Subir Chandra Ghosh, PhD

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Highlights of Qualifications:

- PhD in Engineering Physics, McMaster University, Canada
- More than seven years research experience in nanostructure material growth and characterization using state-of-the-art tools and techniques
- More than six years working experience in design and development of electronic equipment
- Four-year teaching experience at Sheridan College, Ontario, Canada
- Research articles cited more than 330 times (Google Scholar)

Education:

- **Doctor of Philosophy (2005 - 2010):** Dept. of Engineering Physics, McMaster University, Canada
  Thesis topic – Growth of nanowires on GaAs(100) Substrate
- **Master of Science (2002 -2003):** Microelectronics, Asian Institute of Technology, Thailand
  Thesis topic – Quantum dots of zinc sulphide
- **Master of Science (1994):** Dept. of Applied Physics and Electronics, University of Dhaka, Bangladesh
  Result: First class, Second position (thesis group)
- **Bachelor of Science (1992):** Dept. of Applied Physics and Electronics, University of Dhaka, Bangladesh
  Result: First Class, Fifth position

Honours and Academic Awards:

- **Ontario Graduate Scholarship** - Awarded by the Government of Ontario, Canada for outstanding academic achievement in graduate studies
- **University Scholarship** – Awarded by the University of Dhaka for outstanding academic achievement during undergraduate studies.
- **Board Scholarship-** Awarded by the Ministry of Education, People's Republic of Bangladesh for outstanding academic achievement in Secondary School Certificate examination.

Research Interest:

Renewable energy technologies

Growth and characterization of nanostructured materials

Coating for energy applications

Professional Experiences:

Assistant Professor Sept. 2015- to date

North South University
Dhaka, Bangladesh

Professor May 2011- August 2015

Faculty of Applied Science and Technology
Brampton, Ontario

- Additional activities: Curriculum Development, Applied Research

Post-doctoral Research Fellow April 2010 – March 2011

Dept. of Electrical and Computer Engineering
University of Toronto, Canada

- Area of Research – Third generation solar cells, Photodetectors

Teaching Assistant & Graduate Student Sept. 2005- Nov.2009

McMaster University, Hamilton, ON, Canada

- Conduct laboratory demonstrations, tutorials and provide feedback to students for various engineering physics courses in undergraduate level
- Examination administration, evaluation of examinations and assignments
- Teaching assistants for courses : Electricity and Magnetism, Analog and Digital Circuits, Advanced Semiconductor Devices

Scientific Officer July 1995- May 2002
Institute of Electronics, Bangladesh Atomic Energy Research Establishment
Dhaka, Bangladesh

- Design and development of electronic equipment for general purpose and medical applications
- Supervision of projects; Training of research assistants and technicians
- Preparation of technical reports
- Design of PC-based system – both hardware and software

Journal Publications (Peer Reviewed):

1. **S. C. Ghosh**, S. Hoogland, V. Sukhovatkin, L. Levina, E. H. Sargent, "A tunable colloidal quantum dot photo field-effect transistor", *Applied Physics Letters* 99 (2011) 101102
2. **S. C. Ghosh**, P. Kruse, R. R. LaPierre; "Effect of GaAs(100) surface preparation on the growth of nanowires" *Nanotechnology* 20(2009)115602
3. **S. C. Ghosh**, M.C. Biesinger, R. R. LaPierre, P. Kruse; " The role of proximity caps during the annealing of ultraviolet-ozone oxidized GaAs" *Journal of Applied Physics* 101(2007)114321(Also selected for publication in the *Virtual Journal of Nanoscale Science and Technology*, Vol. 15, Issue 25)
4. **S. C. Ghosh**, M. C. Biesinger, R. R. LaPierre, P. Kruse; "X-ray photoelectron spectroscopic study of the formation of catalytic gold nanoparticles on GaAs(100) substrate" *Journal of Applied Physics* 101(2007)114322
5. M. C. Plante, J. Garrett, **S. C. Ghosh**, P. Kruse, H. Schriemer, T. Hall, R. R. LaPierre; " The formation of supported monodisperse Au nanoparticle by UV/Ozone oxidation process" *Applied Surface Science* 253 (2006) 2348
6. H.C. Warad, **S. C. Ghosh**, B. Hemtanon, C. Thanachayanont and J. Dutta; "Luminescent nanoparticles of Mn doped ZnS passivated with sodium hexametaphosphate" *Journal of Science and Technology of Advanced Materials* 6 (2005) 296

