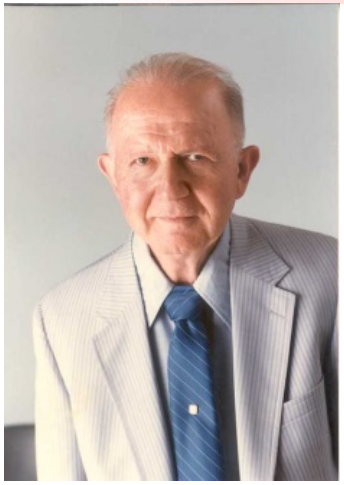
A Tribute to Those No Longer With Us

Frank Friedman

Ruth Hart

Robin Lea Pyle



Saul Rosen

"Maryland's Gain is the Country's Loss"

Winnie Rosen – ***on the occasion of the selection/election of Spiro T Agnew as the Vice President of the United States***

Saul Rosen 1922–1991

Early Career – The Formative Years

- Born in Port Chester, NY on February 8, 1922.
- Graduated from the City College of New York in 1941 with a BS in mathematics
- Attended the University of Pennsylvania
  - PhD in mathematics in 1950
- Instructor of mathematics at Delaware (1946-47)
- Lecturer at UCLA (1948-49)
- Assistant professor at Drexel (1949-51)
- Assistant professor at the Penn (1952-54)
- Associate professor in the Computational Laboratory at Wayne State (1954-56).

In the Private Sector

- Associate research engineer with Burroughs Corporation (1951-52)
- Manager, Burroughs Electrodata Division's Eastern Applied Mathematics Section (1956-58)
- Manager of Computer Programming and Services (1958-60)
- Computer and programming systems consultant (1960-62) at Philco Corporation
- Chief software designer for world's first transistorized computer, Philco TRANSAC S-2000

Saul Rosen – Back to Academics

- In 1962, Rosen joined Samuel Conte as one of the charter faculty members in **Purdue**'s Computer Science Department
  - Professor mathematics and CS (1962-66 and 1967-91)
  - Professor of engineering and Associate Director of Computing at the State University of New York at Stony Brook (1966-67)
- From 1968-1987, Director of **Purdue**'s Computing Center
  - Took **Purdue** to the forefront of high-performance computing at U. S. universities
  - **Purdue** acquired large, high-performance computing systems in the mid-1960s and was one of only three universities operating supercomputers during the 1970s and into the mid-1980s
- In 1947, Rosen became active in the (ACM)
  - Served on the languages committee that eventually led to the ALGOL programming language
  - Then served as first managing editor of the CACM
- Wrote extensively on practical systems programming. Major book, Programming Systems and Languages (McGraw-Hill), in 1967

A Citizen in the True Sense

- In 1979, Rosen participated in the founding of the American Federation of Information Processing Societies (AFIPS) Annals of the History of Computing, contributed to the publication, and served as an editor until his death.
- In 1984, received the ACM Distinguished Service Award for his "widespread, extensive, and continuing service to the computing community"
- Saul Rosen retired as Director of Research Computing in 1987 and died in West Lafayette, IN on June 9, 1991

I Remember Saul

- A gentle, soft spoken soul – a good friend to his students and his staff
  - Interviewed me and offered me an assistantship in the **Purdue** Computer Center in April, 1970
  - Rita Luptowski signed me up for 3 courses – I was hooked – all on a Saturday in mid April, 1970
  - THE BOOK was a major influence in my decision to attend Purdue
- It is a good idea to go where you are wanted
- My time at **Purdue** changed my life

Saul Rosen - Short Bibliography

Programming Systems and Languages. Edited by Saul Rosen. McGraw-Hill 1967. 734p. A collection of articles, some of which have historical interest. The book starts with a historical survey by the editor.

"Electronic Computers: A Historical Survey by Saul Rosen. Computing Surveys, Vol. 1, No. 1. March 1969. p 7-36.

Ray Boyce

"SEQUEL: A Structured English Query Language" D.D. Chamberlin and R.F. Boyce, Proc. ACM SIGMOD Workshop on Data Description, Access and Control, Ann Arbor, Michigan (May 1974) pages 249-264.

Ray Boyce

- Went to Providence College as undergraduate
- After Purdue, Ray went to work at IBM, first at Watson Labs in Yorktown Heights, NY and then at San Jose research labs
  - Co-inventor of SQL, with Don Chamberlain
  - At 1995 SQL reunion, Chamberlain gave a tribute to Ray:
    - "Ray was a person who made things happen. He was a very smart and very ambitious guy and had a lot of energy. I really think Ray, if he'd lived, would have been in the class with Steve Jobs and Larry Ellison and Bill Gates - everybody would know Ray's name, I think, if he was alive today."
- Ray died tragically of a cerebral aneurysm when he was only 27
  - Left behind his wife Sandy and 10-month old daughter Kristen

