

Valentin Joly

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Education

- 2017 | **Ph.D., Plant Molecular Biology** (in progress)
Plant Biology Research Institute, University of Montreal, *Montreal, QC, Canada*
Advisor: Prof. Daniel P. Matton
Project: Male-female gametophytic communication and maintenance of interspecific breeding barriers in *Solanum* sect. *Petota*
GPA: 4.3/4.3
- 2012 | **M.Sc., Plant Molecular Biology**
Plant Biology Research Institute, University of Montreal, *Montreal, QC, Canada*
Accelerated transition to Ph.D. in Jan. 2013
GPA: 4.3/4.3
- 2011 | **B.Sc., Biology, international program**
Pierre & Marie Curie University (Paris VI), *Paris, France*
University of Montreal, *Montreal, QC, Canada* (one-year exchange)
GPA at Univ. of Montreal: 4.12/4.3
GPA at Univ. of Paris: 17.65/20 (1st out of 503 students)
- 2008 | **Baccalauréat (French high school degree), Sciences (Biology-Geology)**
Lycée Saint-Sauveur, *Redon, France*
Summa cum laude (mention Très Bien), final grade: 19.94/20
Bilingual English-French class

Research experience

- June–Aug. 2016 | **Japanese Society for the Promotion of Science Summer Program**
Prof. T. Higashiyama, Nagoya University, Japan
- May 2016 | **International collaboration in Molecular biology & Bioinformatics**
Prof. J. Edqvist, Linköping University, Sweden
- Apr.–May 2014 | **Research internship, Molecular evolution & Bioinformatics**
Prof. W. J. Swanson, University of Washington, Seattle, WA, USA
- July 2012 | **International seminar in automated functional protein annotation**
BLAST2GO, University of California, Davis, CA, USA
- Apr.–May 2012 | **Botanical transect in the Andes to collect *Solanum* individuals**
Partnership with Prof. F. Chiarini, Universidad Nacional de Córdoba, Argentina
- Jan.–Aug. 2011 | **Research internship, Plant molecular biology & Cell signalling**
Prof. D. P. Matton, University of Montreal, QC, Canada
- June–July 2010 | **Research internship, Plant physiology**
Prof. C. Bailly, CNRS, Pierre & Marie Curie University (Paris-VI), Paris, France
- Jan. 2009 | **Short-term introductory research internship, Plant molecular biology**
Prof. C. Bowler, CNRS, École Normale Supérieure, Paris, France

Teaching

since 2013	Chief teaching assistant
2011–2012	Teaching assistant Plant physiology labs (BIO1534), Prof. Jean Rivoal, University of Montreal <ul style="list-style-type: none"> • Teaching load: 140 hours per session, about 80 students • Weekly courses including a lecture (0:45) and a practical session (2:30) • Supervision of 2-3 teaching assistants
since 2014	Teaching assistant Molecular biology labs (BIO3102), Prof. D. P. Matton, University of Montreal <ul style="list-style-type: none"> • Teaching load: 140 hours per session, 10-20 students
since 2012	Supervisor of research interns <ul style="list-style-type: none"> • Course BIO2091, Initiation to research: Supervision of B.Sc. summer interns for 2 to 4-month projects (5 interns supervised since 2012) • ELAP International Program: Supervision of M.Sc./Ph.D. latin-american students for 4 to 6-months research internships at the University of Montreal (1 intern in 2015, 1 planned for 2016) • Collaboration with Linköping University, Sweden: Supervision of a Swedish student at a distance for a 2-month internship in bioinformatics (2016)

