

# Julie Kang, Ph. D

## Curriculum Vitae

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University of Northern Iowa  
Department of Biology  
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Cedar Falls, IA, 50614

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### APPOINTMENTS

2016 Associate Professor, University of Northern Iowa, Cedar Falls, IA, USA

2010 Assistant Professor, University of Northern Iowa, Cedar Falls, IA, USA

### EDUCATION

2005 Ph.D. Department of Botany, University of Toronto, Toronto, Ont., Canada. Collaborative Program in Developmental Biology.

1999 B. Sc. Biological Sciences, University of Toronto, Toronto, Ont., Canada. Major: Biology, Minor: Zoology

1996 Honors B.A. Humanities McMaster University, Hamilton, Ont., Canada. Major: Studio/Fine Arts, Minor: Art History

### RESEARCH

2010 NSERC & Katherine Esau Post-doctoral Research Fellow. Clonal analysis of compound leaf development in *Solanum lycopersicum* (tomato). Advisor: Dr. Neelima R. Sinha. Department of Plant Biology, University of California, Davis, USA.

2005 Ph. D Candidate. The role of cell cycling during vascular development in *Arabidopsis* leaves. Advisor: Dr. Nancy G. Dengler, Department of Botany, University of Toronto, Toronto, Canada.

1999 Undergraduate Research. Characterization of the *phabulosa* mutant in *Arabidopsis*. Advisor: Dr. Nancy G. Dengler. University of Toronto, Toronto, Canada.

*Muhlenbergia* species. Advisors: Dr. Nancy G. Dengler & Dr. Rowan Sage. University of Toronto, Toronto, Canada.

1999 Undergraduate Research. The effects of amputation and denervation on the expression of the *Fringe* gene in *Notophthalmus viridescens* (newt). Advisors: Dr. Richard A. Liversage & Dr. Catherine Tsilfidis. University of Toronto, Toronto, Canada.

### TEACHING

#### Current Courses:

2019 Life: Continuity and Change (1014). Fall/Spring Semester.

2011 Plant Diversity and Evolution (3120). Spring Semester.

2010 Developmental Plant Anatomy (4/5172). Even Fall Semesters.

2010 Cell Structure and Function Lectures and Labs (2052). Alternate Spring Semesters.

*Past Courses:*

2015 Invited Instructor, Cold Spring Harbor Laboratory Course, CSH, NY. USA. Summer Session.

2013 Light Microscopy Methods in Biology (4/5159), Spring Semester.

2009 Organismal Diversity: The Tree of Life (BIS2C). UC Davis, Davis, CA, USA. Summer Session.

**GRADUATE THESIS ADVISOR**

2022 Max Pizzaro, M. Sc. Candidate (Graduate Committee)

2019 Sally Gray, M. Sc.

2015 Layton Weishaar

2014 Austin Jones, M. Sc.

2012 Bryan Hendrickson

**HONOR'S THESIS ADVISOR**

2017 Lyn Tackett, Sally Gray, Lulua Rawwas, Jose Lopez

2015 Austin Voves, Abigail Lee

2014 Allie Simpson, Matthew Rafferty

**MENTORSHIP**

2019 Elizabeth Chatt, Iowa State University, Ph. D Candidate. Program: Preparing Future Faculty Program.

**UNDERGRADUATE RESEARCH**

Anna Kerr, Parker Pose, Zack Krogmann, Casey Clubb, Jacob Holschlag, Connor Ham, Jamie Althiser, Kevin Boehnke, Bekah Akers, Kevin Boehnke, Bekah Akers, Gavin McGivney, Sally Gray, Jose Lopez, Austin Voves, Colton Heller, Michael Van Pelt, Trent Lundgren, Robert Stark, Kyle Graves, Jason Ratcliff, Cassandra Boevers, Glenn Ernzen, Connor Kuehl, Tim Wicker, Colin Moore.

