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Michael Alan Soderstrand

Profile

Offering 40-years of experience in electrical and computer engineering including 4 years of electronic technology (radio and TV), 11 years of computer-based design for telemetry, control systems and automatic test (**Sandia National Laboratories**) with 26 years of teaching and research on the Electrical and Computer Engineering faculty at **University of California, Davis**, and 5 years as Head of the Electrical and Computer Engineering Department at **Oklahoma State University**.

Objective

Retired since January 2004. Seeking a **faculty** (adjunct, undergraduate or graduate) **or other academic position** that will make use of my unique combination of experience, skills and talents in teaching, course and/or curriculum development or administration of electronic or computer design classes or curricula.

Experience

1998–2004 Oklahoma State University Stillwater, OK
Supervisor: Keith Teague, Head ECEN Dept. 405-744-5151

Professor and Head of Electrical and Computer Engineering

- Brought in as Department Head in July 1998 to turn the department around.
- Increased faculty from 16 to 22.
- Increased undergraduate students from 350 to 477.
- Increased graduate students from 130 to 205 including Ph.D. students from 30 to 55.
- Started a new Electrical and Computer Engineering program at OSU Tulsa in 1999 that grew to 80 undergraduate students and 120 graduate students by spring 2002.
- Instrumental in obtaining a \$750,000 Telecommunications Research Laboratory.
- Instrumental in obtaining a \$2 million endowed chair position in Telecommunications
- Principal investigator on a \$5 million National Science Foundation IGERT grant to develop a photonics Ph.D. and research-training program.
- Developed a research incentives program for the College of Engineering that yielded a 10% increase in research funding in its first year with 50% of the increase coming from the Electrical and Computer Engineering Department.
- OSU was almost denied accreditation in 1997, but passed easily in 2000 and again in 2003 under the more stringent ABET-2000 standards.
- Initiated exchange program between OSU and Kanwon National University in Korea and VEL Institutes in India.

1972–1998 University of California Davis, CA
Supervisor: Gary Ford, Assoc. Dean 530-752-0556

Professor of Electrical and Computer Engineering

- Served two separate terms as Vice Chair of the Electrical and Computer Engineering Department.
- Served two consecutive terms as Chair of the Undergraduate Programs Committee responsible for successful ABET accreditation based on a curriculum developed by our committee and documented in a peer-reviewed journal article I authored in **IEEE Transactions on Education**.
- Developed course and wrote textbooks and laboratory manuals for electronic circuits, microprocessors, active filters, fortran programming and UNIX operating systems.
- Founder of the fields of Complex Heterodyne Filters, Residue Number Arithmetic Digital Filters, and Active-R Filters.
- Voted **Outstanding Teacher of the Year** in the Electrical and Computer Engineering Department for 1994.
- Voted **Outstanding Teacher at Large** in the College of engineering for 1980.

1968–1979 Sandia National Laboratories Livermore, CA
Supervisor: Duncan Tanner, Division Head 925-294-3000

Member of Technical Staff and Project Manager

- Project Manager for the Master Control System for Solar ONE, the 10-megawatt solar central receiver power plant built in Barstow, CA.
- Developed computer-based wireless telemetry systems for missile tests.
- Developed computer-based automatic test equipment.

1964–1968 KXTV Channel 10 Television Sacramento, CA
Supervisor: Don Ferguson, Chief Engineer 916-364-5118

Audio Engineer

- Assisted in the design and installation of new control room equipment.
- Maintained on-air television equipment.
- Responsible for audio portion of on-air television.

Education

1964–1966 Sacramento City College Sacramento, CA
▪ Associates of Arts Degree in Engineering.

1966–1968 University of California Davis, CA
• Bachelor of Arts Degree in Electrical Engineering.

1968–1972 University of California Davis, CA
• Master of Arts Degree in Electrical Engineering
• Doctor of Philosophy (Ph.D.) in Electrical Engineering

**Memberships/
Licenses**

Institute of Electrical and Electronic Engineers (IEEE)

- Fellow of the IEEE (1999)
- Founding Editor of IEEE Circuits and Systems Magazine
- Associate Editor of IEEE Transactions on Circuits and Systems
- Vice President of the IEEE Circuits and Systems Society
- Chair 2004 IEEE Midwest Symposium on Circuits and Systems (Tulsa, OK)
- Chair 2001 IEEE Asilomar Conference on Signals, Systems and Computers (Pacific Grove, CA)
- Chair 1997 IEEE Midwest Symposium on Circuits and Systems (Sacramento, CA)
- Technical Program Chair 1995 IEEE Asilomar Conference on Signals, Systems and Computers (Pacific Grove, CA)
- Technical Program Chair 1996 IEEE Midwest Symposium on Circuits and Systems (Ames, IA)

