

Curriculum Vitae

Steven J. Franks

Professor
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EDUCATION

2002 Ph.D. in Botany, **The University of Georgia**

2002 Masters Certificate in Conservation Ecology, **The University of Georgia**

1993 A.B. in Biology, with honors, May 1993, **Brown University**

PROFESSIONAL POSITIONS

2017- present Professor, **Fordham University**. *Affiliations:* New York Botanical Garden, Louis Calder Center, Center for Urban Ecology, Bronx Science Consortium

2014- 2017 Associate Professor, **Fordham University**.

2007-2014 Assistant Professor, **Fordham University**.

2004- 2007 Postdoctoral Research Associate, **University of California, Irvine**.

2002- 2004 Research Scientist, **USDA** Invasive Plant Research Lab.

HIGHLIGHTS

- Research: Plant ecological genetics and genomics, rapid adaptive evolution in invasive species and in response to climate change
- Published 50 papers; 2,420 total citations; h-index = 22
- Research reported in the press, popular books and textbooks
- Received 3 major NSF grants for >\$5.3 million total; >30 small grants and fellowships funded
- Gave over 30 invited research presentations at locations around the world
- Supervised 10 graduate and over 100 undergrad students in research projects
- Extensive teaching experience, including new course development
- Associate Editor for *Evolutionary Ecology*

PUBLICATIONS

Submitted

Groen, SC, I Čalić, Z Joly-Lopez, A Platts, JY Choi, M Natividad, BU Principe, K Dorph, WM Mauck, B Bracken, CL Cabral, A Kumar, RO Torres, R Satija, G Vergara, A Henry, **SJ Franks**, MD Purugganan. The strength and pattern of natural selection on rice gene expression. **Nature**. (submitted May 2, 2019; reviews received July 3, 2019; in revision)

Franks, SJ, MR Sekor, S Davey, AE Weis. Artificial seed aging reveals the invisible fraction: Implications for evolution experiments using the resurrection approach. **Evolutionary Ecology**. (revision submitted July 10, 2019)

Brown, P, RELISH Consortium [**SJ Franks** is of many authors], Y Zhou. RELISH-DB a large expert-curated database for benchmarking biomedical literature search. **Scientific Data**. (submitted 2019)

O'Hara, NB, **SJ Franks**, NC Kane, S Tittes, JS Rest. Evolution of pathogen response genes associated with increased disease susceptibility during adaptation to an extreme drought in a *Brassica rapa* plant population. **Frontiers in Ecology and Evolution**. (revision submitted July 10, 2019)

VanWalledael, A [Fordham graduate student], M Alvarez, **SJ Franks**. Population genomic analysis of a polyploid species complex uncovers unexpected diversity and reveals the roles of introduction history and hybridization in an invasion. **Molecular Ecology**. (submitted July 6, 2018; in revision).

In Press

Ziska, LH, DM Blumenthal, **SJ Franks**. 2019. Evolution of invasive weeds in a changing climate. **Invasive Plant Science and Management**. Invited review. (Accepted April 9, 2019).

Ansaldi, BH [Fordham graduate student], JJ Weber, C Goodwillie, **SJ Franks**. 2019. Low levels of inbreeding depression and enhanced fitness in cleistogamous progeny in the annual plant *Triodanis perfoliata*. **Botany**. DOI: 10.1139/cjb-2019-0022

In Print

46) Dickman, E, L Pennington, **SJ Franks**, J Sexton. 2019. Evidence for adaptive responses to historic drought across a native plant species range. **Evolutionary Applications**. DOI: 10.1111/eva.12803

