

## **TIMOTHY L. SCHERR**

### **Curriculum Vitae**

#### **EDUCATION**

**UNIVERSITY OF UTAH**, Salt Lake City, Utah  
**Master of Science in Electrical Engineering, 1985**

**WASHINGTON UNIVERSITY**, St. Louis, Missouri  
**Bachelor of Science in Electrical Engineering, 1981**

#### **ACADEMIC EXPERIENCE**

**University of Colorado** Boulder, CO.

**July 2015 to present**

##### **Associate Teaching Professor**

##### **Associate Faculty Director, Embedded Systems Engineering Professional Master's Program**

As a Senior Instructor, created, implemented, and taught two graduate electrical engineering courses: Mastering Embedded Systems Architecture and Programmable Logic Embedded Systems Design, which helped launch the Professional Master's Program in Embedded Systems Engineering at CU. Developed all course materials including lectures, homework problems and solutions, project guides, and laboratory exercises; supervised TA's for these courses. Also instructed a course in Real-Time Embedded Systems already developed by a colleague. Developed an online course, "Introduction to FPGA Design for Embedded Systems", launched on the Coursera platform in September 2017, serving 85,000 learners to date with an overall rating of 4.6 out of 5 and 97% likes. Launched Additional MOOCs in November 2019 and August 2020 which have also been well received, completing a specialization. As Associate Faculty Director, helped determine the ESE Master's degree course plan, and helped recruit Adjunct Professors for the program. Identified and procured laboratory space at the onset of the program, and obtained donations of development kits for use in the laboratory. Served on department committees, including online MSEE/PMP Committee, and DEI Committee.

**South Dakota School of Mines and Technology**, Rapid City, SD.

**August 1986 to August 1990**

##### **Assistant Professor of Electrical Engineering**

Taught undergraduate and graduate courses in Electrical Engineering, including Electrical Networks, Electronics, Control Systems, and Microprocessor System Design. Responsible for lectures, examinations, and laboratory design. Introduced Programmable Logic Devices (PLDs) to the curriculum and laboratories in both undergraduate and graduate Microprocessor System Design courses.

#### **NON-ACADEMIC EXPERIENCE**

**Arrow Electronics, Inc.** Westminster, CO.

**May 2011 to July 2015**

##### **Applications/Systems Engineer**

Provided engineering design services to a wide variety of customers across North America, including those in Military, Medical, Telecommunications, and Industrial Control Markets. Authored dozens of papers known as Application Solution Packets for customer delivery. Created and directed a nationwide seminar series featuring Microsemi SoC FPGAs, including hands-on laboratories.

**Spirax Sarco, Inc.** Longmont, CO.

**September 2008 to May 2011**

##### **Engineering Team Leader**

Directed engineering team in the development of new flowmeter products. Defined specifications based on marketing requirements, established new engineering processes, removed technical roadblocks, and provided project planning. Supervised electrical, firmware, reliability, and mechanical engineers. Delivered the first new meter product, the MTMP, in the first year after previous leadership had spent 3 years without success. Sales of this product exceeded first year target by over 60%. Contracted and directed design efforts of embedded systems hardware and software contractors and contracting firms on the next 3 concurrent projects.

**Vesta Technology, Inc.,** Wheat Ridge, CO.

**April 2004 to June 2008**

**Director of Engineering**

Responsible for managing all engineering projects and determining the technology direction of the company. Provided technical sales leadership, writing proposal and securing several engineering projects which led to products with over \$500,000 in annual sales revenue. Supervised embedded engineers and manufacturing quality control inspectors. Resolved manufacturing problems with contract manufacturers.

**Project Engineer**

Responsible for complete product lifecycle and development of a line of single board computers and autopilots. Authored several successful project proposals for custom engineering work on instrumentation and industrial control systems. Designed a single board computer based on the Philips ARM7 processor.

**AirCell, Inc.,** Louisville, CO.

**August 2003 to April 2004**

**Senior Electrical Engineer**

Designed system architecture for a Wireless Commercial Aviation PBX phone system, including interfaces to proprietary RF transceivers and 4-wire handsets, and SIP server hardware. Selected vendors for single board computers used in the system, custom VoIP Gateway reference design, and media processing VoIP software. Installed and tested VOCAL SIP server using a Linux-based embedded SBC.

**Wescha Engineering,** Erie, CO

**May 2003 to August 2003**

**Senior Design Engineer**

As an Independent Contractor, performed a feasibility study of a high-speed digital demodulator for a 2.4 GHz or 900 MHz radio modem. Created a MATLAB system model and system design, including parts selection.

**Boulder Technology Labs, LLC,** Boulder, CO.

**February 2003 to May 2003**

**Senior Design Engineer**

Designed and developed hardware and software platform for demonstrating a proprietary networking time synchronization system.

**Aztek Engineering, Inc.,** Boulder, CO.

**November 1997 to January 2003**

**Senior Electrical Engineer**

Performed consulting and design engineering with emphasis on Telecommunications system development. As cognizant engineer on most projects, managed vendor performance and customer relationships.

**Bell Industries, Inc.,** Westminster, CO.

**November 1993 to November 1997**

**Field Applications Engineer**

Provided technical support to a broad range of high technology customers in Colorado and Utah. Organized and presented seminars for major suppliers.

**Regal Technologies, Ltd.,** Englewood, CO.

**September 1990 to November 1993**

**Design Engineer**

Worked on a development team designing a new communication and control system for cable TV systems. Designed and tested an FSK transmitter embedded microcomputer.

**PROFESSIONAL CERTIFICATIONS AND ORGANIZATIONS**

**Life Member, IEEE**

**1981 to present**

**Professional Engineer's License, State of South Dakota**

**1988 – 1991**

**SERVICE ACTIVITIES**

Climate (now DEI) Committee, ECEE Department, University of Colorado, Boulder **August 2020 to May 2022**

PMP/online MSEE Committee, ECEE Department, University of Colorado, Boulder **August 2021 to present**

Chairman, Peak to Peak K-12 Charter School BoT Election Committee **August 2013 to May 2016**

## **PUBLICATIONS**

Timothy L. Scherr. (2020, August). *FPGA Design for Embedded Systems*, [Online]. Massive Open Online Course (MOOC) Specialization, Coursera. Available: <http://www.coursera.org>

Timothy L. Scherr. (2020, August). *FPGA Capstone: Building FPGA Projects*, [Online]. Massive Open Online Course (MOOC), Coursera. Available: <http://www.coursera.org>

Timothy L. Scherr. (2020, August). *Softcore Processors and IP Acquisition*, [Online]. Massive Open Online Course (MOOC), Coursera. Available: <http://www.coursera.org>

Timothy L. Scherr. (2019, November). *Hardware Description Languages for Logic Design*, [Online]. Massive Open Online Course (MOOC), Coursera. Available: <http://www.coursera.org>

Timothy L. Scherr. (2017, September 17). *Introduction to Programmable Logic Devices*, [Online]. Massive Open Online Course (MOOC), Coursera. Available: <http://www.coursera.org>