After his death, Ray's friends established a scholarship in his name in the CS Department

What I Remember Most About Ray

- Played CYO basketball with Lew Alcindor
- Was only person who could slide into 3rd base and not get his clothes dirty
- He was the first person to get a CS PhD at Purdue in 4 years
- Never acted smarter than anyone else

“Maury” Halstead

“The first thing you need to do as a new graduate student is figure out who knows his (her) stuff and who doesn’t” (paraphrased)

Maury Halstead

- Henry Halstead's Orchestra began in early 1922 ...
  - Oh, wrong person
  - (but this Halstead was famous, too -- in some circles)...
- One of M. H. Halstead's main claims to fame was NELIAC -- the brainchild of Harry Huskey of NEL, with support from Maury, the head of the computational center at NEL
- Earned a Ph.D. in physical science at Johns Hopkins
- While at Hopkins he became an assistant director of the Laboratory of Climatology, where he became interested in computer design

Halstead - NELIAC

- NELIAC's claims to fame involved
  - It's relationship to ALGOL-58
  - Its D-Compiler
  - Its bootstrapping, self-compiling compilers (the world’s first) -
    - First coded in simplified form in assembly language "the bootstrap"
    - Then re-written in its own language, compiled by this "bootstrap" compiler, and re-compiled by itself, making the "bootstrap" obsolete)
  - It was one of the first implementations of a high-level language translator

Halstead – A Little Background

- Maury did not start out in computing
- Earned his bachelor's degree in meteorology at Berkeley, and the equivalent of a master's in Aerological Engineering (that is what it was called) at the US Naval Academy
- Earned a Ph.D. in physical science at Johns Hopkins.
- While at Hopkins became an assistant director of the Laboratory of Climatology, where he became interested in computer design
- Eventually ended up in Hawaii
  - Became known as the "grand kahuna" because of the successful cloud seeding experiments he did there in the '40s

Halstead – A Little More History

- Also taught at Texas A&M where he was a professor of meteorology
- Moved to the U.S. Navy Electronics Laboratory (NEL) in San Diego which is where NELIAC was developed
- Then moved to Lockheed Missiles and Space Company Sunnyvale, CA (1964-1969)
  - Led the advanced software development group. Worked on the IBM 7094 Neliac compiler
  - Moved it to a Univac 1107 (then to 1108)
  - Also worked on the IBM 7094 to Univac 1108 Decompiler to Neliac

Maury Comes to **Purdue**

- Halstead wrote a book, "Machine Independent Computer Programming," (Spartan Press, 1962), about NELIAC, a feat that was somewhat sneeringly referred to by Jean Sammet in her famous book.
- He brought NELIAC and the bootstrapping concept with him to **Purdue** (1968?), where I first learned about them in his 500 level CS course (502?)
- We certainly learned by *doing* -- writing a complete bootstrapped compiler for what I think was a stripped down dialect of NELIAC in the course

Maury – Eccentric? Obssessed? A Pioneer?

- Halstead himself seemed like a fairly laid-back fellow, secure in his own skin and accomplishments
- He was considered by some to be a true pioneer in a number of areas - not just computing.
- I found him to be a little eccentric (not at all obnoxiously so) and a bit of an independent spirit
- His door was ALWAYS open, and he was always open to discussion on a variety of topics.
  - Years before it happened, Halstead quipped that only Richard Nixon could possibly break the cold snap between the US and China by actually going to China.
  - Lo and behold ...

Maury at **Purdue**

- Maury launched himself into a new arena -- the mental effort required to develop computer programs
  - This interest resulted in the work he first called "Software Thermodynamics" and later labeled "Software Science" or "Halstead Metrics"
  - Wrote a book and several papers ...

Halstead the Obsessed?

- Believed that CS was not sufficiently experimental
  - That we did not measure what we were doing in any sort of scientific way
  - He would say something to the effect that you don't really know something until you know you really *know* it
    - The implication was clear
  - He was indeed a true believer in and practitioner (one might say a devotee) of measuring things, most notably the properties of programs

Norm Gibbs

"Friedman is OK – he has good instincts" (well – that's debatable)

Norm Gibbs

- Gene Spafford said that Norm cared deeply about teaching, students, and the profession. He surely did
- Norm was born 70 years ago in Keyport, NJ
- B.S. from Ursinus College (near Philly)
- M.S. and Ph.D. (1969) from **Purdue**
  - 14th recipient of a PhD in computer science from **Purdue**

Norm Gibbs – A Little History

- I did not know Norm from his days at **Purdue**
- I first him when he was a faculty member at William & Mary (1969-1981),
  - Helped establish the CS degree program
  - Instrumental in hiring the first wave of faculty
- He went to Arizona State University (1981-83)
  - Established the PhD program in CS

