

Jonathan Stewart Griffiths, Ph.D. Molecular Geneticist

77 Harbor Square, Suite 611, Toronto, ON, Canada, M5J 2S2
jayphive@gmail.com +1 647 629-3844

Education

- 2013 Ph.D. Botany, University of British Columbia, Canada
Supervisor: Dr. George Haughn.
- 2007 M.Sc. Plant sciences, University of Western Ontario, Canada
Supervisor: Dr. Aiming Wang.
- 2005 B.Sc. Biology and Biotechnology, Carleton University, Canada
Supervisor: Dr. Myron Smith.

Publications

Google Scholar Profile: <http://bit.ly/13utpkW>

- Griffiths, J S, Tsai, A Y-L, Xue, H, Voiniciuc, C, Sola, K, Seifert, G J, Mansfield, S D, and G.W. Haughn. (2014) SALT-OVERLY SENSITIVE5 Mediates Arabidopsis Seed Coat Mucilage Adherence and Organization through Pectins. *Plant Physiol.* In press.
- Voiniciuc, C, Dean, G, Griffiths, J S, Kirchsteiger, K, Hwang, Y T, Gillet, A, Dow, G, Western, T L, Estelle, M, and G W Haughn. (2013) FLYING SAUCER 1 Is a Transmembrane RING E3 Ubiquitin Ligase That Controls the Degree of Pectin Methylesterification in Arabidopsis Seed Mucilage. *Plant Cell.* **25**: 944-959.
- Esfandiari, E, Jin, Z, Abdeen, A, Griffiths, J S, Western, T L, and G W Haughn. (2013) Identification and analysis of an outer-seed-coat specific promoter from *Arabidopsis thaliana*. *Plant Mol. Biol.* **81**: 93-104.
- Mendu, V*, Griffiths, J S*, Persson, S, Stork, J, Downie, A B, Voiniciuc, C, Haughn, G W, and S DeBolt. (2011) Subfunctionalization of cellulose synthases in seed coat epidermal cells mediates secondary radial wall synthesis and mucilage attachment. *Plant Physiol.* **157**:441-453. *Co-first author.
- Stork, J, Harris, D, Griffiths, J, Williams, B, Beisson, F, Li-Beisson, Y, Mendu, V, Haughn, G, and S DeBolt. (2010) CELLULOSE SYNTHASE9 serves a non-redundant role in secondary cell wall synthesis in *Arabidopsis* epidermal testa cells. *Plant Physiol.* **153**:580-589.
- Babu, M, Griffiths, J S, Huang, T-S, and A Wang. (2008) Altered gene expression changes in *Arabidopsis* leaf tissues and protoplasts in response to *Plum pox virus* infection. *BMC Genomics*, **9**:325.
- Raghupathy, M B, Griffiths, J S, Stobbs, L W, Brandle, J E, Brown, D C W, and A Wang. (2006) Transfection of *Arabidopsis* Protoplasts with a *Plum Pox Virus* (PPV) Infectious Clone for Studying Early Molecular Events Associated with PPV infection. *J Virol Methods* **136**: 147-153.

Scholarships and grants

2014 – 2016	AgreenSkills Post-Doctoral Fellowship ~120 000\$.
2014	2014 Pan-American Congress on Plants and BioEnergy Travel Grant, 700\$.
2009 – 2012	Natural Sciences and Engineering Research Council Post Graduate Scholarship D, University of British Columbia, 63000\$.
2008 – 2012	UBC Four Year Fellowship \$72000 (Partially declined)
2005 – 2007	Western Graduate Research Scholarship, University of Western Ontario. ~8000\$.
2007	Graduate student travel award, University of Western Ontario, 400\$.
2005	Research Affiliate Program Award, Agriculture and Agri-food Canada.
2004	Dean's Honor List, Carleton University.

Book chapters

Babu, M.R., Griffiths, J.S., and Wang, A.M. (2010) "Isolation and transfection of plant protoplasts for studying infection and replication of plant viruses" in Wang, A. (ed.) - Principles and Practice of Advanced Technology in Plant Virology, Research Signpost, Kerala, India, Chapter 8, pp. 141-152.

Publications in progress

Griffiths, J.S., Sola, K, Lam, P., Voiniciuc, C., Dean, G., Mansfield, S., Debolt, S, and G.W. Haughn. CESA complexes deposit cellulose in a spiral pattern in seed coat mucilage. Submitted October 6, The Plant Cell. Currently under revision.

Selected presentations

Griffiths, J.S, Sola, K, Young, R, and G W Haughn. (Oral and poster) Cellulose biosynthesis in Arabidopsis seed coat epidermal cells. 4th annual meeting, Plants and Bioenergy. Guelph, ON, Canada, 2014.

Griffiths, J.S, Tsai, A, Dean, G, Voiniciuc, C, and G W Haughn. (Oral) Cellulose, pectin and an AGP facilitate rapid expansion of seed coat mucilage. Canadian Society of Plant Biologist annual meeting. University of Toronto, Missisauga, ON, Canada, 2013.