**PUBLICATIONS**

\*UNI Students

1. Rawwas L\* and **Kang J.** (2017) The genetic relationship between leaf margin regulation and vascular patterning in *Arabidopsis thaliana*. *Aisthesis*: 9-12.
2. Chitwood DH, Rundell SM, Li DY, Woodford QL, Yu TT, Lopez JR\*, Greenblatt D, **Kang J**, and Londo JP. (2016) Climate and developmental plasticity: Interannual variability in grapevine leaf morphology. *Plant Phys.* 170: 1480–1491.
3. Jones A\* and **Kang J** (2015) Development of leaf lobing and vein pattern architecture in the genus *Ipomoea* (Morning Glory). *Int. Journal Plant Sci.*, 176(9):820–831.
4. **Kang J** and Dengler N. (2014) Chapter 15: Transectional symmetry of leaves. *In: Kaplan's Principles of Plant Morphology.*
5. Dengler NG and **Kang J.** (2014) Chapter 18: Specializations in leaf structures. *In: Kaplan's*

- Principles of Plant Morphology.
6. Jones A\*, Doughan B\*, Gerrath J, **Kang J.** (2013) Development of leaf shape in two North American species of *Ampelopsis* (Vitaceae). *Botany* 91: 857-865.
  7. Townsley BT, Sinha NR, **Kang J.** (2013) KNOX1 genes regulate lignin deposition and composition in monocots and dicots. *Frontiers in Plant Evolution and Development*. 4 (121): 1-11.
  8. **Kang J**, Brady SM. (2012) Spatiotemporal regulation of vascular patterning. In “The Plant Vascular System: From Evolution to Function”. *J. Integrative Biology*. 55(4): 294-388.
  9. Alakonya A, Kumar R, Koenig D, Kimura S, Townsley B, Runo S, Garces HM, **Kang J**, Yanez A, David-Swartz R, Machuka J, Sinha N. (2012) Interspecific RNA interference of SHOOT MERISTEMLESS-like disrupts *Cuscuta pentagona* plant parasitism. *Plant Cell* 24: 3153-3166.
  10. **Kang J**, Sinha N. (2011) Regulation of Leaf Shape in *Yearbook of Science and Technology*. McGraw-Hill, New York, NY.
  11. **Kang J**, Sinha N. (2010) Leaflet initiation is temporally and spatially separated in simple and complex tomato (*Solanum lycopersicum*) leaf mutants: a developmental analysis. *Botany* 88: 710-724.
  12. Koenig D, Bayer E, **Kang J**, Kuhlemeier C, Sinha N. (2009) Auxin patterns *Solanum lycopersicum* leaf morphogenesis. *Development* 136: 2997-3006
  13. Kimura S, Koenig D, **Kang J**, Yoong FY, Sinha N. (2008) Natural variation in leaf morphology results from mutation of a novel KNOX gene. *Current Biology* 18: 672-677.
  14. **Kang J**, Mizukami Y, Wang H, Fowke L, Dengler NG. (2007) Modification of cell proliferation patterns alters leaf vein architecture in *Arabidopsis thaliana*. *Planta* 226: 1207-1218.
  15. **Kang J**, Dengler NG. (2004) Vein pattern development in adult leaves of *Arabidopsis*. *International Journal of Plant Sciences* 165: 231-242.
  16. **Kang J**, Dengler NG (2004) Leaf Architecture – regulation of leaf position, shape and internal structure. In *Plant Architecture and its Manipulation*, Annual Plant Reviews, Vol. 17. (Turnbull, C., ed), Blackwell Publishing: UK.
  17. **Kang J**, Tang J, Donnelly PM, Dengler NG. (2003) Primary vascular pattern and expression of *ATHB-8* in shoots of *Arabidopsis*. *New Phytologist* 158: 443-454.
  18. Dengler NG, **Kang J.** (2003) Plant growth and development: Leaf development. *Encyclopedia of Applied Plant Sciences*. (Thomas B, Murphy DJ, Murray BG. eds.). Elsevier: UK.
  19. **Kang J**, Dengler NG. (2002) Cell cycling frequency and expression of the homeobox gene *ATHB-8* during leaf vein development in *Arabidopsis*. *Planta* 216: 212-219.
  20. Jesson L, **Kang J**, Wagner S, Barrett SCH, Dengler NG. (2002). The development of enantiostyly. *American Journal of Botany* 90: 183-195.
  21. Dengler NG, **Kang J.** (2000) Vascular patterning and leaf shape. *Current Opinions in Plant Biology* 4: 50-6.

## MANUSCRIPTS IN PREPARATION

\*UNI Students

1. Lee A\*, Lopez J\*, Hendrickson B\*, and Kang J. (2022) Comparative development of the leaf margins in wild-type and mutant species of morning glory (*Ipomoea nil*).
2. Voves A\*, Kang J. (2022) Morphometric Analysis of simple, lobed, and compound leaves in the genus *Ampelopsis* (Vitaceae).
3. Tackett L\*, Kang J. (2022) Floral Anatomy of Hibiscus: Tracing its Iconography History.
4. Nowak JS, Gilchrist EJ, Haughn GW, Cronk QCB, Rafferty M\*, Kang J. (2022) *Lamina epiphylla*: a novel adaxialized leaf mutant of canola.

