

# Nik Kovich

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West Virginia University  
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Current Appointment	Assistant Professor of Genetics, Division of Plant and Soil Sciences Davis College of Agriculture, Natural Resources and Design, WVU 2015 July – Present
Education	Ph.D. Biology Carleton University / Agriculture and Agri-Food Canada 2007 September – 2011 September  B.Sc. Honors Biology (Biotechnology) University of Ottawa 2003 September - 2007 April  Diploma - Horticulture and Greenhouse Management Kemptville College 2001 September – 2003 April
Postdoctoral Training	The Ohio State University, Department of Molecular Genetics 2011 October – 2015 June
Academic Appointments	Postdoctoral Fellow The Ohio State University, Department of Molecular Genetics 2011 October – 2015 June  Research Affiliate Agriculture and Agri-Food Canada (Supervisor: Brian Miki) 2010 April - 2011 September  Plant Biology Research Assistant Agriculture and Agri-Food Canada (Supervisor: Harvey Voldeng) May – September, 2003-2007

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Teaching

**Courses**

Principles in Genetics (Lecture and Lab) – GEN 371  
Honors Investigation and Thesis – BIOL 486  
Independent Research – BIOL 386  
Teaching Practicum – GEN 790  
Research – GEN 497

**Research Mentor**

The Ohio State University  
2012 February – 2015 May

Students:

[Janet A. Adegboye](#) (Undergraduate, Presently at CWRU Med School)  
[Gilbert Kayanja](#) (Pre-Graduate Student, Presently at Purdue)  
[Daniela Carolina Pinto Elicio](#) (PhD Student)  
[Yiqun Wang](#) (Undergraduate, Presently at Harvard University)  
[Donald Thomas](#) (Undergraduate, Presently at OSU Medical School)  
[Anna Zakas](#) (Undergraduate, Presently at BioReliance)

**Guest Lecturer**

University of Ottawa, ON, CA

2009 November

Course: BIO4144 Plant Biochemistry and Molecular Biology  
Lecture Topic: Metabolic engineering

**Teaching Assistant**

Carleton University

2008 September – 2011 September

Courses:

Practical Biochemistry (BIOC 3006)  
General Biochemistry II (BIOC 3102)  
General Biochemistry I (BIOC 3101)  
Plant Biochemistry and Physiology (BIOL 3305)  
Cell Physiology and Biochemistry (BIOC 2200)  
Introductory Genetics (BIOL 2104)

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Awards	Nominated for Outstanding Undergraduate Research Mentor Undergraduate Research Office and URO's Student Advisory Committee, The Ohio State University 2014 February (Declined Award - Not Faculty)
	Visiting Fellowships in Canadian Government Laboratories NSERC Postdoctoral Fellowship 2013 June (Declined Award - Pelotonia did not Permit Simultaneously Holding two Fellowships)
	Postdoctoral Pelotonia Fellowship 2012 November – 2014 November
	Ontario Graduate Scholarship 2011 September, Declined
	Dean Grad. Stud. Acad. Excellence 2010 September - 2011 August
	International Association for Plant Biotechnology – Canadian Scholarship December 2009
	Dean Grad. Stud. Acad. Excellence 2009 September - 2010 August
	Phytochemical Society of North America – Best Presentation August 2009
	Carleton University Graduate Scholarship 2008 September - 2008 December
	University of Ottawa – Dean's Honor 2006-2007
Memberships in Professional Societies	2011- American Society of Plant Biologists 2009- International Association for Plant Biotechnology 2009- Phytochemical Society of North America 2009-2011 Canadian Society of Plant Physiologists