- 45) Ansaldi, BH [Fordham graduate student], **SJ Franks** and JJ Weber. 2018. The influence of environmental factors on breeding system allocation at large spatial scales. **AoB Plants** 10: ply069. DOI: 10.1093/aobpla/ply069
- 44) Hamann, E, AE Weis and **SJ Franks**. 2018. Two decades of evolutionary changes in *Brassica rapa* in response to fluctuations in precipitation and severe drought. **Evolution** 72: 2682-2696. DOI: 10.1111/evo.13631
- 43) Sekor, MR [Fordham graduate student] and **SJ Franks**. 2018. An experimentally introduced population of *Brassica rapa* (Brassicaceae). 2. Rapid evolution of phenotypic traits. **Plant Ecology and Evolution** 151: 293-302. DOI: 10.5091/plecevo.2018.1401
- 42) Kottler, E [undergraduate student], A VanWallendael [Fordham graduate student], **SJ Franks**. 2018. Experimental treatment with a hypomethylating agent alters life history traits and fitness in *Brassica rapa*. **Journal of Botany** vol. 2018, Article ID 7836845, 10 pages. DOI: 10.1155/2018/7836845
- 41) Ansaldi, BH [Fordham graduate student], JJ Weber and **SJ Franks**. 2018. The role of phenotypic plasticity and pollination environment in the cleistogamous, mixed-mating breeding system of *Triodanis perfoliata*. **Plant Biology** 20: 1068-1074. DOI:10.1111/plb.12877
- 40) Sekor, MR [Fordham graduate student] and **SJ Franks**. 2018. An experimentally introduced population of *Brassica rapa* (Brassicaceae). 1. Phenotypic selection over three years following colonization of a novel environment. **Plant Ecology and Evolution** 151 (2): 209–218. DOI: 10.5091/plecevo.2018.1354.
- 39) VanWallendael, A [Fordham graduate student], E Hamann and **SJ Franks**. 2018. Evidence for plasticity, but not local adaptation, in invasive Japanese knotweed (*Reynoutria japonica*) in North America. **Evolutionary Ecology**.
- 38) **Franks, SJ**, N Genovese [Fordham undergraduate], M Stockdale [Fordham undergraduate], JJ Weber, B Ansaldi [Fordham graduate student], E van Wilgenburg [Fordham faculty]. 2018. The effects of artificial selection for rapid cycling in *Brassica rapa* on herbivore preference and performance. **International Journal of Plant Sciences**.
- 37) **Franks, SJ**, E Hamann and AE Weis. 2018. Using the resurrection approach to understand contemporary evolution in changing environments. **Evolutionary Applications** 11: 17-28. doi: 10.1111/eva.12528.
- 36) Emel, S, **SJ Franks** and R Spigler. 2017. Phenotypic selection varies with pollination intensity across populations of *Sabatia angularis*. **New Phytologist**. 215: 813-824. doi: 10.1111/nph.14608
- 35) **Franks, SJ**. 2016. A harvest of weeds yields insight into a case of contemporary evolution. **Molecular Ecology** 25: 4421-4423.
- 34) O'Hara, NB, JS Rest and **SJ Franks**. 2016. Factors affecting the disease severity of *Alternaria* blackspot in natural *Brassica rapa* populations on the California and Oregon coasts. **Madroño** 63: 249-257.

