

SPOTLIGHT ON "HIDDEN PHYSICISTS"

WILLIAM C. CAVALLO, RETIRED, NAPERVILLE, IL

"After seeing the 'Hidden Physicists' form in several copies of *Radiations*, I decided to submit my brief story. My hope is to pass along the idea that a physics education does not necessarily limit a person to that particular field for their entire career.

"I received both a BS and MS in physics from DePaul University and made a futile attempt for a PhD at Northwestern University in the fifties. The next nine years were spent in various engineering jobs and a two-year stint as a college physics and mathematics teacher. In the late sixties, I was director of engineering for a small company, which was soon acquired by another company with their own engineering department. I went from director of engineering to a technical sales engineer, for a large electronics company, with a sizeable increase in salary. The next 18 years were spent in technical sales.

"My physics background coupled with

the engineering experience were invaluable assets in providing the capability to effectively communicate between the customer's engineers and my company's engineers. This experience also enabled me to easily adapt to different technologies when I changed jobs."

ROBERT R. RICHARDSON, PATENT ATTORNEY, BLACK LOWE & GRAHAM, SEATTLE, WA

"I may be a 'hidden physicist,' but my education in physics has helped me throughout a career around the periphery of physics and as a father. After receiving a BS from the US Naval Academy, I went through the Naval Nuclear Power Program and served as a nuclear-trained submarine officer. A background in physics helped put reactor theory into practice. I am now a patent attorney. Again, a background in physics makes it easier to understand inventions in areas like semiconductors and ultrasound. But,

most importantly, an education in physics helps me explain to my children such critical concepts as conservation of angular momentum while spinning around on a kitchen stool or predicting the trajectory of a model rocket.

"Here's one suggestion for uncovering 'hidden physicists.' How about a Sigma Pi Sigma bumper sticker: 'I'm a member of the National Physics Honor Society—and I vote!'"

ALAN RUNGE, ACADEMIC DEAN, DEVRY INSTITUTE OF TECHNOLOGY, KANSAS CITY, MO

"After my PhD (physics/education) I was unable to find a college teaching position. So I transitioned to Information Technology. Computer technology was a natural extension of my skills gained in a research lab (magnetic storage media) and is

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Please visit the Careers Using Physics (CUP) website for a much more comprehensive listing of "Hidden Physicists." Point your browser to: www.spsnational.org/cup

"Hidden Physicists"

One of Sigma Pi Sigma's greatest assets is its diversity. Stemming from a common interest in and aptitude for physics, our members have gone on to pursue a multitude of interesting and unusual career paths. Now, more than ever, we seek to draw on the wisdom and experience of our alumni.

With help from the American Institute of Physics, Sigma Pi Sigma is attempting to locate the names and whereabouts of people with BS, MS, or PhD degrees in physics whose careers have taken them away from the "traditional" physics community. We ask for your help in finding the universe of people

who are trained in physics—what they do, and where they are. As the physics community faces new challenges and opportunities, we would like to engage these "hidden physicists" in the fellowship of physicists. Therefore, if you work outside the traditional physics community, please provide us with the following information. Also, if you know of others in similar situations, please encourage them to contact us. Several responses will be selected for publication in each issue of *Radiations*.

Material for publication must be received by February 15 for the spring issue, and by August 15 for the fall issue. ♦

Name _____ Position _____

Company _____

Address _____

Telephone _____ Fax _____ E-mail _____

Comments _____

Send to: Sigma Pi Sigma, One Physics Ellipse, College Park, MD 20740

Telephone: (301) 209-3007 ♦ Fax: (301) 209-0839 ♦ E-mail: sps@aip.org ♦ www.sigmapisigma.org

“HIDDEN PHYSICISTS” (continued)

an application of most basic physics. I progressed through department chair to dean rapidly.”

JON SWARTZENDRUBER, BUSINESS OWNER, GLENWOOD SPRINGS, CO

“What a great education we received at USC. Sallie Watkins is one of the greatest professors. We had Theoretical Mechanics class taught to nine of us by Dr. Wagner in his conference room behind his office. He would have his secretary bring in coffee and doughnuts. What a great school. I double majored in Math & Physics (class of '76). Taught high school physics for three and a half years, now own and operate a small plumbing and heating company in Glenwood Springs, CO. Most of work is in hydronic heating and snowmelting systems. [I've been] married to the lovely Sherell for almost 28 years, and have a son and a daughter. [Our] son will receive Masters in electrical engineering this fall from Colorado School of Mines, and our daughter has BS in business from Colorado State and works in Denver area. [My] hobbies are wood working, stained glass, anything working with hands. I am an old classmate of Dwight Neuenschwander at University of Southern Colorado. Be sure to mention we tied for the longest names at USC.”

—Let the record show that two of the four physics graduates of the 1976 USC class had 14 letters in each of their last names!

—Editor

CAPTAIN WILLIAM J. TOTI, US NAVY, DEPUTY FOR OPERATIONS, NAVY OPERATIONS GROUP (DEEP BLUE), THE PENTAGON

“After graduating with a bachelor degree in physics from the US Naval Academy in 1979, I completed nuclear power training then entered the submarine force. Over the years, I've spent over ten years submerged beneath the world's oceans, eventually commanding the submarine USS *Indianapolis* (SSN 697).

“I also received graduate training in space systems engineering, receiving a MSEE and the pre-doctoral electrical engineer degrees in 1986. This training led me to be the first submariner nominated by the Navy for Astronaut Mission Specialist. Although I was not selected for astronaut (bad eyes), the work I did on space station communications design would help me years later when I provided oversight to defense satellite and missile defense systems design.

“Since the 9/11 attacks, I've been working on war planning in the Pentagon. Although I never served as a professional physicist, over the years the fundamental training I received in physics allowed me to evaluate options rationally and analytically. I have also published several articles in major journals and national newspapers exposing faulty analysis and bad reasoning in defense decisions. Even though I was never trained in other disciplines, I was sometimes required to oversee (operational analysis, technical investments, etc.), my background allowed me to stand toe-to-toe with the best in the business and understand when the analysis being presented was correct or when it constituted bad science that would result in bad decisions.



present the

2002 Industrial Physics Forum

New Tools for New Materials



October 27 - 29, 2002
Williamsburg, Virginia
hosted by Jefferson Lab
Southeastern Universities Research Association

Sunday, October 27, 2002
Academic-Industrial Workshop (pre-conference)
Diversifying the research portfolio:
Academic, industrial, and federal research
partnerships

Monday, October 28
New Tools for New Materials
- Building and using the world's most powerful
tunable laser
- Laser microfabrication of picosatellites
- Pulsed-laser deposition comes of age
- Tickling, probing, and processing biomaterials

Tours of Jefferson Lab
Banquet and tour at Mariner's Museum

Tuesday, October 29
Science in a Security Conscious World
- Security measures for civilian airlines
- Science secures ports and naval assets
- Countering biothreats

Frontiers in Physics Session
- Atomtronics
- Molecular electronics
- Attosecond physics
- Single-atom imaging



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