

Mohammed Ali Shams, M.Sc.

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Profile & Career Objective

Seeking a Ph.D. opportunity in a reputable collage that will enable me to collaborate with scientists from different disciplines, develop new skills and address new challenges.

Research Interests

- Electromagnetic fields
- Insulators
- Dielectric materials
- High-voltage applications
- Modeling and Simulations
- Electrical Power Systems Security and protection

Education

M.Sc. Electrical Engineering

- Cairo University, Faculty of Engineering, Egypt (2016)
- Fully-funded Teaching Assistantship
- Major: High-Voltage Engineering
- Coursework GPA: 3.8
- Thesis Adviser: Prof. Hussein Anis
- Thesis Title: "Improving Insulator String Performance by Using a Hybrid Concept"

B.Sc. Electrical Engineering

- Cairo University, Faculty of Engineering, Egypt (2011)
- Grade: Distinction with honors.
- Ranked: 6th (approximate class size 250)

Graduation project:

- Implementation of an oil well production control with SCADA.
- Grade: excellent

Secondary school 2005

- Dar El-Hanan English school, Egypt
- Overall grade: 98.2 %

Work Experience

-Assistant Lecturer
Cairo University
<https://cu.edu.eg/Home>

2016-
Giza, Egypt

-Researcher
Ministry of transportation
Alexandria-Abu Quir electric railway route project

Winter 2016
Egypt

- Calculating of electric and magnetic fields under and in proximity to a 25kV railway tower.
- Assesment of the severity of effect of electric and magnetic fields on pedestrians

-Teaching and research assistant

Cairo University

<https://cu.edu.eg/Home>

2012-2016

Giza, Egypt

Courses (teaching assistant):

- Switchgear and protection
- High-voltage engineering
- Electrical and electronic measurements
- Basic electrical engineering

Laboratories:

- Calculation and evaluation of soil resistivity and grounding resistance in the high voltage lab at Cairo University.
- Programming and operation under simulated fault of a digital differential relay.
- Demonstrating the method of using a sphere gap to measure high voltage.
- Demonstration of the working principle of a 75 kV single stage impulse generator.
- Demonstrating the breakdown mechanism in solids, liquids, and gases, and the various factors affecting the breakdown voltage.
- Demonstrating the corona discharge phenomena.

Research experience

Master's thesis

- Various shapes of suspension type insulators were modeled and their capacitance were calculated using a FEM software.
- String was formed and the potential and electric field distribution were calculated.
- Best string configuration was determined based on potential distribution.

Senior year project

- Design and hardware implementation of a fully functional flow controlled submersible pump.
- The system was based on a SCADA system linked to a PLC that is controlling the input to a VSD which is connected to the submersible pump.
- The feedback device was a flow sensor installed in the system.

Skills / Strengths

Languages

- Arabic (Mother tongue)
- English (Very good) ATEFL score: 640

Software

- ComSol Multiphysics
- MatLab and Simulink
- SolidWorks
- Ms Office and LaTeX (TeXStudio)

Soft Skills

- Self learning
- Teamwork
- Adaptability
- Problem solving

Publications

"Improving Insulator String Performance by Using a Hybrid Concept", pending

Memberships and Affiliations

Graduate student member, Institute of Electrical and Electronic Engineers (IEEE)

Training And Certifications

Faculty and Leadership Development Center

Summer 2014

Meeting and managing times.

Faculty and Leadership Development Center
Research ethics.

Winter 2014

Faculty and Leadership Development Center
Communication skills.

Summer 2013

STP
Marketing workshop.

Fall 2011

Samsung
Samsung real dreams course

- 4 English levels
- Intensive soft skills course

Summer & Fall 2010

Technical Training

ENPPI Petroleum Company
Dahshour compression station project, trainee.

Summer 2011

Jeilecom
PLC course

- programming
- hardware installation

Summer 2009

Suez Canal authority
Electric motors and generators maintenance workshop, Egyptian dredging co., trainee.

Summer 2009

References

Prof. Hussein Anis
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Personal data

- Date of birth: May, 05, 1989
- Nationality: Egyptian
- Marital status: Single
- Military status: Exempted