- 33) Franks, SJ, NC Kane, NB O'Hara, S Tittes, JS Rest. 2016. Rapid genome-wide evolution in *Brassica rapa* populations following drought revealed by sequencing of ancestral and descendent gene pools. **Molecular Ecology** 25: 3622-3631. doi: 10.1111/mec.13615. This is a high-profile From the Cover article that received press coverage.
- 32) Weber, JJ, LB Vary, CES Berg [Fordham undergraduate], BH Ansaldi [Fordham graduate student] and **SJ Franks**. 2016. How evolution occurs in a population: The pollination game. **American Biology Teacher**. 78: 149-154. doi: 10.1525/abt.2016.78.2.149.
- 31) Etterson, JR, **SJ Franks**, SJ Mazer, RG Shaw, NL Soper-Gorden, HE Schneider, JJ Weber, KJ Winkler, AE Weis. 2016. Project Baseline: An unprecedented resource to study plant evolution across space and time. Invited paper in a special feature in **American Journal of Botany** 103: 164-173. doi:10.3732/ajb.1500313
- 30) Brown, JL, JJ Weber, D Alvarado-Serrano, MJ Hickerson, **SJ Franks**, AC Carnaval. 2016. Predicting the genetic consequences of future climate change: the power of coupling demography, the coalescent, and contemporary genetic patterns. Invited paper in a special feature in **American Journal of Botany** 103: 153-163. doi:10.3732/ajb.1500117.
- 29) O'Hara, NB, JS Rest and **SJ Franks**. 2016. Increased susceptibility to fungal disease accompanies adaptation to drought in *Brassica rapa*. **Evolution** 70: 241-248. doi: 10.1111/evo.12833.
- 28) Franks, SJ, B Perez-Sweeney, M Strahl, A Nowogrodzki, JJ Weber, R Lalchan, K Jordan, A Litt. 2015. Variation in the flowering time orthologs *BrFLC* and *BrSOC1* in a natural population of *Brassica rapa*. **PeerJ** 3:e1339. doi: 10.7717/peerj.1339
- 27) Franks, SJ. 2015. The unique and multifaceted importance of the timing of flowering. **American Journal of Botany** 102:1401-1402. doi:10.3732/ajb.1500234.
- 26) Welt, RS [Fordham graduate student], A Litt [previously NYBG], **SJ Franks**. 2015. Analysis of population genetic structure and gene flow in *Brassica rapa* following a rapid evolutionary response to drought. **AoB Plants** 7: plv026. doi:10.1093/aobpla/plv026. This paper received an 'Editor's Choice' award.
- 25) Weis, AE, SM Wadgymar, MR Sekor [Fordham PhD student] and **SJ Franks**. 2014. The shape of selection: Using alternative fitness functions to explore patterns of selection on flowering time. **Evolutionary Ecology** 28: 885-904.
- 24) Franks, SJ, J Munshi-South [Fordham faculty]. 2014. Go forth, evolve, and prosper: The genetic basis of adaptive evolution in an invasive species. **Molecular Ecology** 23: 2137-2140.
- 23) Colautti, RI, **SJ Franks**, RA Hufbauer, PM Kotanen, M Torchin, JE Byers, P Pyšek, O Bossdorf. 2014. The Global Garlic Mustard Field Survey: Challenges and opportunities of a unique, large-scale collaboration for invasion biology. **NeoBiota** 21: 29-47.

- 22) Franks, SJ JJ Weber, S Aitken. 2014. Evolutionary and plastic responses to climate change in terrestrial plant populations. Invited contribution to a special issue of **Evolutionary Applications** 7: 123-139.
- 21) Barnum, K [Fordham undergraduate], SJ Franks. 2013. Seed extracts impede germination in *Brassica rapa* plants. **International Journal of Plant Biology** 4:e2: 8-10.
- 20) Franks, SJ, AA Hoffmann. 2012. Genetics of climate change adaptation. **Annual Reviews in Genetics** 46: 185–208.
- 19) Franks, SJ, G Wheeler and C Goodnight. 2012. Genetic variation and evolution of secondary compounds in native and introduced populations of the invasive plant *Melaleuca quinquenervia*. **Evolution**. 66: 1398–1412.
- 18) Franks, SJ. 2011. Plasticity and evolution in drought avoidance and escape in the annual plant *Brassica rapa*. **New Phytologist** 190: 249-257.
- 17) Franks, SJ, PD Pratt and ND Tsutsui. 2011. Genetic consequences of a demographic bottleneck in a biological control insect. **Conservation Genetics** 12: 201-211.
- 16) Richards, CL, SN White, MA McGuire, SJ Franks, LA Donovan, R Mauricio. 2010. Plasticity, not adaptation to salt level, explains variation along a salinity gradient in a salt marsh perennial. **Estuaries and Coasts** 33: 840-852.
- 15) Franks, SJ. Genetics, evolution and conservation of island plants. 2009. **Journal of Plant Biology** 2: 481-488.
- 14) Franks, SJ and AE Weis. 2009. Climate change alters reproductive isolation and potential gene flow in an annual plant. **Evolutionary Applications** 2: 481-488.
- 13) Franks, SJ, JC Avise, WE Bradshaw, JK Conner, JR Etterson, SJ Mazer, RG Shaw, and AE Weis. 2008. The resurrection initiative: Storing ancestral genotypes to capture evolution in action. **BioScience** 58: 870-873. *Featured in press outlets such as ABC news.*
- 12) Franks, SJ and AE Weis. 2008. A change in climate causes rapid evolution of multiple life-history traits and their interactions in an annual plant. **Journal of Evolutionary Biology** 21: 1321-1334.
- 11) Franks, SJ, PD Pratt, FA Dray, and EL Simms. 2008. Selection on herbivory resistance and growth rate in an invasive plant. **American Naturalist** 171: 678-691.
- 10) Franks, SJ, S Sim [undergraduate], and AE Weis. 2007. Rapid evolution of flowering time by annual plant in response to a climate fluctuation. **Proceedings of the National Academy of Sciences** 104: 1278-1282. *Highly cited.*
- 9) Franks, SJ, PD Pratt, FA Dray, and EL Simms. 2007. No evolution of increased competitive ability or decreased allocation to defense in *Melaleuca quinquenervia* since release from natural enemies. **Biological Invasions** 10: 455-466.

