bob) of Bayville, NJ; Grace Sverapa (Jim) of Florida; and Leo Cull (Candice) of Corvallis. His parents Clement and Madeline Cull, and his sister Julia Janosy and her husband Alan, preceded him in death.

### Celebration of Life

Family, friends, colleagues and students are invited to a celebration of life for Dr. Paul Cull to be held Thursday, January 30, at 3 p.m. at the McHenry Funeral Home. Donations in his name may be sent to Lumina Hospice, or

earmarked for computer science teaching assistants through the OSU Foundation.

# Previous Events

## Celebration of Life

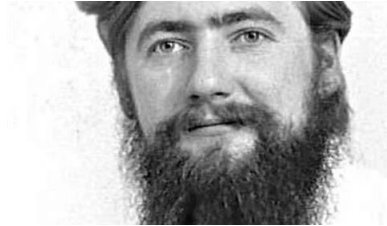
JAN 30. 3:00 PM - 4:30 PM (PT)

McHenry Funeral Home  
206 NW 5th St.  
Corvallis, OR

# Tribute Wall



“ *McHenry Funeral Home created a Tribute Video in memory of Paul P. Cull PhD*



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**McHenry Funeral Home** - January 30, 2020 at 02:04 PM

MK

“ *Elaine and family, I just want you to know how sorry I am that Paul passed so soon. Too soon for such an amazing person. Elaine, I miss you in the TAC because we moved to Flagstaff in May 2018. I didn't know Paul well, but of course I saw both of you occasionally in the Downtown Beanery. He and I are the same age. Steve McLaughlin sent me Paul's obituary and he has also sent me your great letters to the GT. May you keep your wonderful memories of Paul intact and in your heart. If you want to correspond with me, my email is [mltknows@gmail.com](mailto:mltknows@gmail.com). Sending love your way, Marilyn Koenitzer*

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**Marilyn Koenitzer** - January 31, 2020 at 03:37 PM

DM

“ So many memories of Dr. Cull. One class in particular sticks in my memory, Cybernetics.

*It was a one-off class and he was having trouble filling it. So I signed up, one of eleven to do so. First class he asks a question and then puts his foot on the chair next to me, leans in, and asks if I know the answer. I said, "Answer? I don't even understand the question." He started laughing and asked if anyone knew the answer. Of course Rick Hangartner knew. In addition to the painfully hard questions, Dr. Cull assigned some light reading, The Tao of Pooh, Gödel, Escher, Bach, and Life of Pi. I generously got a passing grade even after only getting 7 / 50 on the first exam.*

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Darcy McCallum - January 27, 2020 at 06:17 PM

“ *In memory of Prof. Paul Cull  
by Luca Tallini*

*I remember Paul and Elaine exiting an elevator in their hotel in Rome. Paul appeared to me wearing his shorts, short-sleeved shirt and sneakers, proud and confident. It was the first time I met Paul in June 1991. I remember the last time I saw him appearing exactly the same way on August 14, 2019. It was when the attached photo was taken. And I remember all the times I met him in these 28 years. During my university studies (January 1991 - November 1996), I remember Paul (with Rick Hangartner) who came to pick me up at the airplane, the first time I was in Corvallis (January 19, 1991, I think), I remember him in class (I took at least 5 courses with him), I remember him at the Beanery meetings every afternoon talking about science, politics and more, I remember the comfort he gave me when my father died, I remember him in my Master defense, in my preliminary exam and in my Ph.D. defense (obviously, he was on my committee for these exams), I remember him in his offices at school and at home full of interesting books that he would lend me to read and learn. I remember our work together in writing the only paper I proudly share with him on Neural Networks and Error Control Codes (especially today, I really think it is one of the best articles I have ever written). Later, I remember him every time I was invited by the Cull's to have wonderful dinners (prepared by Elaine) during my annual visits to Corvallis. On one of these occasions, while Elaine was cooking, I remember that he taught me how to look at stereograms (if I remember correctly, the stereogram hanging in his office reveals a dinosaur). I remember him on every*

*occasion that we would meet here in Italy (in Rome, in Vietri, in Tuscany, ...). I remember him grape harvesting in my land of Frascati. I remember that he was very dear and kind to everyone and in particular to my children and wife. And I remember him in many other occasions that I will never forget. Now, his departure fills my heart with sadness and my eyes with tears. For me he was a Great Teacher who gave me dignity by Teaching me many Things about Science and Life; Things that I still use today in my research and teaching and, I am sure, I will use until my death. He was a very good man and I am sure he is now in the Heaven; where I hope to meet him one day. I am very proud to have met him and will never forget his brilliant and influential personality.*

*Frascati (Rome), ITALY.*

*January 25, 2020.*

*-Luca Tallini*

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**Larry** - January 27, 2020 at 10:56 AM

AC

“*Paul was an outstanding professor, with tremendous passion and energy. He was a rare talent in his ability to help his undergraduates understand complex topics in theoretical computer science with simple and clear explanations. All of us at OSU were fortunate to learn from him, and benefit from his teaching and research advancements.*