National Society of Professional Engineers (NSPE)

- Vice President of California Society of Professional Engineers
- Registered Professional Engineer in California (Electrical)

Volunteer Work

After my retirement, I was an inmate tutor at Federal Medical Center in For Worth Texas, part of the Federal Prison System. I tutored inmates for their GED high school equivalency exam and helped many to pass the exam and get their GED certificate. In addition I taught the following courses:

- College-level Business Mathematics (included income tax, payroll, financial statements, simple interest, compound interest, mortgage, depreciation and insurance).
- College-level Business Mathematics (including how to evaluate statistical data, z-tests, t-tests, ANOVA and similar topics)
- College-level Modern Physics for non-scientists
- Electronic calculator course

I currently work part-time at Hand-Up Ministries, 405-236-3349, a program that assists people recently released from prison get their life back together again.

1. I work as office manager
2. I am responsible for maintaining files on residents, collecting program fees, managing resident trust funds and assisting with correspondence and applicant files.
3. I am also assisting with the planning process for computer networks at the new office and for expansion of facilities including the addition of facilities for women.

I teach an evening mathematics course as an adjunct at DeVry University. For further information contact Dean Robert Steinerd, 405-767-2206.

Books

1. R. Schaumann, **M.A. Soderstrand** and K.R. Laker, *Modern Active Filter Design*, IEEE Press, New York, NY, 1981.
2. **M.A. Soderstrand**, *Electronic Circuits and Systems*, Kendall-Hunt Publishing, Debuque, IA, 1981.
3. **M.A. Soderstrand**, *Electronic Circuits and Systems Laboratory Manual*, Kendall-Hunt, Debuque, IA, 1981.
4. **M.A. Soderstrand**, *Application of Computers*, Kendall-Hunt Publishing, Debuque, IA, 1982.
5. **M.A. Soderstrand**, *Application of Computers Laboratory Manual*, Kendall-Hunt Publishing, Debuque, IA, 1982.
6. **M.A. Soderstrand**, W.K. Jenkins, G.A. Jullien and F.A. Taylor, *Residue Number arithmetic: Modern Applications in Digital Signal Processing*, IEEE Press, New York, NY, 1986.
7. **M.A. Soderstrand**, *Electronic Circuits and Systems Project-Oriented Laboratory Manual*, Kendall-Hunt Publishing, Debuque, IA, 1988.
8. **M.A. Soderstrand** and Gary F. Ford, *Electronic Circuits and Systems Laboratory Manual*, Kendall-Hunt Publishing, Debuque, IA, 1995.
9. R. Nahvi and **M.A. Soderstrand**, *Student Problems Manual for Electronic Circuits Fundamentals*, Saunders College Publishers, 1996.
10. **M.A. Soderstrand**, *Active RC Filter Design*, chapter in *CRC Engineering Handbook*, 1st Edition, Richard Dorf, Editor, CRC Press, Piscataway, N.J., 1996.
11. **M.A. Soderstrand**, *Proceedings of the 1997 IEEE Midwest Symposium on Circuits and Systems*, IEEE Press, New York, NY, 1997.
12. **M.A. Soderstrand** and R. Yarlagada, *Proceedings of the 2002 IEEE Midwest Symposium on Circuits and Systems*, IEEE Press, New York, NY, 2002.
13. **M.A. Soderstrand**, *Active RC Filter Design*, chapter in *CRC Engineering Handbook*, 2nd Edition, Richard Dorf, Editor, CRC Press, Piscataway, NJ, 2000.
14. **M.A. Soderstrand**, *Microprocessors and Microcontrollers*, chapter in *CRC Engineering Handbook*, 2nd Edition, Richard Dorf, Editor, CRC Press, Piscataway, NJ, 2000.

Patents

1. **M.A. Soderstrand**, *Active-R Filters*, US Patent 3,955,150, 5-4-76.
2. S.A. White, J.P. Woodard, **M.A. Soderstrand**, K.E. Nelson and P.V. Nguyen Dao, *Adaptive Removal of Resonance Induced Noise*, US Patent 5,960,091, 7-28-99.
3. S.A. White, J.P. Woodard, **M.A. Soderstrand**, K.E. Nelson and P.V. Nguyen Dao, *Adaptive Removal of Resonance Induced Noise (Extended)*, US Patent 6,611,602, 8-26-03.