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## Trolander, Janning, Desch enshrined in Engineering & Science Hall of Fame

By Joe Martino

Club members **John "Jack" Janning** and **Hardy Trolander**, along with the late Joseph Desch, were enshrined Nov. 7th into the Engineering and Science Hall of Fame ceremony held at the Engineers Club.

**Debbie Desch Anderson** accepted the enshrinement on behalf of her father. She was introduced by Jim DeBrosse, of the *Dayton Daily News*. DeBrosse related how he had been assigned by his editor to look into the story of a woman who was searching the NCR Archives, and who thought her father had been involved in cracking the Nazi Enigma code during World War II.

DeBrosse stated that instead of the "nut case" his editor had expected, he found a real story. He worked with Debbie in putting the story together, and it appeared as a series in the DDN, then in DeBrosse's book, *The Secret of Building 26*. (Read DeBrosse's remarks on page 5.) Debbie then described many aspects of her father's personality, with some colorful anecdotes. (See her remembrances on page 4 and a story on the German Enigma code machine also on page 4.)

John Janning was introduced by **Ron Versic**, who used some short extracts from a half-hour videotape that had previously been prepared for TV broadcast. In the video, Janning described how he had developed some of his inventions, basically by tinkering in his basement laboratory. Janning's message was: You can do it if you believe you can. In his acceptance speech, Janning described how he had been led to make two of his major inventions: the thermal print head now used to print almost every receipt from a credit card machine or cash register; and Christmas lights that stay lit even when one or more



Hardy Trolander and Joe Martino

bulbs burns out, leading to the StayLit™ Christmas Tree.

Hardy Trolander was introduced by Rick Omlor, current CEO of YSI, Inc. Omlor described how Trolander had established the corporate culture that, some 60 years later, still exists at YSI, and is a significant factor in the success of the corporation. In his acceptance speech, Trolander described how he and two college buddies had founded Yellow Springs Instruments, and the role Antioch College played. He described a few of the company's major innovations, particularly in the area of thermistors.

The enshrinees were selected by the officers of the Hall of Fame: **Joseph P. Martino**, President; David Banaszak, Vice President; and John Buscemi, Treasurer, with the advice of the Engineers Club Technical Education Committee.

The enshrinement ceremony was preceded by a reception for the 100+ attendees, and followed by an excellent dinner.

\* Engineers Club members' names are **boldface** on first mention in EC News stories.

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# Engineering and Science Hall of Fame

Inductees from 1982 to 2008 in alphabetical order of last names.

**Chester F. Carlson** (1906-1968) – Invented xerographic process

**George Washington Carver** (1864-1943) – Developed many products from the peanut

**Leland C. Clark, M.D.** – Developed heart-lung machine and synthetic blood

**W. Edwards Deming, Ph.D.** – Developed principles of quality control

**Joseph R. Desch (1907-1987)** – Headed successful U.S. effort in World War II to break German U-boat Enigma code.

**James H. Doolittle** (1897-1993) – Developed night flight instruments, aviation fuel

**Charles R. Drew, M.D.** (1904-1950) – Developed production and preservation of blood plasma

**Harold E. Edgerton** (1903-1990) – Developed super high speed photography and discovered Teflon

**Thomas A. Edison** (1847-1931) – Electric light, recording equipment, etc.

**Gertrude Bell Elion** – Developed anti-rejection drugs (Imuran)

**Enrico Fermi, Ph.D.** (1901-1954) – Discovered atomic fission process

**Helen M. Free and Alfred H. Free, Ph.D.** – Developed convenient diagnostic test techniques

**Buckminster Fuller** (1895-1983) – Geodesic dome, over 2,000 patents

**Frank B. Gilbreth, L.L.D** (1868-1924) and **Lillian M. Gilbreth** (1878-1972) – Created time and motion studies for efficiency

**Meredith Gourdine, Ph.D.** – Developed non-contact printing, air pollution control

**Wilson Greatbatch** – Invented implantable cardiac pacemaker

**Barrett K. Green** – Created NCR carbonless paper

**Henry J. Heimlich, M.D.** – Developed the Heimlich maneuver

**Gerard Herzberg, Ph.D.** – Developed atomic spectroscope

**Commodore Grace M. Hopper** (1906-1992) – Computerized U.S. Navy

**George W. Housner, Ph.D.** – Advanced earthquake engineering

**John Janning** – Developed liquid crystal display production process, thermal print head, and holds 70 patents plus 12 pending.