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**Alan Crouch** - January 22, 2020 at 12:56 PM

RP

“ 3 files added to the album Memories Album



Rajeev Pandey - January 21, 2020 at 03:15 AM

RP

“ 2 files added to the album Memories Album



Rajeev Pandey - January 17, 2020 at 10:48 AM

RP

“ 1 file added to the album Memories Album



Rajeev Pandey - January 16, 2020 at 08:53 PM

LA

“ 3 files added to the album Memories Album



Larry - January 14, 2020 at 01:05 PM

LA

“ 3 files added to the album Memories Album



Larry - January 14, 2020 at 01:02 PM

MA

“ Dear Elaine, I participate with pain in Paul's sad disappearance.  
Affectionately,

*un abbraccio.*

*Mario*

*(a friend of italian group from Naples; as you remember, we met on february at Eurocast2019 in Las Palmas).*

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*Mario Abundo  
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**Mario Abundo** - December 22, 2019 at 10:47 AM

EC

*Mario, of course I remember you and all our Italian friends at EUROCAST! Your words are a great comfort to me. Thank you so much.  
--elaine*

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**Elaine Cull** - January 20, 2020 at 06:45 PM

WZ

“ Winnie Zhang lit a candle in memory of Paul P. Cull PhD



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Winnie Zhang - December 20, 2019 at 11:14 PM

TH

“ Dr. Cull was not only my professor and Ph.D. advisor, but also a great mentor. He always have great smiles and can do a rubik's cube wonder in front of students. I miss his Friday's coffee hours where I got enlightened by him and many classmates, and the Saturday's 1-on-1 coffee hours at The Beanery where I incrementally resolved every puzzle in my dissertation. I used and patented quite a few tricks via his teachings for my career, e.g., Fibonacci number, Fourier Transform , prefix sum, parallel/distributed/probabilistic computing, computational biology, artificial neural net, Markov Model, etc. My highest respect to Dr. Cull.

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Tai Hsu - December 20, 2019 at 11:07 PM

TP

“ Dr. Cull was not only my professor and Ph.D. advisor, but also a great mentor. I miss his Friday's coffee hours where I got enlightened by him and many classmates, and the Saturday's 1-on-1 coffee hours at The Beanery where I incrementally resolved every puzzle in my dissertation. I used and patented quite a few tricks via his teachings for my career, e.g., Fibonacci number (2x2 matrix multiplication), Fourier Transform (principal frequencies/time conversion), prefix sum (real-time aggregation), parallel/distributed/probabilistic computing (T 0 real-time prediction), computational biology (helped me innovate methods for text mining in e-commerce), artificial neural net (for my work, too), Markov Model (my customer behavior computing), etc. My highest respect to Dr. Paul Cull.

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Tai Hsu, Ph.D. - December 20, 2019 at 10:57 PM

“ I met Paul Cull about 40 years ago. I had a faculty research position at Oregon State University. One day, during the summer, I was walking down the main hall of the old Dairy Building, which at the time was a Social Science building.

*I had a loaded squirt gun. A classroom door was open and there was a professor, who was unknown to me, writing on a chalk board filled with mathematical notation. Somehow I just decided to give him a squirt of water. I made a direct hit, and then just kept on walking down the hall to my office.*

*In my office I had my desk facing the window and sat with my back to my open doorway. I did not notice anyone enter my office, but all of the sudden I went into a coughing attack because that unknown professor was blowing cigar smoke all over me.*

*Paul asked me why I had done that. I said I had no idea. We had a good laugh. He soon introduced me to his wonderful wife, Elaine Cull. It was the start of a close and happy friendship between our two families for all of these years.*

*Paul, and his family, hosted so many holiday gatherings, special occasions, and "no special reason" get togethers. His wry wit mixed with his great intellect were always a joy.*

*For Christmas gatherings, toys and objects of whimsy were exchanged. Paul was the ring leader of keeping the spirit of youthfulness alive and well.*

*You could usually recognize Paul from afar, in his signature ensemble of a Hawaiian shirt and short pants for most of the year. The ensemble was often accessorized with red shoes.*

*We all moved through the years together. We had our children, who grew up together. We moved through all the events that life brings, some joyful, some sad... together.*

*Paul had a good life, engaged in his professional work, surrounded by his loving family, and in the company of a circle of close friends. We will all miss him, but we will move forward with wonderful memories of a wonderful man.*

*Paula Furst Neckyfarow*

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**Paula Neckyfarow** - December 20, 2019 at 09:58 PM

FG

“*Paul was one of my professors, and one of my favorites. I'll never forget his brightly colored shoes, or the graduate level algorithms test that I passed partly by remembering that my office-mate who had Paul as his graduate advisor, had found a closed form formula to find the Nth Fibonacci number.*

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**Frank Griswold** - December 19, 2019 at 09:52 PM