

# Gabriel A. Devenyi

---

## PROFESSIONAL CONTACT

Department of Engineering Physics  
McMaster University JHE/A315  
1280 Main St. W.  
Hamilton, Ontario  
Canada L8P 4L7

office: 905.525.9140x23978  
mobile: 289.440.9052  
e-mail: devenyga@mcmaster.ca

## HOME CONTACT

538 Aberdeen Ave.  
Hamilton, Ontario  
Canada L8P 2S7

home: 289.426.5743  
e-mail: gdevenyi@gmail.com

## RESEARCH INTERESTS

Thin film and nanowire growth, nano-scale self assembly, photovoltaic materials.

## EDUCATION

**McMaster University**, Hamilton, Ontario, Canada

*Doctor of Philosophy — Engineering Physics*

**May 2009 — present**

- Expected Graduation Date: June 2013
- Advisors: Dr. John S. Preston, Dr. Peter Mascher

*Masters of Applied Science – Engineering Physics*

**May 2007 — May 2009**

- Transferred to Doctor of Philosophy
- Advisors: Dr. John S. Preston, Dr. Peter Mascher

*Bachelor of Engineering*

**September 2002 — May 2007**

- Degree awarded with Distinction

## HONOURS AND AWARDS

McMaster Materials Science & Engineering Graduate Student Conference Best Presentation Delivery  
Natural Sciences and Education Research Council of Canada Postgraduate Scholarship D3 — \$63,000  
Ontario Graduate Scholarship — Doctoral — \$15,000 — Declined  
Ontario Graduate Scholarship — Masters — \$15,000  
ELCAN Optical Technologies Student Scholarship — \$1000 - 2002,2003,2004

## PEER-REVIEWED PUBLICATIONS

A. Sundar, R. A. Hughes, P. Farzinpour, K. D. Gilroy, **G. A. Devenyi**, J. S. Preston and S. Neretina, “Manipulating the Size Distribution of Supported Gold Nanostructures”, *Virtual Journal of Nanoscale Science & Technology*, Vol. 25, Iss. 4, 2012. doi:10.1063/1.3675569

A. Sundar, R. A. Hughes, P. Farzinpour, K. D. Gilroy, **G. A. Devenyi**, J. S. Preston and S. Neretina, “Manipulating the Size Distribution of Supported Gold Nanostructures”, *Applied Physics Letters*, Vol. 100, Iss. 1, Num. 013111, 2012. doi:10.1063/1.3675569

**G. A. Devenyi**, S. Y. Woo, S. Ghanad-Tavakoli, R. A. Hughes, R. N. Kleiman, G. A. Botton, J. S. Preston, “The Role of Vicinal Silicon Surfaces in the Formation of Epitaxial Twins during the Growth of III-V Thin Films”, *Journal of Applied Physics*, Vol. 110, Iss. 12, Num. 124316, 2011. doi:10.1063/1.3671022

A. P. Yuen, S. M. Jovanovic, A. Hor, R. A. Klenkler, **G. A. Devenyi**, R. O. Loutfy, and J. S. Preston, “Photovoltaic Properties of M-Phthalocyanine/Fullerene Organic Solar Cells”, *Journal of Solar Materials*, Under Review, Submitted September 2011.

**G. A. Devenyi**, J. Li, R. A. Hughes, A. Shi, P. Mascher, and J. S. Preston, “Epitaxially Driven Formation of Intricate Supported Gold Nanostructures on a Lattice-Matched Oxide Substrate”, *Nano Letters*, Vol. 9, Iss. 12, pp 4258–4263, 2009. doi:10.1021/nl902491g

S. Neretina, R. A. Hughes, **G. A. Devenyi**, N.V. Sochinskii, J. S. Preston, and P. Mascher, “Atypical grain growth for (211) CdTe films deposited on surface reconstructed (100) SrTiO<sub>3</sub> substrates”, *Applied Surface Science*, Vol. 255, Iss. 11, pp 5674–5681, 2009. doi:10.1016/j.apsusc.2008.12.050

S. Neretina, R. A. Hughes, **G. A. Devenyi**, N.V. Sochinskii, J. S. Preston, and P. Mascher, “The role of substrate surface alteration in the fabrication of vertically aligned CdTe nanowires”, *Nanotechnology*, Vol. 19, Iss. 18, Num. 185601, 2008. doi:10.1088/0957-4484/19/18/185601

CONTRIBUTED  
PUBLICATIONS

S. M. Jovanovic, **G. A. Devenyi** and J. S. Preston, “A Novel Differential Hall Effect Profiling Technique for Buried Interfaces”, *Nano Ontario 2011 Conference*, 2011, Hamilton, ON, Canada

