

Dr. Shahinur Rahman

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<http://microelectronreliability.eu/>



PROFILE

- I am an established experimental semiconductor and materials physicist.
- Systematic and well organized problem solver.
- I enjoy new scientific challenges and am capable of working under pressure.
- Strong interpersonal skills developed while leading several small teams.

MAJOR ACHIEVEMENTS

Published Author of “**Reliability Characteristics of rare-earth oxides and Gate Stacks on Ge**” by M.S. Rahman, ISBN: 978-3-659-45183-6.

Winner of the international “IEEE Reliability Scholarship” 2009 for my PhD research.

Marie-Curie Postdoctoral Research Fellow (GSI Helmholtzzentrum GmbH, Darmstadt).

EXPERIENCE

University of Ioannina, Ioannina, Greece

2005 to 2009

“Research Associate” during my PhD

As part of a European wide project I worked on the electrical, structural and reliability characterization of Ge based MOS devices. I was responsible for the successful setting up of a small reliability test lab. I worked on the reliability of Ge-based MOS devices, rare-earth oxides REOs (CeO_2 , Dy_2O_3 , La_2O_3) and their gate stacks, e.g. $\text{Ge}/\text{REOs}/\text{HfO}_2$. In these materials I discovered Maxwell-Wagner Instabilities and was subsequently awarded the International IEEE Reliability Scholarship for my work.

Detector Lab, GSI- Helmholtzzentrum GmbH, Darmstadt, Germany

2009 to 2011

“Marie-Curie Postdoc Fellow, Experienced Researcher”

I was responsible for the electrical and optical characterization of heteroepitaxial CVD Diamond materials for sensor applications. During this time I successfully set up a characterization lab for this purpose. I investigated bulk defects, metal contact problems and the effects of radiation damage. I established a clear test & characterization procedure with clear reports, still in use.

Technical University-Dresden, Germany

2011 to 2012

“Semiconductor Detector Expert”

This involved characterization the electronic properties of the compound semiconductor **CdZnTe** (CZT), to optimize the proton sensing ability of the detector. A prototype detector was successfully made and tested.

NAMLAB gGmbH, TU-Dresden, Germany

2012 to 2014

“Research Scientist”

I developed a new reliability test technique “Time Dependent Defects Spectroscopy” TDDS. TDDS is now used for Device Reliability Characterization at NamLab. I used other well-known reliability techniques such as, BTI, TSCIS, SILC, Charge pumping & TDDB. I also worked on the reliability testing of **GaN-Si** MOS based, high k, devices using HfO_2 , ZrO_2 & Al_2O_3 dielectric materials.

TUKWILA Dresden, Germany

2014 to 2018

“Manager”

I am working at TUKWILA as a Manager. The key responsibilities are business management, marketing and customer advisory.

QUALIFICATIONS/Educations

PhD SEMICONDUCTOR & MATERIALS SCIENCE

University of Ioannina, Ioannina, Greece

2005 to 2009

“Reliability characterization of rare-earth oxides and gate stacks”

Greece State funded PhD in conjunction with industrial partner IMEC-Belgium (project: DUALLOGC). My studies in PhD included the current-voltage (I - V), current transient (I - t), capacitance-conductance-voltage (C - V - G), capacitance transient (C - t), X-ray reflectivity (XRR), X-ray diffraction (XRD), X-ray photoemission spectroscopy (XPS), Transmission electron microscopy (TEM) measurements.

Electrical and Reliability Characterization of rare-earth oxides (CeO_2 , Dy_2O_3 , La_2O_3 , Gd_2O_3) and their gate stacks (HfO_2 , ZrO_2) on Ge-substrates.

M. Sc. EXPERIMENTAL PHYSICS

Department of Physics, University of Dhaka, Dhaka, Bangladesh

2000 to 2002

Radiation Detection and measurement using CR-39 NTA films.

B. Sc. (HONS) PHYSICS

Department of Physics, University of Dhaka, Dhaka, Bangladesh

1996 to 2000

SKILLS

IT Skills:	Programming C++/ CLE Excellent skill of MS office & Presentation including other office related tools. Very good working knowledge of Origin professional, MathCAD, LabVIEW, PAW, Visual Basic, Programming C, Oracle 8i & Developer6.
Communication:	First rate communicator having given many invited lectures & international conference presentations.
Leadership:	I have developed good leadership abilities while working in & leading several multicultural teams.
Languages:	I am fluent (C2-level) in English, Greek, Hindi, Urdu and Bengali, and have a good level of German (B2-level) and Arabic.

ORGANIZATIONAL EXPERIENCES

- I am a regular reviewer of several Scientific Journals and worked as a Guest Editor on Special issue: ‘Thin Films to Solid-State Devices’.
- I took part in project management directly/partially, e.g. MC-PAD, CARAT, DUALLOGIC, CoolMemory, Angelo, GaN-Si, etc.
- 2009, 2010 Member of the 1st and 2nd CARAT WORKSHOP Organizing Institute (GSI-Helmholzzentrum GmbH), Darmstadt, Germany.
- Member of the INFOS 2007 organizing committee at host institute, DEMOKRITOS; Athens, Greece.
- I have already published 15 reviewed papers, 12 peer-reviewed proceedings, 27-Abstracts in the International Conferences. Citations # 223.

INTERESTS

- I am keen in Hiking, Cricket, Athletics, Football, etc.
- Another rewarding activity I enjoy in foreign travel, meeting new people and experiencing new cultures.
- Outside of work I enjoy socializing with my friends & family.
- I am also a member of the “Foreigners Advisory Committee” (Ausländerbeirat -Dresden).