Norm Gibbs – Teaching Interests Blossomed

- Bowdoin College (1983-85)
  - Served as chairman
  - Co-founded the Liberal Arts Computer Science Consortium (LACS)
- In 1985, Norm became the first director of the Software Engineering Institute's Education Program.
  - SEI was a wonderful place, worthy of duplication across the U. S.
  - Norm was a perfect fit for SEI
  - In the forefront of software engineering education

Norm Gibbs at SEI

- At SEI, he and his team were always innovating
- Involved in the development and early growth of the CERT/CC, the SEI's distance education program
- SEI's continuing education program
- CMU's professional Master's of Software Engineering degree program
- At the SEI and CMU until 1995, he served in several other administrative roles, and as a professor of software engineering

The "Other" Norm Gibbs

- Norm also served as the
  - Director of Information Technology at Guilford College in North Carolina
  - Professor in Residence and the Executive Director of the Connecticut Information Technology Institute at the University of Connecticut
  - A member of the Advisory Board of the **Purdue** University CERIAS.
  - Chair of the Department of Computer Science at Ball State University in Muncie, IN, where he remained until his death.

Norm Gibbs

- Norm was a true leader in education and research
- Very active in ACM, including service on the ACM Council
- Chair of the ACM SIG Board in the mid 1980s
- SIGCSE Award for Outstanding Contributions to Computer Science Education (1994)
- I enjoyed numerous conversations with Norm – from teaching FORTRAN to Software Engineering
- He and his crew left an indelible footprint SWEE

J. Richard Büchi, 1983

J. R. Buchi

"When are you going to solve a HARD problem?"

Who Shot J. R.?

- Probably no one we knew
- I took his automata course in my first semester at **Purdue**– I had a hard time
- He was inscrutable and could easily make you feel like the most insignificant ant on the farm
- Paul Young said he treated everyone the same, but that did not help me feel much better

Buchi the Person

- Buchi seemed to be quiet and very unassuming
- His wife drove him to and from the MSB – he did not drive
- He seemed to wear the same clothes – his shirt was never tucked in
- He spoke of Chomsky and Chomsky's colleagues with considerable disdain – they were not mathematicians, they were symbol manipulators (I may not be paraphrasing this properly – but the implication was clear)

Buchi's Theory of Automata

- Buchi used his own book which was still in rough manuscript form but was quite readable
- He built his own theory of automata with a mathematical underpinning involving (as I recall) lattices and monoids and other algebraic structures
- His theory was very un-Chomsky-like (and if you want to know more, I can't help you)

L Duane Pyle

"Purdue is a perfect place for graduate study – it's right in the middle of the corn fields, 100 miles from distractions in any direction, so there's nothing to do but study."

As quoted by Dennis Frailey

Thank yous to …

- Gene Spafford (re Norm Gibbs)
- Bill Caudle (re Maury Halstead) (http://home.comcast.net/~caudle2/careerto.htm)
- Information Technology at Purdue Research Computing (RCAC) website (re Saul Rosen)
- Various internet sources (re J. R. Buchi)
- And thanks to each of these folks for their work at **Purdue**, and in behalf of computer science research and education, and, for us
- Special thanks to Peter Denning for my survival

Students I Miss

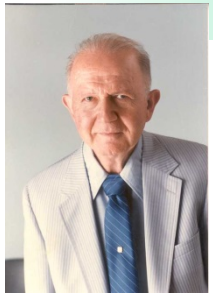
- Dennis Kafura
- G Scott Graham
- Dennis Conti
- Bob Murphy
- Rita Luptowski (was she a student?)
- Mikey (and Mickey) Shapiro (and his beads)
- Paul Zislis
- Necdet Bulut
- Frank Belz
- Linda Belawich

In Memorium

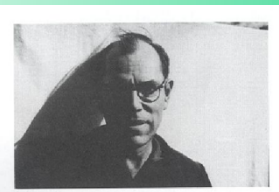
Sam Conte

L Duane Pyle

Maurice Halstead



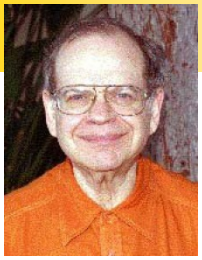
Saul Rosen



J Richard Buchi

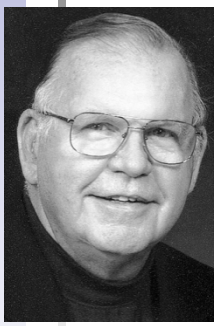
Bob Korfhage

Mike Machtey



Mike Shapiro

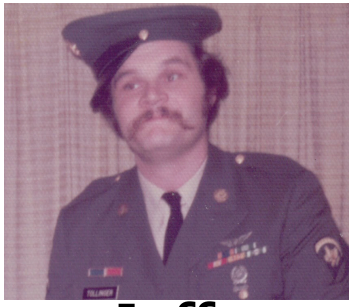
Bea Yormark



Larry Axsom

Norm Gibbs

Ray Boyce



Jeff Tollinger

Cliff Myers