

Marius Schamschula

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PROFILE

My research background is in optics, in particular optical correlators and photorefractive phase conjugation. I have since broadened my research into computational simulation of optical information processing systems, and am now mainly involved in computational physics. For my work related to microwave remote sensing, I now specialize in Artificial Neural Networks (ANNs), including Pulse Coupled Neural Networks (PCNNs). My efforts in teaching are aimed in introducing modern technology and best practices into the classroom.

EXPERIENCE

Assistant Professor, Alabama A&M University 1998-Present

Teaching: Involved in developing modern course materials and teaching methods for undergraduate and graduate courses.

Current Research: Part of a NASA URC Center for Hydrology, Soil Climatology and Remote Sensing (areal disaggregation of remotely sensed microwave data/point-wise temporal soil moisture/temperature profile modeling using ANNs and data archiving/website design for the Alabama Mesonet) and the NSF funded Center for Integrated Space Weather Modeling (Porting of CISM_DX, and student guidance).

Service: Maintenance and administration of the departmental computer lab and servers.

Research Associate Professor Alabama A&M University 1994-1998

A part of an optics research group involved in optical information processing: Worked on pattern recognition, ANNs, and genetic algorithms. Involved in guiding graduate students (M.S. and Ph.D.).

EDUCATION

University of Alabama, Huntsville Ph.D. (Photorefractive Optics), 1994

San Diego State University M.S. (Optical Correlators), 1987

University of California, Berkeley A.B. (Physics), 1984

SKILLS

Matlab/Octave numerical computing environments, UNIX (Mac OS X, Linux) systems administration, Porting of open source software packages to Mac OS X (including CISM_DX - currently a total of 49 packages). Teaching of large (70-100+ student) undergraduate courses.

PUBLICATIONS

39 total (mostly refereed journals and conference proceedings), including 2 book chapters.