Publications

Published	<p>Liu Y*, Joly V*, Dorion S, Rivoal J and Matton DP. (2015). The plant ovule secretome: a different view toward pollen-pistil interactions. <i>Journal of Proteome Research</i>, 14(11):4763–75. DOI: 10.1021/acs.jproteome.5b00618</p> <p>Joly V and Matton DP. (2015). KAPPA, a simple algorithm for discovery and clustering of proteins defined by a key amino acid pattern. <i>Bioinformatics</i>, 31(11), 1716–1723. DOI: 10.1093/bioinformatics/btv047</p> <p>Lafleur É*, Kapfer C*, Joly V, Liu Y, Tebbji F et coll. (2015). The ScFRK1 MAPK kinase kinase (MAPKKK) from <i>Solanum chacoense</i> is involved in embryo sac and pollen development. <i>Journal of Experimental Botany</i>, 66(7), 1833–1843. DOI: 10.1093/jxb/eru524</p>
Unpublished	<p>Liu Y*, Joly V* and Matton DP. (2015). <i>Solanum chacoense</i> ovule transcriptome reveals developmentally regulated transcripts during female gametophyte genesis and maturation.</p> <p>Tebbj F*, Joly V*, Nantel A and Matton DP. (2015). Pollination type recognition from a distance by the ovary is revealed by a global transcriptomic analysis.</p>
Popularization	<p>Joly V. (2016). Interview at the Canadian national francophone radio station (<i>Radio Canada</i>), for the science popularization program <i>Les années lumière</i>. Program to be broadcasted in 2016.</p> <p>Joly V. (2014). Les mots d’amour des plantes à fleur. <i>L’ARN messenger</i>, online journal of Biology students from the University of Montreal. Published on Dec. 19th 2014.</p>

*Co-first authors.

Presentations and Posters

- 2017 | **Joly V***, Viallet C, Liu Y and Matton DP. *Reproductive cysteine-rich proteins: key players in Solanum speciation?* Plant Biology 2017, Honolulu, HI, USA, June 23rd–28th 2017.
Joly V and Matton DP*. *Pollination type recognition from a distance by the ovary is revealed by a global transcriptomic analysis.* 5th International Symposium on Plant Signaling and Behavior, Matsue, Japan, June 26th – July 1st 2017.
- 2016 | **Joly V**, Liu Y, Dorion S, Rivoal J and Matton DP. *Ovule secretomics reveal the importance of post-transcriptional regulation of reproductive proteins.* Plant Reproduction 2016, Tucson, AZ, USA, March 18th–23rd 2016.
Joly V and Matton DP. *KAPPA: exploring -omics data to detect and cluster cysteine-rich proteins.* [same conference as above]
- 2015 | **Joly V*** and Matton DP. *Plants' secret words of love: rapid evolution of pollen–pistil recognition proteins drives reproductive isolation of wild potatoes.* Botany 2015, Edmonton, AB, Canada, July 26th–29th 2015.
Joly V* and Matton DP. *Sex among wild potatoes: ladies wear the pants.* Invited speaker, Centre for Structural and Functional Genomics, Concordia University, Montreal, QC, Canada, July 16th 2015.
Joly V and Matton DP. *KAPPA: meeting the challenge of proteome-wide detection and clustering of cysteine-rich proteins.* High Performance Computing Symposium HPCS 2015, Montreal, QC, Canada, June 17th–19th 2015.
- 2014 | **Joly V*** and Matton DP. *Cell-cell communication between gametophytes and reproductive isolation in wild potatoes.* Invited speaker, Dept. of Genome Sciences, University of Washington, Seattle, WA, USA, Apr. 24th 2014.
- 2013 | **Joly V*** and Matton DP. *Comment éviter les liaisons dangereuses : secrets d'alcôve des pommes de terre.* Journées du Centre SÈVE, Wendake, QC, Canada, Nov. 7th–8th 2013.
Joly V* and Matton DP. *Species-specificity of pollen-pistil interactions in wild potatoes.* Invited speaker, Institute of Genetics, Chinese Academy of Science, Beijing, China, Oct. 24th 2013.
Liu Y, Bai F, **Joly V** and Matton DP. *Identification of female gametophyte-specific CRPs and isolation of pollen tube guidance attractant(s) in solanaceous species.* Journées du Centre SÈVE, Wendake, QC, Canada, Nov. 7th–8th 2013.
Joly V, Liu Y and Matton DP. *Interspecific divergence of reproductive proteins: the keystone of species-specific fertilization in wild potatoes?* [same conference as above].
Liu Y, **Joly V** and Matton DP. *Isolation and characterization of the pollen tube attractant from Solanum chacoense.* [same conference as above]
Tebbj F, **Joly V** and Matton DP*. *Pollination type recognition from a distance by the ovary is revealed by a global transcriptomic analysis.* [same conference as above]
Joly V and Matton DP. *Speciation genes in pollen-pistil interactions.* 9th Canadian Plant Genomics Workshop, Halifax, NS, Canada, Aug. 12th–15th 2013.
Joly V*, Liu Y and Matton DP. *Divergence des protéines reproductives et maintien des barrières de spéciation chez les pommes de terre sauvages.* 23^e Symposium des Sciences biologiques, University of Montreal, Montreal, QC, Canada, Mar. 21st 2013.
- 2011 | Daigle C*, **Joly V** and Matton DP. *Discovering new MAPK signalling cascades involved in plant reproduction using co-expression analyses and deep transcriptomic sequencing of ovule and pollen tubes.* 7th Canadian Plant Genomics Workshop, Niagara Falls, ON, Canada, Aug. 22nd–25th 2011.