S. Y. Woo, **G. A. Devenyi**, S. Hosseini Vajargah, S. Ghanad-Tavakoli, R. N. Kleiman, J. S. Preston, G. A. Botton. “Characterization of Defect Structure in Heteroepitaxy of GaSb/Si Thin Films for Photovoltaic Applications”, *13th Photonics North Conference*, 2011, Ottawa, ON, Canada

**G. A. Devenyi**, P. Mascher, and J. S. Preston, “Mesoscopic Self Assembly: The Intersection of Atomic and Continuum Physics in Metal on Oxide Systems”, *McMaster Materials Science & Engineering Graduate Student Conference*, 2010, Hamilton, ON, Canada

S. Y. Woo, **G. A. Devenyi**, S. Tavakoli, R. N. Kleiman, J. S. Preston, and G. A. Botton, “Structure and Defects in Heteroepitaxy of Group III-V Compound Semiconductors Grown on Silicon”, *McMaster Materials Science & Engineering Graduate Student Conference*, 2010, Hamilton, ON, Canada

S. Y. Woo, **G. A. Devenyi**, S. Tavakoli, R. N. Kleiman, J. S. Preston and G. A. Botton, “Structure and defects of epitaxial GaSb thin films grown on Si”, *Canadian Materials Science Conference*, 2010, Waterloo, ON, Canada

**G. A. Devenyi**, J. Li, R. A. Hughes, A. Shi, P. Mascher, and J. S. Preston, “A New Pathway to Plasmonic Nanostructures: Self Assembly via Strained Epitaxy and Surface Free Energy”, *Photonics North*, 2010, Niagara Falls, ON, Canada

**G. A. Devenyi**, J. Li, R. A. Hughes, A. Shi, P. Mascher, and J. S. Preston, “A New Pathway to Plasmonic Nanostructures: Self Assembly via Strained Epitaxy and Surface Free Energy”, *Nano Ontario*, 2010, London, ON, Canada

**G. A. Devenyi**, J. Li, R. A. Hughes, A. Shi, P. Mascher, and J. S. Preston, “Intricate epitaxial 3D gold nanostructures induced by lattice matched substrate”, *Center for Emerging Device Technologies Seminar Series*, 2008, Hamilton, ON, Canada

INVITED  
PRESENTATIONS

**G. A. Devenyi**, “Optical Design and Engineering”, *Engineering Physics 3G03 — Optical Instrumentation*, October 2008, Hamilton, ON, Canada

PROFESSIONAL  
EXPERIENCE

**McMaster University**, Hamilton, Ontario, Canada

*Teaching Assistant*

**September 2008 — present**

Teaching assistant for undergraduate courses in engineering physics, 4th year senior undergraduate thesis supervisor, computer programming and applied DSP laboratories.

*Laboratory Manager*

**September 2009 – present**

Design and maintenance of laboratory equipment including computers, lasers, optical components, vacuum and gas systems, growth chambers and heaters.

**Raytheon ELCAN Optical Technologies**, Midland, Ontario, Canada

*Optical Design Intern*

**May 2005 – August 2006**

Designed, toleranced and oversaw production of multi-element infrared and visible lenses in ZEMAX and CodeV. Designed and oversaw production of opto-mechanical assembly of infrared camera for R&D evaluation of novel computationally assisted imaging technique. Provided technical support for bid proposals and request for quote to sales and marketing.

**McMaster University**, Hamilton, Ontario, Canada

*Undergraduate Research Opportunities Summer Student*

**May 2003 – August 2003**

Repaired and upgraded undergraduate optical laboratory equipment. Modernized hall effect equipment from BASIC to LabVIEW.

OTHER  
RESPONSIBILITIES

**McMaster University**, Hamilton, Ontario, Canada

*Professorial Search Committee*

**November 2010 – January 2011**

Organized and operated graduate roundtables to interview candidates and provided feedback to departmental chair.

**Center for Inquiry**, Toronto, Ontario, Canada

*Committee for the Advancement of Scientific Skepticism*

**October 2010 – Present**

Research, writing and organizing of media releases, websites, and rallies with the purpose of informing the public and media.

**McMaster University**, Hamilton, Ontario, Canada

*Graduate Student Association – Phoenix Executive Committee*      **September 2009 – Present**

Oversight of finance, policies and procedures of GSA owned bar *The Phoenix*. Technical analysis and recommendation of new point-of-sale system.