## **GRANTS**

2015 Iowa Science Foundation (Iowa BIG Project)  
2013 Carver Trust Foundation Grant (Data Acquisition)  
2013 Carver Trust Foundation Grant (Classroom Microscopes)  
2013 NSF EpSCOR Capacity Building Grant  
2012 NSF EpSCoR Small Grant  
2012 microMORPH Grant  
2011 Carver Trust Foundation Microscope Grant

## **AWARDS, FELLOWSHIPS, SCHOLARSHIPS**

Faculty Summer Research Fellowship (2019)  
Graduate Research Awards for Student Projects (GRASP) (2012-2019)  
Faculty Summer Research Fellowship (2011-2019 alternate years)  
Summer Undergraduate Research Program (SURP) (2011-2016)  
Student Opportunities for Academic Research (SOAR) (2011-2015)  
Junior Faculty Award for Research (2014)  
UNI Provost Pre-tenure Award (2014)  
Swanson Award (2013/2014)  
Orr Fellowship (2011-2015)  
Katherine Esau Postdoctoral Fellowship (2006)  
NSERC Postdoctoral Fellowship (2002/2004)  
Ontario Graduate Fellowship (2002)  
University of Toronto Open Fellowship (2000-2004)  
Doctoral Thesis Grant (2003)  
Katherine Esau Award/Macoun Bursary for Excellence (2002)

## **PRESENTED LECTURES, PAPERS, POSTERS**

M. Sc Thesis Presentation (Sally Gray), Biology Department, UNI, Cedar Falls (2019)  
Honor's Thesis Presentation (Sally Gray), Biology Department, UNI, Cedar Falls (2017)  
Honor's Thesis Presentation (Lulua Rawwas), Biology Department, UNI, Cedar Falls (2017)  
Honor's Thesis Presentation (Austin Voves), Biology Department, UNI, Cedar Falls (2016)  
Tenure & Promotion Seminar, Biology Department, UNI, Cedar Falls, IA. (2016)  
Instructor for Cold Spring Harbor Laboratory Course, Cold Spring Harbor, NY. (2015)  
SURP Symposium (poster presentation Jose Lopez), UNI, Cedar Falls, IA. (2015)  
Research at the Capitol (poster presentation Abigail Lee), Des Moines, IA. (2015)  
National Conference of Undergraduate Research (poster presentation Allie Simpson) (2014)  
Honor's Thesis Presentation (Allie Simpson & Matt Rafferty), UNI, Cedar Falls, IA. (2014)  
Pre-Tenure Symposium (poster presentation), UNI, Cedar Falls, IA. (2013)  
SURP Symposium (Allie Simpson & Abigail Lee), UNI, Cedar Falls (2013)  
Invited speaker, Botanical Society of America meeting, New Orleans, LA. (2013)  
SURP Presentation (Allie Simpson & Abigail Lee), UNI, Cedar Falls, IA. (2013)  
Guest lecture and speaker, Dalhousie University, Nova Scotia, Canada. (2012)  
Research at the Capitol (poster presentation Bryan Hendrickson), Des Moines, IA. (2012)  
Biology Graduate Colloquium, Cedar Falls, IA. (2012)  
SURP Symposium (poster presentation Bryan Hendrickson), UNI, Cedar Falls, IA. (2011)  
Pre-Tenure Symposium (poster presentation), UNI, Cedar Falls, IA. (2011)  
Plant Adaptations, UNI Museum, Cedar Falls, IA. (2011)  
Biology Graduate Colloquium, Cedar Falls, IA. (2011)

## **SERVICE**

UNIFI Assessment Committee  
CAPR (Committee on Academic Program Review)  
SOA (Student Outcomes Assessment Committee)  
PAC Sub-committee  
University Research Committee  
University Scholarship Committee  
Summer Fellowship Committee  
Editor: International Journal of Plant Sciences.

## **REVIEWER**

AgreenSkills  
American Journal of Botany (AJB)  
Morris Publishers  
Int Journal of Plant Sciences (IJPS)  
Developmental Dynamics  
Plant Science  
Canadian Foundation for Innovation Phil. Trans. B

Botany  
Annals of Botany  
Plant Cell  
Plant & Cell Physiology  
New Phytologist