**Percy Julian, M.D.** (1899-1975) – Developed cortisone, soya bean protein derivatives

**Charles F. Kettering** (1876-1958) – Invented auto starter, ethyl gas, quick-dry paint

**Jack S. Kilby** – Developed integrated circuits

**Paul W. Klipsch** – Made contributions to acoustic, ballistics and geophysics

**Stephanie Louise Kwocek** – Invented Kevlar (strong synthetic fiber)

**Mary Leakey** (1913-1996) – Conducted breakthrough archeological studies

**Harold McMaster, Ph.D.** – Advanced glass technology with 98 patents

**Donald J. O'Connor, Ph.D.** (1923-1997) – Contributed to water quality monitoring and prediction

**Hans J. von Ohain, Ph.D.** (1911-1998) and **Sir Frank Whittle** (1907-1996) – Invented jet engine

**David Packard** – Founded Hewlett-Packard Company

**Linus C. Pauling, Ph.D.** (1901-1994) – Established orbital theory of molecular bonds

**Adm. Hyman G. Rickover** (1900-1986) – Father of nuclear navy

**George Rieveschl, Ph.D.** – Invented Benadryl

**Jonas Salk, M.D.** (1914-1995) – Developed polio vaccine

**Glen T. Seaborg, Ph.D.** – Discovered plutonium and many isotopes

**Hamilton O. Smith, M.D.** (1931-1987) – Discovered restrictive enzymes

**George R. Stibitz** (1904-1995) – Father of the digital computer

**C. Paul Stocker** – Made contributions to electrical engineering

**Charles S. Townes, Ph.D.** – Developed technology for lasers and masers

**Hardy Trolander** – Developed medical and environmental measuring and monitoring devices and standards, and founded the Yellow Springs Instrument Company

**George Westinghouse** (1846-1914) – Invented air brakes

**Orville Wright** (1871-1948) and **Wilbur Wright** (1867-1912) – Invented powered flight

**Rosalyn S. Yalow, Ph.D.** – Developed screening test for cancers

# Hall of Fame ceremony: Quick shots



John Janning, a wholehearted family man, stands with his wife Delores.

Introducing **John Janning**, **Dr. Ron Versic** holds up an early portable blood pressure machine that prints out its results. The thermal print head, now used commonly for printing such things as credit card charge receipts, was invented by John Janning.



John Janning made two appearances at the Hall of Fame ceremony – first in a seven-minute clip Ron Versic edited from a 1970s NCR film of Janning in his workshop, with Janning showing how he used simple things in which to conduct his experiments. For example, he used a bottom-sawed-off glass gallon jug and vacuum pumps from thrown-away refrigerators to create a vacuum space in which to test some things, without an expectation other than to see what happened. This approach led to some breakthroughs. “Being nosy is part of inventing,” the 1970s Janning said on film – and the live 2008 Janning on stage was just as vigorous, insightful and humorous, Janning-style.



Among those attending were **Carl Beck** (left), a former President of the Engineers Club, and **Dick Palmer**, a former Secretary of the Board of Governors and the man who crafts the Club events e-mails to members and is the photographer who shot all the photos (except this one) in this presentation.



**Rick Omlar** (left), with **Hardy Trolander**. Rick is only the third CEO of **Yellow Springs Instruments**, the company Hardy co-founded and led as its first CEO 60 years ago. Though gratified by his inventions, Hardy said he was most motivated by the organizational innovations and practices he helped shape. YSI’s non-discriminatory policies helped attract talented people whom other companies wouldn’t employ, he said. “We also worked to maintain an environment of trust for all employees. We had no time clocks. Workers kept their own time sheets. Most employees became stock holders before we adopted an ESOP (Employee Stock Ownership Plan). I think it worked – that YSI became a place where its people looked forward to their jobs.

## Ladies Lunch Bunch



Those attending a “Ladies Lunch Bunch” gathering in the Pub on Halloween shared stories of unusual things they have experienced. Clockwise, front to back, the attendees included Diane Buchanan, Ann Taylor, Sonia Cawood, (not visible – Elyse Mowry and Marna Bosch), a sitting mannequin with goggles, Leatha Stewart standing in back, Carolyn Jenney, Maribeth Graham, Elaine Middlestetter, Dottie Eggers, Ramona Greenlee and Betty Martel. Not pictured was Joyce Kohli.

