Charles Stuart Bowyer
(1934–2020)

Forrest Mozer¹, Jean Brodie², James Overduin³

¹University of California, Berkeley (ret.), ²Swinburne University, ³Towson University

Published on: Nov 11, 2020

License: Creative Commons Attribution 4.0 International License (CC-BY 4.0)
Stuart Bowyer died on Wednesday, the 23rd of September, 2020.

Charles Stuart ("Stu") Bowyer passed away in Orinda, California, on September 23, 2020, from complications associated with COVID-19. He is survived by his wife, Jane, his sons, William and Robert, his daughter, Elizabeth, and five grandchildren.

Stuart was born on August 2, 1934, in Toledo, Ohio. He attended grade school at a one-room facility a mile from his father’s farm in Orland Park, Illinois. He graduated from Orland Park High School as the valedictorian of his class. He received a Bachelor of Arts degree from Miami University of Ohio and a Ph. D. from Catholic University of America. He worked as a Research Physicist at the Naval Research Laboratory in Washington, D.C., a Research Professor at Catholic University, and then, as a Professor in the Astronomy Department at the University of California, Berkeley, until his retirement in 1994. He then continued his research as the Director of the Center for Extreme Ultraviolet Astrophysics at Berkeley.

He is most noted for training a group of about 30 graduate students, many of whom have gone on to become leaders in the field, and for inventing and developing the field of extreme ultraviolet astronomy. He invented and/or developed many of the instruments that are the mainstays of this field today. In the early 1980s, he won a NASA competition for an Explorer Class mission to build the instrumentation for a satellite devoted to the study of Extreme Ultraviolet radiation from celestial sources. The instrumentation was built in-house at the Berkeley Space Sciences Laboratory, which, at the peak of this effort, employed more than 150 engineers and scientists on this effort. Bowyer was one of the first, if not the first, scientists to become Principal Investigator of an entire NASA mission.

In 1989, Bowyer founded the Center for Extreme Ultraviolet Astrophysics in Berkeley. This was the first center outside of NASA to become responsible for operational control of the mission and the instrumentation, reduction and archiving of the data obtained from the satellite, analyzing the scientific results, and managing a Guest Investigator Program.

While at Berkeley, Bowyer also investigated the nature of the local interstellar medium and he developed one of the first and still ongoing Searches for Extraterrestrial Intelligence (SETI).
Stuart Bowyer received many awards and honors, including the NASA Technical Achievement Award, the NASA Exceptional Scientific Achievement Award, the Royal Order of Aerobee Rocketeers, the Humboldt Foundation Senior Scientist, an Honorary Doctorate of Science from Miami University of Ohio, the Alumni Achievement Award in Science from Catholic University, an Honorary Doctor of Philosophy from Catholic University, the NASA ATLAS 1 Award, the NASA-DARA Orpheus-SPAS Award, the NASA Distinguished Public Service Award, the Spanish Ministry of Education and Science Award, the ASTRO-SPAS Mission II Award, the Computerworld/Smithsonian Science Award, and the COSPAR Massey Award.

Over his career, Stuart Bowyer authored and/or coauthored over 500 scientific papers in the refereed literature, and his work is referenced by more than 10,000 publications.

The above describes Stuart Bowyer’s scientific achievements but it does not describe the man that he was. The following are some testimonials that better describe Bowyer as the living, breathing, exciting, funny guy he was.

From Stuart’s former postdoc, Jean Brodie, Director, Centre for Astrophysics and Supercomputing, Distinguished Professor, Swinburne University in Melbourne, Australia, and Distinguished Professor Emerita, University of California, Santa Cruz:

Stuart Bowyer was a larger than life character. He did nothing by halves. People who knew him, it seemed, either loved him or hated him but no one I ever met was neutral about Stu. When I first knew him, he was in his prime, both physically and professionally. His zest for life and for fun seemed to know no bounds and one of the many things I loved about Stu was that he always made me laugh. He also taught me how to be a professional astronomer and rescued me from a situation that could easily have ended my career before it started. I came to UC Berkeley straight from Cambridge where I had done the British thing and gained a Ph. D. in only three years. Thus, I had little in the way of preparation for being a postdoc, let alone a postdoc without an adviser. [Coauthor Mozer had an independent fellowship that he elected to take at Berkeley. Stu found him floundering and suggested he join his group. He never looked back.]