- 8) **Franks, SJ**, AM Kral [undergraduate], and PD Pratt. 2006. Herbivory by introduced insects reduces growth and survival of *Melaleuca quinquenervia* seedlings. **Environmental Entomology** 35: 366-372.
- 7) Weis, AE and **SJ Franks**. 2006. Herbivory tolerance and coevolution: an alternative to the arms race? **New Phytologist** 170: 423-425.
- 6) Center, TD, TK Van, FA Dray, **SJ Franks**, MT Rebelo, PD Pratt, and MB Rayamajhi. 2005. Herbivory alters competitive interactions between two invasive aquatic plants. **Biological Control** 33: 173-185.
- 5) **Franks, SJ**, PD Pratt, FA Dray, and EL Simms. 2004. Selection for resistance in invasive plants. **Weed Technology** 18: 1486-1489.
- 4) **Franks, SJ**, CL Richards, E Gonzales, J Cousins, and JL Hamrick. 2004. Multi-scale genetic analysis of *Uniola paniculata* L.: a coastal species with a fragmented linear distribution. **American Journal of Botany** 91(9): 1345-1351.
- 3) **Franks, SJ**. 2003. Facilitation in multiple life-history stages: evidence for nucleated succession in coastal dunes. **Plant Ecology** 168(1): 1-11.
- 2) **Franks, SJ** and CJ Peterson. 2003. Burial disturbance leads to facilitation among coastal dune plants. **Plant Ecology** 168(1): 13-21.
- 1) **Franks, SJ**. 2003. Competitive and facilitative interactions among two species of coastal dune perennials. **Canadian Journal of Botany** 81(4): 330-337.

Books and Book Contributions

- Franks, SJ**. 2013. Rapid evolution of an annual plant in response to climate change. Invited 'guest box' in Allendorf, F. Conservation Genetics. Wiley-Blackwell.

ORGANIZED SYMPOSIA AND CONFERENCES

2015. Co-organizer and invited speaker in organized oral session. Seeds of evolution: Using resurrection ecology and the Project Baseline collection to understand responses to anthropogenic and natural change. **Ecological Society of America meeting, Baltimore, Maryland.**
2012. Co-organizer and invited symposium speaker. Changing conditions and contemporary evolution in an introduced plant. **Ecological Society of America meeting, Portland, Oregon.**
2010. Co-chair. Panel discussion of session on Opportunities for Collaboration. **Conservation Conversations II. Fordham University, Bronx, New York.**
2009. Organizer and host. The North East Phenotypic Evolution meeting. **Fordham University, Bronx, New York.**
2004. Organizer of a special oral session on Natural Enemy Release. The evolution of herbivore defense and competitive ability in the invasive plant *Melaleuca quinquenervia*. **Ecological Society of America Annual Meeting, Portland, Oregon.** *This symposium was featured in an article in the journal Science.*