- Peer Reviewed Publications
- Chanoca A, **Kovinich N**, Grotewold E, Otegui M. (2015). [Anthocyanin Vacuolar Inclusions Form by a Microautophagy Mechanism](#). *The Plant Cell*. DOI: tpc.15.00589. (Cover article for *The Plant Cell*, and highlighted in [Nature](#))
- Kovinich N**, Kayanja G, Chanoca A, Otegui M, Grotewold E (2015). [Abiotic stresses induce different localizations of anthocyanins in Arabidopsis](#). *Plant Signaling & Behavior* DOI 10.1080/15592324.2015.1027850.
- Kovinich N**, Kayanja G, Chanoca A, Riedl K, Otegui M, Grotewold E (2014). [Not all anthocyanins are born equal: Distinct patterns induced by stress in Arabidopsis](#). *Planta* DOI 10.1007/s00425-014-2079-1.
- Kovinich N**, Saleem A, Arnason JT, and Miki B. (2012a). [Coloring genetically modified soybean grains with anthocyanins by suppression of the proanthocyanidin genes ANR1 and ANR2](#). *Transgenic research* DOI: 10.1007/s11248-011-9566-y.
- Kovinich N**, Saleem A, Arnason JT, Miki B. (2012b). [Identification of two anthocyanidin reductase genes and three red-brown soybean accessions with reduced anthocyanidin reductase 1 mRNA, activity, and seed coat proanthocyanidin amounts](#). *Journal of agricultural and food chemistry* 60: 574-84.
- Schnell S, Labbé H, **Kovinich N**, Manabe Y, Miki B. (2012c). [Comparability of imazapyr-resistant Arabidopsis created by transgenesis and mutagenesis](#). *Transgenic research* DOI: 10.1007/s11248-012-9597-z.
- Kovinich N**, Saleem A, Arnason JT, Miki B (2011a) [Combined analysis of transcriptome and metabolite data reveals extensive differences between black and brown nearly-isogenic soybean \(Glycine max\) seed coats enabling the identification of pigment isogenes](#). *BMC Genomics* 12: 381.
- Kovinich N**, Arnason JT, DeLuca V, Miki B (2011b) [Coloring Soybeans with Anthocyanins?](#) In DR Gang, ed, *Recent Advances in Phytochemistry*, Vol 41. Springer, pp 47-57. ISBN: 978-1-4419-6961-3.
- Kovinich N**, Saleem A, Arnason JT, Miki B (2010) [Functional characterization of a UDP-glucose:flavonoid 3-O-glucosyltransferase from the seed coat of black soybean \(Glycine max \(L.\) Merr.\)](#). *Phytochemistry* 71: 1253-1263
- Manuscripts in Preparation
- Kovinich N**, Wang Y, Chanoca A, Adegboye A, Otegui M, Grotewold E. MATE45 mediates the intertissue distribution of abscisic acid to coordinate growth and the abiotic stress response

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Invited  
Presentations

- Kovinich N**, Grotewold E (2015) Metabolite Transporters as Central Mediators of Stress Responses. Department of Horticulture and Crop Sciences, The Ohio State University, Wooster, OH, USA
- Kovinich N**, Grotewold E (2015) Understanding Metabolic Responses to Stress for Crop Improvement. The Division of Plant & Soil Sciences, University of West Virginia, Morgantown, WV, USA
- Kovinich N**, Grotewold E (2013) New Frontiers in the Chemical Arsenal Against Cancer: Combining Modules of Semi-Synthesis and Synthetic Biology. Professor John Arnason Seminar, University of Ottawa, ON, Canada
- Kovinich N**, Grotewold E (2013) New Frontiers in the Chemical Arsenal Against Cancer: Combining Modules of Semi-Synthesis and Synthetic Biology. Pelotonia Fellowship Symposium, OH, USA
- Kovinich N**, Wang Y, Vascik A, Bohorquez-Restrepo A, Chanoca A, Otegui M, Grotewold E (2012) A genome-wide screen identifies a membrane-bound transporter required for the accumulation of a subset of anthocyanins in Arabidopsis. Banff Conference on Plant Metabolism, AB, Canada
- Kovinich N**, Miki B (2011) Metabolic Engineering of Seed Coat Color. Professor Doug Johnson's BIO4144 Course, University of Ottawa, ON, Canada
- Kovinich N**, Saleem A, Arnason JT, Miki B (2010) Coloring soybeans with anthocyanins for food safety- Functional identification of a flavonoid 3-O-glucosyltransferase gene from soybean seed coat. 12th World Congress of the International Association for Plant Biotechnology, MS, USA

Scientific  
Activities

*Reviewer*

- 2015- Journal of Proteome Research  
2015- Plant Physiology and Biochemistry  
2014, 2015- PLOS ONE  
2014, 2012, 2011- Plant Science  
2013- Arabian Journal of Chemistry  
2013- International Journal 4 Molecular Sciences  
2013- Protoplasma  
2012- Planta  
2011- BMC Plant Biology

*Judge*

- 2014- Denman Forum (An Undergraduate Science Fair)  
2011- Annual Akwesasne Mohawk Science Fair  
(An Elementary School Science Fair)

Other  
Appointments

- Advisor - CAPS Plant Growth Facilities Committee  
Center for Applied Sciences (CAPS) / The Ohio State University  
2013 - 2015

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