He was blunt, he was critical and he was supportive once you had convinced him you had a good idea. He was not easily convinced. I’d come to him with an idea, he’d tell me to go away and write up a short proposal, I’d come back with a few typewritten pages, he’d hand them back covered in red ink, I’d go away and try again. Gradually, the red ink receded and I started to understand what it would take to succeed. I never made the mistake many have made of underestimating Stu. He had an uncanny instinct about astronomy and about people; which ideas would fly and which wouldn’t, who would succeed and who would not. He knew a good thing when he saw one and he got behind it one hundred percent.
He was physically tall, powerfully built and his booming voice matched his stature and his
enthusiasm. One of my favorite memories of Stu was coming into the office at the Space Sciences
Lab one morning to a very loud noise that I could not quite identify — an ear-splitting crack.
Looking around bewildered, I heard a roar and Stu rounded the corner dressed in leather,
complete with a facemask, cracking a whip! His unorthodox ways of encouraging extra effort
from the members of his very large group were often hilarious and always fun. He bought beer
and pizza for us all at a local place every Friday after work. He organized many memorable
parties and his home, where he and his gracious wife, Jane, were tireless and generous hosts. Stu
believed in working hard and playing hard and he expected both from his mentees. Nonetheless,
beneath the bombastic veneer was a serious scientist with a dedication to his students and
postdocs, the equal of which I have never encountered, before or since. He was always the
perfect gentleman with me but at the same time I knew he cared about me, as he cared for all
those in his group. His support and guidance were what launched me into a successful career.

In his later years, he did not change much. In his 80's he still loved parties and to see people
enjoying themselves. He would dance and stay up late, putting folks half his age to shame with
his energy and enthusiasm. The world is a less colorful and less interesting place without him. He
will be sorely missed.

From Stu's longtime friend and colleague, Forrest Mozer, Professor Emeritus, University of California,
Berkeley:

When I think of Stu Bowyer, I end up with a contradiction. He was, at once, a good scientist and a
great mentor while at the same time he was, in his own words, enemies with very many people.
In fact, he viewed the world as comprised of his friends and his enemies. Not much in between.
For me he was a friend and I liked Stu very much. But there are those who disagree, including the
people whose tires he flattened when they parked in his space, or whose windshield wipers he
took for the same infraction, or the people at NASA who temporarily removed him from his
Principal Investigator role on the EUVE satellite because he caused them so much grief. But Stu
got his revenge by deliberately overspending his NASA grant by the largest amount that I had
heard of up to that time.

Stu's major scientific idea was that, contrary to the general opinion, one could learn about the
universe by observing its extreme ultraviolet radiation. The scientific community was skeptical
because the interstellar medium was opaque at such wavelengths. But Stu persisted, was
awarded the EUVE satellite program, and he showed there were enough gaps in the medium that
one could see this radiation to great distances in some directions. During this time he had a group
of graduate students who have since grown into leaders in many sub-fields of astrophysics. This
may be his greatest scientific achievement — attracting very good graduate students and
postdocs and helping them develop into world leaders. Stuart realized this because he once told me that he was not so smart but he was smart enough to have a team of great scientists.

One last thought. I have known some good and great people including nine Nobel Laureates, as well as the richest man in the world. But, when I think of the most unforgettable people I have ever met, I think of two people, and Stuart Bowyer is one of them.

From Stu’s former student, James Overduin, Professor, Towson University:

I first met Stu in 1990 when I traveled to Berkeley from Canada for a year as a visiting research assistant with my M. Sc. advisor, Paul Wesson. Our goal was to study the theoretical implications of new observational data on background radiation. CEA, the Center for Extreme Ultraviolet Astrophysics, had just gotten up and running on Kittredge Street and the launch of EUVE was two years away. We were very warmly received. I will never forget Stu’s combination of boyish energy and dominating personality as he bounded into the room and immediately began sketching for us on the back of a napkin — not a physics equation or blueprint for a new detector, but a calculation of the odds of winning a Nobel Prize by detecting a dark-matter candidate that was then much in the news (a decaying tau neutrino proposed by Dennis Sciama and others).

The Nobel Prize did not materialize but Stu’s enthusiasm infected us both and never left me. I have many good memories of that year at CEA, where I first encountered email on a monochrome VT100 terminal and learned how to program in FORTRAN and write a thesis with LaTeX. Stu was of course very busy with EUVE, but as I learned later, he was also keeping an eye on me. As a mentor, he combined important traits. He was incredibly encouraging. Near the end of my stay, he astonished me by proposing that I apply to Berkeley to return and do a Ph. D. under his supervision. For various reasons I did not feel ready to rise to this challenge, but he never held my choice against me. In fact, he invited me to speak at an IAU General Assembly meeting of the Commission on the Light of the Night Sky that he chaired in Kyoto in 1997, and at the EUVE End-Of-Mission Meeting in 2001. These invitations gave me confidence as a young scientist.

Just as important as his encouragement was a sense of scientific discipline that he imparted to his students. I learned about this, to my immense benefit, when applying for postdoctoral research positions. Stu’s letter of recommendation was too generous in almost every way, but also noted that he had not always been able to find me in the office during my year at CEA, so that he was not certain whether I ‘had, or would develop, the kind of drive shown by the very best students at Berkeley.’ That one line radically changed the way I conduct research. As a shy M. Sc. student, I had tended to work too much on my own at home, so I missed out on the kinds of serendipitous meetings by the water cooler that are so important to successful research. Stu’s remark changed all that. Looking back over my career now, I see the many times that serendipity played a role and
I realize that they might not have happened without that course correction, courtesy of Stu. (For the record, he noticed the change in me and changed his letter so that it was even better.) Now that I am professor myself, I find myself emulating Stu in the way I write letters for my own students. I remember Stu with heartfelt thanks for many years of encouragement.