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Chuck Stuart  
Hardy Trolander  
Harvey Tuck  
Bill Vaughn  
James A. Wood  
John York

# Can Dayton replicate its historic code-breaking machine?



At the Oct. 28 Barn Gang program, Debbie Anderson gave out complimentary copies of the DVD, *Dayton Codebreakers*, the documentary, produced and directed by Aileen LeBlanc, with Debbie Anderson as Associate Producer/Research.

Miranker offered an analysis of the algorithms the Poles, Brits and Americans used to tackle the problems, especially those used in the Navy Bombe, as Desch's machine was called.

Out of this visit, maybe Dayton can get its own Navy Bombe again – not the real NCR machines that are said to have

Dayton, in this decade, has gotten a lot clearer picture of the top-secret code-breaking work by NCR, its chief engineer Joseph Desch, the WAVES and others sworn to silence at risk of death as they turned the tide of naval war against the Nazi U-boats in 1942.

To fill in more of the story, computer scientist Glen Miranker, a former Vice President of Systems Development and later Chief Technology Officer for Apple Corp., flew from his San Francisco home to Dayton to show a packed audience at the Oct. 28 Barn Gang luncheon the astronomic number of cryptologic possibilities presented by the 4-rotor German Enigma.

been crushed and buried near the now-destroyed Building 26, but with a replica.

Debbie Desch Anderson met Glen Miranker at a symposium sponsored by the National Security Administration's Cryptologic Museum Foundation a year ago in Ft. Meade, MD. "He had had an interest in cryptography since grad school and recently collected an actual Enigma machine," Debbie said. "He and I soon struck up an acquaintance based on our mutual interests. He visited Dayton last November and met some of our members, including John Bosch, here at the Club.

"Glen has an interest in tackling a rebuild – likely beginning as a simulation in software – of the Dayton machine," Debbie said, "and he gave us encouragement to consider seriously such a project."



Ben Graham discusses code-breaking history with Glen Miranker. Ben, a former President of the Engineers Club, worked – he won't say doing what – in the National Security Administration from 1952-54.

## Debbie Desch Anderson recollects father's two sides



Joe Desch. Photo courtesy of Dayton History – NCR Collection

From her remarks at the Engineering and Science Hall of Fame enshrinement of her father, Joseph Desch.

I have tried to keep in mind not what I wanted to say but what my father might have said. That is far more difficult than you would imagine, because I realized today that, in the years I knew him, he didn't receive any formal recognition. We know of his Medal for Merit, but that was awarded in secret, in Washington, before I was born.

In addition, I could never predict which Joseph Desch I'd meet on any given day.

Let me explain: Perhaps because of his origins or maybe his upbringing, he was genuinely a humble man. Humility is today an overlooked virtue but he stressed it in rearing me and, at his best, he demonstrated it.

But the very man who taught me this was also justifiably proud of what he knew he had accomplished in his life. Once in a while, this pride would manifest itself as boastfulness and take those around him by surprise.

Once in the mid-1980s Dad was invited to NCR World Headquarters for lunch and took me along. We waited briefly in the lobby. Dad, I could tell, was ill at ease. Suddenly a young man interrupted and introduced himself. He said he had just wanted to meet the man whom, he had learned, had developed the NCR 304. I was happy at this, for I thought Dad would enjoy a bit of flattery. However, Dad, using his best baritone voice, pronounced for the whole lobby to hear "Heck, I not only did that, I designed the first digital calculator, and the first digital computer." The poor young man literally jumped back, worried he had insulted this old man. I was mortified. There was a glimpse of the braggadocio that could surface when Dad was defensive.

As the young man slunk away I turned to him and asked "Well, where did that come from?" He replied, "Honey, they're going to forget about me, about my department. They won't have any idea what we went through." I argued, "No they won't." But he said, as he always did, "You're being naive. That's the way business is. Out with the old, in with the new."

This episode occurred to me when I opened the letter from the Hall of Fame. Tonight is a great honor, I think the greatest he has received, for in it he has achieved "honor in his own country," his home town. If he were here tonight, I could not guarantee which Joe Desch would show up, but I suspect the humble, slightly embarrassed Joe would be here, truly touched by this recognition of his peers. For him, I thank you.