INVITED PRESENTATIONS

2019. Invited seminar speaker. The resurrection approach shows rapid evolution in natural and experimental populations of *Brassica rapa*. **The University of Zürich, Zürich, Switzerland.**
2018. Invited seminar speaker. Evolutionary responses to climate change revealed by the resurrection approach. **Bard College, Annandale-on-Hudson, New York.**
2017. Invited seminar speaker. Selection by drought causes rapid genome-wide evolution in *Brassica rapa*. **The Arnold Arboretum, Harvard University, Roslindale, Massachusetts.**
2017. Invited speaker. Plants adapting to climate change. Food Tech and the City Event, **The New York Botanical Gardens, Bronx, NY.**
2016. Invited seminar speaker. Rapid genome-wide evolution in *Brassica rapa* following a climate change. **The University of Massachusetts, Amherst.**
2016. Invited convocation speaker. **Fordham University.**
2016. Invited seminar speaker. 'Resurrection experiments reveal rapid phenotypic and genotypic evolutionary changes in *Brassica rapa*' **The University of Georgia, Athens, Georgia.**
2016. Invited seminar speaker. Examining plant evolutionary responses to climate change using resurrection genomics. **Vassar College, New York.**
2016. Invited seminar speaker. Using resurrection genomics to understand evolution. **The University of Colorado, Boulder.**
2015. Invited speaker in organized oral session. Title of talk: 'Using resurrection experiments to illuminate multiple dimensions of evolution'. Title of symposium: 'Seeds of evolution: Using resurrection ecology and the Project Baseline collection to understand responses to anthropogenic and natural change'. **The Ecological Society of America meeting, Baltimore, Maryland.**
2015. Invited speaker in symposium. Title of talk: 'Time capsules, evolution and climate change'. The symposium: 'Rapid Genetic Change in Response to Climate Pressure: What Do We Need to Know?,' which is part of the series 'Dimensions of Sustainability: Underlying Drivers of Biodiversity Loss.' **University of Massachusetts in Boston.**
2014. Invited seminar speaker. Evolution in a world of change. **Dalhousie University, Halifax, NS, Canada.**
2014. Invited keynote speaker. Evolution in a climate of change. Calder Undergraduate Research symposium, **Fordham University, Bronx, NY.**
2012. Invited guest speaker. Evolutionary Ecology course at the **University of Toronto, Toronto, Canada.** Invited by instructor Dr. Marc Johnson to discuss my research on climate change and evolution.

2012. Invited speaker. Invasive species, climate change, and adaptation in natural plant populations. **University of Memphis, Memphis, TN.**
2011. Invited speaker. Selection, genetic variation and evolution in the invasive plant *Melaleuca quinquenervia*: a quantitative genetics approach. International Botanical Congress, **Melbourne, Australia.**
2011. Invited speaker. Global change and contemporary evolution in natural plant populations. **Cornell University, Ithaca, NY.**
2011. Invited speaker. Evolution in natural plant populations in response to novel environmental conditions. **The University of Melbourne, Australia.**
2011. Invited speaker. Infections disease in natural plant populations under climate change. Delivered by Niamh O’Hara at the **Ecological Society of America meeting, Austin, Texas.**
2010. Invited speaker. Evolution, invasive species and global change. **The University of Miami, Miami, FL.**
2010. Invited speaker. Discovering the genetic basis of adaptive evolution in plant responses to climate change. **Stony Brook University, Long Island, NY.**
2009. Distinguished ECI (Environmental Change Initiative) speaker. The genetics of evolutionary responses to climate change in an annual plant. **Brown University, Providence, RI.**
2009. Invited seminar speaker. Evolutionary responses in an annual plant to a fluctuation in climate. **St. Johns College, Queens, NY.**
2009. Invited participant and workshop leader. Climate Change and Evolution Workshop. **Paris, France.**
2009. Invited speaker. Evolutionary responses of plants to global change. Global Change and Plant Microevolution Workshop, **Mürren, Switzerland.**
2009. Invited speaker. Plant evolutionary responses to climate change. **Queens College, New York.**
2009. Invited speaker. Understanding the genetics of adaptations to climate change. Conservation Conversations on the Corner, **Fordham University, New York.**
2008. Invited keynote speaker. Ecological genetics and adaptation to climate change in natural population of *Brassica rapa*. International Society of Horticulture Brassica conference, **Lillehammer, Norway.**
2008. Invited speaker. Evolutionary change (or lack thereof) in herbivory defense in an invasive plant. **Skidmore college, Saratoga Springs, New York.**
2008. Invited speaker. The resurrection approach to examining microevolution. **University of Minnesota Duluth.**
2008. Invited speaker. Multivariate evolutionary changes in flowering phenology following a change in climate. **Ecological Society of America Annual Meeting, Milwaukee, Wisconsin.**