7. M. K. Hossain, **S.C. Ghosh**, Y. Boontongkong, C. Thanachayanont and J. Dutta; "Growth of zinc oxide nanowires and nanobelts for gas sensing applications" *Journal of Metastable and Nanocrystalline materials* 23 (2005) 27
8. **S. C. Ghosh** and Md. Serajul Islam; "Design and development of an electronic wattmeter" *Bangladesh Journal of Scientific and Industrial Research* 33(1998)3
9. **S. C. Ghosh** and J. Rahman; "Oxidized tin Films and their properties", *Bangladesh Journal of Scientific and industrial Research* 32(1997)3

Conference Proceedings:

1. S.C. Ghosh, C. Thanachayanont and J. Dutta; " Studies on zinc sulphide nanoparticles for field emission devices", The first ECTI Annual Conference (ECTI-CON 2004), Pattaya, Thailand, May 13 -14, 2004
2. H.C. Warad, **S.C. Ghosh**, C. Thanachayanont, J. Dutta and J.G. Hilborn; "Highly luminescent manganese doped ZnS quantum dots for biological labeling" SmartMat-'04, International Conference on Smart/Intelligent Materials and Nanotechnology, Chiang Mai, Thailand, December 1-3, 2004
3. H.C. Warad, A. Sugunan, **S.C. Ghosh**, C. Thanachayanont and J. Dutta; "ZnS:Mn^{2+} phosphors capped with chitosen", The Second Workshop on Regional Network Formation for Enhancing Research and Education in Materials Engineering, Thailand, August 10-11, 2004

Courses Taught:

Electricity 1	Electronic device and circuits
Electronic circuits 1	Electronic circuits 2
Green Energy	Power and energy systems
Control System	Capstone research projects

Projects supervised (selected):

1. Design and development of a two-axis solar tracker using solar map data.
2. Design and development of a surveillance quad copter.
3. Tracking of Alzheimer's patient using wireless network.
4. Development of a weight measuring system with connectivity to an Android App.
5. Design and development of a smart drop box system.
6. Design and development of two-dimensional persistence-of-vision display system.
7. Design and development of a digital cane with GPS for the visually impaired persons

Courses / Training and Fellowship:

- Short course on Fundamentals of Teaching and Learning, November 2011, Sheridan College, Brampton.
- Programming in Java, January 22 – April 11, 2002, arranged by Bangladesh University of Engineering and Technology, Dhaka, Bangladesh
- International Atomic Energy Agency (IAEA) Fellowship on Nuclear Instrumentation, Electronics and Reactor Control, held at Center for Nuclear Medicine, Sept. 1999 - Jan. 2000,University Medical Center, Ljubljana, Slovenia
- National Training Course on Upgradation of Nuclear Medical Equipment, February 8-19, 1998, jointly organized by Bangladesh Atomic Energy Commission and International Atomic Energy Agency.

Organization Skills:

- Served in the local committee of the Workshop on Human Resources Development in Nanotechnology in the Asia Pacific Region, organized by Asia Pacific Nanotechnology Forum (APNF), July 5-7, 2003, Bangkok, Thailand

Conference/Workshop Attended:

- NanoForum Canada, University of Waterloo, June 18-20, 2007, University of Waterloo, Waterloo, Ontario, Canada
- Surface Canada 2006, May 15-17, Queens University, Kingston, Ontario, Canada
- Workshop on Human Resources Development in Nanotechnology in the Asia Pacific Region, organized by Asia Pacific Nanotechnology Forum, July 5-7, 2003, Bangkok, Thailand

Computer Skills:

- Programmable Logic Controller Programming (Allan Bradley)
- C/C++, MultiSim, Eagle, Digital Micrograph

Language: English, Bengali

References: Available upon request