*Person in charge of the oral presentation.

Scholarships and Awards

- 2017 | **Scholarship for Finishing Ph.D. Students (BEFD)**
Faculty of Graduate and Postdoctoral Studies, University of Montreal, \$12,000
- Jacques-Rousseau Travel Scholarship**
Plant Biology Research Institute, University of Montreal, \$1,500
- Travel Scholarship** (*Bourse d'appui à la diffusion des résultats de recherche*)
Faculty of Graduate and Postdoctoral Studies, University of Montreal, \$500
- 2016 | **Hydro-Québec Excellence Scholarship**
Hydro-Québec (national electricity company), \$24,500
- MITACS Globalink Award / Japanese Society for the Promotion of Science Summer Program**
MITACS/JSPS, ¥550,000
- Ph.D. Scholarship from the Government of Québec**
Fonds Québécois de Recherche – Nature et Technologies, \$13,333
- Best Graduate Student Poster Award**
Frontiers in Plant Reproduction Biology, *Plant Reproduction 2016* Conference, \$300
- Jacques-Rousseau Travel Scholarship**
Plant Biology Research Institute, University of Montreal, \$1,500
- PARSECS Travel Scholarship**
FAÉCUM, University of Montreal, \$400
- 2015 | **Catherine-Frédette Excellence Scholarship in Biological Sciences and Neurology**
Faculty of Graduate and Postdoctoral Studies, University of Montreal, \$5,000
- FBSB Ph.D. Scholarship from the Dept. of Biological Sciences**
University of Montreal, \$1,500
- President's Award for the Best Student Oral Presentation**
Canadian Society of Plant Biologists (CSPB), Botany 2015 Conference, \$500
- Best Student Poster Award**
Compute Canada, High Performance Computing Symposium HPCS 2015, \$500
- G.-H. Duff Travel Scholarship**
Canadian Society of Plant Biologists (CSPB), \$340
- Jacques-Rousseau Travel Scholarship**
Plant Biology Research Institute, University of Montreal, \$775
- Excellence Scholarship from the Faculty of Graduate and Postdoctoral Studies**
University of Montreal, \$3,000
- 2014 | **Pehr-Kalm Scholarship**
Montreal Botanical Garden, \$2,000
- Travel Scholarship for International Interns**
Government of Quebec (FRQNT) – Centre SÈVE, \$3,815
- Jacques-Rousseau Travel Scholarship**
Plant Biology Research Institute, University of Montreal, \$1,769
- 2013 | **Marie-Victorin Excellence Scholarship**
Plant Biology Research Institute, University of Montreal, \$3,000

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Scholarships and Awards (continued)