Griffiths, J.S, and G W. Haughn. (Poster) The role of cellulose in Arabidopsis seed coat development. Gordon Research Conference: Plant Cell Walls. Colby College, Waterville, M.E., USA, 2012.

Griffiths, J.S, and G W Haughn. (Oral) Cellulose biosynthesis in the Arabidopsis seed coat. UBC Botany Graduate Student Symposium, Vancouver, Canada, 2012.

Griffiths, J.S, Voiniciuc, C, and G W Haughn. (Oral) Understanding the role of the CESA6-like Cellulose synthases in seed coat development. Working on Walls 2011 meeting. University of British Columbia, Vancouver, Canada, 2011.

- Griffiths, J, and G W Haughn. (Poster) MALDI-TOF mass spectrometry of Rhamnogalacturonan Lyase digested Arabidopsis seed mucilage. 11th European training course on carbohydrates, Wageningen, Netherlands, 2010.
- Griffiths, J S, and A Wang. (Poster) Isolation and Characterization of Arabidopsis Translation Initiation Factors Required for Plum Pox Virus Infection. American Society of Plant Biologist & Botany Annual Meeting, Chicago, Illinois, USA. Poster presentation, 2007.
- Griffiths, J S, Babu, M, and A Wang. (Poster) Analysis of Arabidopsis Translation Initiation Factors in Plum Pox Virus infection. American Society for Virology annual meeting, Madison, Wisconsin, USA. Poster presentation, 2006.

Manuscripts Reviewed for Journals

Annals of Botany

Teaching experience

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| 2014 | Tutor with Accessibility Services, University of Toronto, Genomes to Ecosystems (BIO220), Virology (LTE199), Introduction to Virology (CSB351) and Genetics (BIO260). |
| 2012 | Invited Lecture, BIOL 546 Plant Cell Walls, University of British Columbia. Interactions between pectins and cellulose. |
| 2011 (Summer) | Undergraduate Student Supervisor, University of British Columbia. Project: Mapping <i>mum4</i> modifier mutants. |
| 2011 | Peer Mentor: Lets Talk Science. |
| 2008 – 2009 | Teaching Assistant: BIOL 337 Introductory Genetics Laboratory, University of British Columbia. |
| 2008 – 2009 | Teaching Assistant: BIOL 334 Basic Genetics Tutorial leader, University of British Columbia. |
| 2006 (Fall) | Teaching Assistant: Biology 022/023 Introductory Biology Tutorial leader, University of Western Ontario. |
| 2005 – 2007 | Teaching Assistant: Biology 022/023 Introductory Biology Laboratory, University of Western Ontario. |
| 2005 (Winter) | Teaching Assistant: Genetics 2104 Introductory Genetics Laboratory, Carleton University. |

Key skills

Scientific writing: writing and editing manuscripts for publication, writing and editing grant proposals.

Lab techniques: Plant cultivation (*Arabidopsis*, *Prunus* sp.), Molecular biology (standard cloning techniques, PCR, positional cloning, DNA sequencing analysis, Whole genome next generation sequencing analysis, DNA and RNA isolation, Northern, Western and Southern blotting, Real-time PCR, Microarray analysis of gene expression, Genetic screens, Chemical genetic screens, Transgenic plant production and isolation, Recombinant protein production and isolation), Microscopy (Light microscopy, Scanning electron microscopy, Fluorescence

microscopy, Confocal microscopy, Cryo-fixing and resin embedding of plant tissues), Cell biology (Transgenic fluorescent protein subcellular localization), Biochemistry (HPLC analysis of sugars, Enzyme isolation and purification, Enzymatic digestion of polysaccharides, MALDI-TOF MS analysis of digested carbohydrates, Monosaccharide quantification by HPAEC and colourimetric assays, Cellulose quantification).

Professional affiliations

2007 – 2014 American Society of Plant Biologists
2009 – 2014 Canadian Society of Plant Physiologists
2009 – 2011 American Association for the Advancement of Science
2006 – 2007 American Society for Virology, associate member

Other information

Canadian citizen, Date of Birth: December 21, 1980.
Co-organizer of Annual Botany Graduate Student Symposium, 2009.
Organizer and captain of a Botany graduate student volleyball team for 5 years.
Social coordinator and event organizer for Botany graduate students for 3 years.
Fluent in English and French
Amateur photographer.

Referees

George Haughn, Professor

Botany Department, University of British Columbia,
6270 University Blvd, Vancouver, BC, V6T 1Z4, Canada.
Tel: +1 604 822 9089 Email: george.haughn@ubc.ca

Shawn Mansfield, Professor

Department of Wood Science, Faculty of Forestry, University of British Columbia
4030-2424 Main Mall, Vancouver, BC, V6T 1Z4, Canada.
Tel: +1 604-822-0196 Email: shawn.mansfield@ubc.ca

Lacey Samuels, Professor, Head of Botany

Botany Department, University of British Columbia,
6270 University Blvd, Vancouver, BC, V6T 1Z4, Canada.
Tel: +1 604 822 3554 Email: annelacey.samuels@botany.ubc.ca