

# Gülcihan Özdemir, Ph.D.

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## Contact Address

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## **EDUCATION**

*Ph.D. Computational Science and Engineering, Informatics Institute, Jan 2012*  
Technical University of Istanbul, TURKEY

*M.Sc. Power Systems, Electrical and Computer Engineering, Dec 1995*  
University of Wisconsin-Madison, USA

*B.Sc. Electrical Engineering, Sep 1987*  
Technical University of Istanbul, TURKEY

*Technical High School, Jun 1983*  
Haydarpasa Technical High School – Electronics, Istanbul, TURKEY

## **VISITING RESEARCH SCHOLAR**

North Carolina State University (NCSU), Raleigh, USA, (Fall 2014 – Fall 2015)

- NSF FREEDM Systems Center, (Future Renewable Electric Energy Delivery and Management Systems Center)  
DGI (Distributed Grid Intelligence) Group.

## **RESEARCH FIELDS**

- Energy Informatics
  - Smart Power Grid
  - Transmission and Distribution Power Systems
  - Volt/VAR Control, Distributed Power Management
  - Distributed Generation (DG), Renewable Energy
- Optimization Algorithms
- Modelling and Simulations
- Parallel and Distributed Computing
- Fuzzy Logic, Nature-Inspired Meta-Heuristic Algorithms.

## **TEACHING EXPERIENCE**

*Lecturer, Feb 2002 – Present*

Technical University of Istanbul, Informatics Institute – Istanbul, TURKEY

### *Graduate:*

- BLU 513E, Fuzzy Logic Principles for Science and Engineering Applications, (Spring 2017 – Present)
- BLU 512E, Intelligent Optimization Methods for Energy Systems, (Spring 2017, Fall 2018, Fall, 2019)

### *Undergraduate:*

- BIL100E, Introduction to Programming Language (with PYTHON) (Spring 2019 – Present)

## **Gülcihan Özdemir, Ph.D.**

- BIL104E, Introduction to Scientific and Engineering Computing (with C) (Spring 2002 – Spring 2014)
- Bil108E, Introduction to Scientific and Engineering Computing (with Matlab) (Spring 2014)
- BIL101E, Introduction to Computers and Information Systems (Fall 2004 – Fall 2016)
- ISE102E, Programming I (ITU (Istanbul Technical University) - SUNY (State University of New York, Binghamton), joint program (Fall 2003, Spring 2004)

### ***Teaching Assistant, Jan 1995 - Jan 1996***

University of Wisconsin-Madison, USA

- ECE 302, Electrical Engineering Laboratory II, 3-semesters

### ***Technical Assistant, Jan 1994 - Jan 1995***

University of Wisconsin-Madison, USA

- Technical Assistant in Electronics Laboratory

### ***Volunteer work, -- 1991 - -- 1994***

Historical Museum, Madison, Wisconsin, USA

- Assisting for visitors of kids group

## **WORK EXPERIENCE**

### ***Sales & Marketing Engineer, Sep 2000 – Oct 2001***

***Area of Work: Medium Voltage Switchgear, Transformer Centers, (Distribution Systems)***

Ormazabal Elektromekanik İç ve Dış Ticaret Sanayi A.Ş. – Istanbul

- Sales & Marketing
- Project Management
- Distribution System Planning

### ***Design & Order Handling Engineer, Feb 1999 – Dec 1999***

***Department AUT (Network Control & Protection, Transmission High and Medium Voltage Systems)***

ABB Elektrik Sanayi A.Ş. – Istanbul

- Project Management
- Panel Engineering

### ***Design Engineer, Aug 1996 – Jan 1999***

***Department THS (Transmission High Voltage Systems)***

ABB Elektrik Sanayi A. Ş. – Istanbul

- System Engineering for turn-key projects  
154kV Switchyards and 36kV Substations for tramway systems
- Preparing documents, standards for the department

### ***Projects worked on and responsibilities***

Kentsa Co-Generation Power Plant, 154kV Switchyard

- Short Circuit Calculation
- Grading curves for relay coordination
- Protection & metering single line diagram

Çamlıca-1 HEPP, Hydroelectric Power Plant, 154kV Switchyard

- Assisting on preparation of 154kV Switchyard control & protection logic diagrams and interface lists
- Auxiliary system design
- Selectivity calculation for LV-system
- Cable dimensioning

Manavgat Hydroelectric Power Plant extension work

## **Gülcihan Özdemir, Ph.D.**

- CT-adequacy check  
Antalya tramway Substation
- Project management- (Order handling, Work Schedule Preparation)  
Gülhane and Beyazıt Tramway Substations
- Order handling & Design aspects

### ***Project Engineer (System Sales), Feb1989 - Aug 1990***

Alarko Holding Corporation, Alfenas, Istanbul, Turkey

- Preparing all aspects of commercial HVAC proposals
- Involved in marketing products to customers and in negotiating prices and service agreements

## **TECHNICAL SKILLS**

### ***Operating Systems***

- Linux, MS Windows, Mac OS

### ***Programming Languages***

- PYTHON, C, MATLAB, HTML

### ***Application Programs***

- LaTeX, MS Office Programs
- MATLAB, (The Language of Technical Computing)
- MATPOWER, (A MATLAB Power System Simulation Package)
- OpenDSS, (Open Source Distribution System Simulator Tool)
- Parallel/Distributed applications: high-performance computing
- EMTP, Electromagnetic Transient Program

## **HONORS**

### ***Awards***

- After PhD, visiting research scholar at North Carolina State University funded by Istanbul Technical University, 9-months period, 2014-2015.
- The 19th Jyvaskyla Summer School (Jyvaskyla, Finland) attendance scholarship by IEEE Computer Engineering Society, 2009.
- B.Sc., Electrical Engineering, successful female student, Samet Agaoglu Memory Prize, 1986, 1987.
- B.Sc., Electrical Engineering, Technical University of Istanbul, ranked fifth among the graduated students, 1987.

## **MEMBERSHIPS**

- IEEE Senior Member.
- IEEE Power & Energy Society.
- IEEE Smart Grid Community.
- TMMOB Istanbul Chamber of Electrical Engineers.
- Istanbul Technical University Alumni Association
- University of Wisconsin Alumni Association

## **THESIS**

### ***PhD***

- A Fuzzy-decision Making Based Method to Prevent/Regulate Loop Flows in Interconnected Electrical Power Systems

### ***MSc***

- Bad Data Analysis for State Estimation in Power Systems