2013	Best Oral Presentation Award Journées du Centre SÈVE, \$300 Jacques-Rousseau Travel Scholarship Plant Biology Research Institute, University of Montreal, \$850 Best Oral Presentation Award Symposium of Biological Sciences, University of Montreal, \$100
2012	FBSB M.Sc. Scholarship from the Dept. of Biological Sciences University of Montreal, \$1,200 Scholarship for Accelerated M.Sc.-to-Ph.D. Transition Faculty of Graduate and Postdoctoral Studies, University of Montreal, \$14,000
2011	Travel Scholarship for Student Exchange in Canada French Ministry of Research (CROUS), €1,600 PIL Excellence Scholarship for Student Exchange in Canada Pierre & Marie Curie University (Paris VI), €1,500 AMIÉ Travel Scholarship for Student Exchange in Canada French Regional Authority (<i>Conseil régional</i>), €2,800 Campus'Trotter Scholarship for Student Exchange in Canada French Local Authority (<i>Conseil général</i>), €700
2010	Best B.Sc. Student in the Dept. of Biology Pierre & Marie Curie University (Paris VI), after the June 2010 final exams
2008	Excellence Scholarship for Undergraduate Studies French Ministry of Research (CROUS), €5,400

Commitments

Societies	<p>American Society of Plant Biologists (ASPB), since 2016</p> <p>International Association of Sexual Plant Reproduction Research (IASPRR), since 2015</p> <p>Canadian Society of Plant Biologists (CSPB), since 2014</p> <p>Quebec Biological Association (<i>Association des Biologistes du Québec, ABQ</i>), since 2013</p> <p>French Botanical Society (<i>Société Botanique de France, SBF</i>) 2010–2011</p>
Committees at university	<p>Greenhouse Management Committee, 2013 Plant Biology Research Institute – Montreal Botanical Garden</p> <p>Naturalist Students' Association <i>Timarcha</i>, 2010–2011 Pierre & Marie Curie University (Paris VI), France</p> <p>Environmental Committee <i>Éco-école</i>, 2006–2008 Lycée Saint-Sauveur (\approx high school), Redon, France</p>
Volunteering	<p>Volunteer French Teacher for immigrants, since 2015 Community Center <i>The House of Friendship</i>, Montreal, Quebec</p> <ul style="list-style-type: none">• 3-hour lessons every week with 10-20 immigrants <p>Contributor to the online encyclopedia <i>Wikipedia</i>, since 2006</p> <ul style="list-style-type: none">• Article writing and translation in biology <p>Contributor to the online herbarium project <i>Les Herbonautes</i>, since 2015 National Museum of Natural History, Paris, France</p> <ul style="list-style-type: none">• Digitization of the Herbarium of Paris <p>Contributor to the online cartography project <i>OpenStreetMap</i>, since 2015</p> <ul style="list-style-type: none">• Digital cartography of various regions with graphical tools.

Other skills

Languages	<p>French, mother tongue</p> <p>English, fluent (level C1)</p> <p>Spanish, fluent (level C1)</p> <p>Italian, intermediate (level B1)</p> <p>Japanese, beginner</p>
Computing	<p>Programming: Python/BioPython and R ; basic level in Java, Ruby, C, Perl, SQL.</p> <p>Web : HTML/CSS, JavaScript, PHP.</p> <p>Operating systems: Linux (<i>Ubuntu, Fedora, CentOS</i>); Mac OS X ; Windows</p> <p>Bioinformatics: assemblers (<i>Trinity, CLC</i>, etc.); read aligners (<i>Bowtie, TopHat</i>, etc.); sequence search and alignment tools (<i>BLAST</i>, etc.); annotators (<i>BLAST2GO, PFAMscan, SignalP</i>, etc.)</p> <p>Office software: \LaTeX, <i>LibreOffice/OpenOffice, Microsoft Office</i></p> <p>Image processing: <i>GIMP, Inkscape, ImageJ, Adobe Photoshop</i> ; <i>AxioVision</i> (Zeiss microscope steering program)</p>