

# **Bruce A. Mork, Ph.D., P.E.**

Associate Professor

## **Director, Power & Energy Research Center**

Department of Electrical & Computer Engineering

Michigan Technological University

Houghton, MI 49931

Office: (906) 487-2857, Telefax: (906) 487-2949, e-mail: bamork@mtu.edu

### **EDUCATION**

- Ph.D. - Engineering (Electrical), North Dakota State University, Fargo, ND, May 1992.
- MSEE - Electrical Engineering Power Option, North Dakota State University, Fargo, ND, November 1981.
- BSME - Mechanical Engineering Power Option, North Dakota State University, Fargo, ND, May 1979.
- AA - Engineering, Bismarck Junior College, Bismarck, ND, May 1977 (attended on athletic scholarship).
- HS - Mandan Senior High School, Mandan, ND, May 1975.

### **EXPERIENCE**

- 1998 to date: Associate Professor, Michigan Technological University, Houghton, MI.
- 2001-2002: Visiting Senior Scientist, Norwegian Electric Power Research Institute, Trondheim, Norway.
- 1992 to 1998: Assistant Professor, Michigan Technological University, Houghton, MI.
- 1990-1991: Visiting Researcher, Norwegian University of Science and Technology, Trondheim, Norway.
- 1989-1990: Research Engineer, EMTP Studies, Norwegian State Power Board, Oslo, Norway.
- 1985-89, 1991-92: Graduate Teaching/Research Assistant, North Dakota State University, Fargo, ND.
- 1982-1986: Power Systems Design Engineer, Burns & McDonnell Engineering, Kansas City, MO.
- 1979-1982: Graduate Teaching/Research Assistant, North Dakota State University, Fargo, ND.
- Summers 1979 & 1980: T-Line Surveying & Construction Management, SSR Engineers, Bismarck, ND.
- Summer 1977: High-Voltage T-Line Surveying & Design Assistance, Finley Engineering, Bismarck, ND.

### **PROFESSIONAL LICENSING**

- Licensed Professional Engineer in Missouri and North Dakota

### **ENGINEERING EXPERIENCE, TECHNICAL SKILLS, PROFICIENCIES**

High-voltage substation layout and design, buswork and raceway, high-voltage equipment specification and application, system protection, controls and PLCs (relay logic), SCADA, automation and hardware interfacing, transducers and A/D, test instruments and DAQ, point-to-point microwave, VHF & UHF mobile radio systems, FCC licensing, PLC (power line carrier), solar-powered communications installations, wind power, power quality, and stray voltage problems. Design layout, drafting, documentation, technical writing, project management. Programming languages: proficient in MatLab and Fortran, working knowledge of C, Basic, Lisp, Prolog, assembly languages. Applications software: AutoCad, Word, Word Perfect, Quattro Pro, Excel, Paradox (relational databases), Access, Power Point, Primavera Project. Simulation packages: ATP/ATPDraw, Aspen.

### **CONSULTING, FORENSIC INVESTIGATIONS, EXPERT TESTIMONY, ETC.**

Forensic investigations performed for cases involving electrical fires, suspected meter tampering, and an electrical accident. Deposition and expert witness testimony were provided in the meter tampering case.

### **PUBLICATIONS**

Topics on transformer modeling and simulation of nonlinear phenomena, switching transients, transient performance of system protection, black start transients, and solar-powered radio repeater station design.

### **PROFESSIONAL ACTIVITIES AND MEMBERSHIPS**

- Member of IEEE, National Society of Professional Engineers, American Society of Engineering Educators.
- Chairman, IEEE Working Groups: Practical Aspects of Ferroresonance; Power-Globe
- Contributing Member, IEEE Task Force: Parameters for Transient Simulation Models

### **OTHER SKILLS, BACKGROUND, AND INTERESTS**

Fluent in English, fairly fluent in Norwegian, basic knowledge of Spanish. Countries visited: Brazil, Canada, England, Germany, Greece, Hungary, Mexico, Norway, Spain, Switzerland, Turkey. Lived and worked in Norway for 3 years. Sports, hobbies, and survival skills: hiking, biking, downhill skiing, cross country skiing, basketball, volleyball, horseshoes, boating & canoeing, coin collecting, photography, traveling, genealogy, gardening, fixing/restoring cars, wiring, carpentry. Grew up on family farm, can drive truck with 2-speed rear axle, operate farm machinery and other heavy equipment, am a decent mechanic, can do basic arc and acetylene welding, operate chainsaw and most power tools, work cattle, fencing, carpentry, and menial labor. Have fished and hunted in the past, but not so much in recent years.