2007. Invited speaker and adjunct candidate. Plant evolution in changing environments. **The New York Botanical Garden, Bronx, NY.**
2007. Invited speaker. Resurrecting stored seeds to capture evolution in action. **Kew Royal Botanical Garden, London, UK.**
2007. Invited speaker. Evolution in changing environments. **Fordham University, Bronx, NY.**
2006. Invited speaker. Flowering phenology of *Brassica rapa* evolves in response to climate change in southern California. **Ecological Society of America Annual Meeting, Memphis, TN.**
2004. Invited speaker. Responses to natural enemy release and reintroduction in an invasive plant. **The National Center for Ecological Analysis and Synthesis, Santa Barbara, California.**
2003. Invited speaker. Does herbivory select for resistant genotypes of the invasive tree *Melaleuca quinquenervia*? **Invasive Plant Annual Meeting, Ft. Lauderdale, FL.**

FUNDING

Current External Support

- Purugganan, MD (PI), R Bonneau, **SJ Franks**, G Vergara (Co-PIs). Systems Genomics of Rice Stress Adaptation. NSF. Amount awarded: \$3,995,465. Fordham amount: \$242,434. Sept. 1, 2016- August 31, 2020.
- Franks, SJ (subaward through NYU). REU supplement to Systems Genomics of Rice Stress Adaptation. NSF. Amount awarded: \$9,980. June 1, 2018- August 31, 2020.

Past External Support

- Munshi-South, J (PI), E. Hekkala, **SJ Franks**, JD Lewis (Co-PIs). MRI: Acquisition of a liquid-handling robotic platform for high-throughput research in urban ecology and evolution at the Louis Calder Center-Biological Field Station. NSF. Total award is \$134,401. Fordham amount is \$134,401. September 1, 2015- August 31, 2018.
- Etterson, JR (PI), **SJ Franks**, R Shaw and SJ Mazer (Co-PIs). Collaborative research: Project baseline- a seed bank for the study of evolution. Funded by NSF. Awarded Oct. 2011. Total award is \$1,200,000. Fordham amount is \$245,223. October 15, 2011- October 14, 2015 (no cost extension until October 14, 2017).
- Etterson, JR (PI), **SJ Franks** and SJ Mazer (Co-PIs). REU supplements for Project Baseline- a seed bank for the study of evolution. NSF. Total award is \$21,825. Fordham amount is \$6,950. March 1, 2016- October 31, 2016.
- Etterson, JR (PI), **SJ Franks** and SJ Mazer (Co-PIs). REU supplements for Project Baseline- a seed bank for the study of evolution. Amount received: \$22,079 (Fordham amount: \$7,360). Funded by NSF (DEB- 1519635). Awarded January 2015.

Etterson, JR (PI), **SJ Franks** and SJ Mazer (Co-PIs). REU supplements for Project Baseline- a seed bank for the study of evolution. Amount received: \$20,000 (Fordham amount: \$6,645). Funded by NSF (DEB-1142784). Awarded March 2014.

External Grant Effort (not funded)

Franks, SJ (PI). Ecological and evolutionary responses to drought and competition in experimental plant populations. NSF. Amount requested: \$604,300. Submitted January 18, 2019.

Munshi-South, J (PI), **SJ Franks** (Co-PI). REU Site: Calder Summer Undergraduate Research (CSUR) Program in Urban Ecology and Evolution. NSF. Amount requested: \$346,672. Submitted August 23, 2017.

Munshi-South, J (PI), **SJ Franks** (Co-PI). REU Site: Calder Summer Undergraduate Research (CSUR) Program in Urban Ecology and Evolution. NSF. Amount requested: \$346,672. Submitted August 24, 2016.

Franks, SJ (PI), J Rest and NC Kane (Co-PIs). Preliminary Proposal: Genome-wide evolution following experimental drought in *Brassica rapa*. NSF. Submitted January 2017.

Franks, SJ (PI), J Rest and NC Kane (Co-PIs). Preliminary Proposal: Using Resurrection Genomics to Understand the Evolution of Flowering time and Drought Adaptation in *Brassica rapa*. NSF. Submitted January 2016.

Franks, SJ (PI). Using resurrection experiments and genomics to help understand the nature of evolution. The Templeton Foundation. Amount requested: \$205,404. Submitted February 2016.

Franks, SJ, JR Etterson, and SJ Mazer (PIs). Collaborative Research: CSBR: Living Stocks: Securing, improving, and distributing the Project Baseline collection, a time capsule of seeds. NSF. Amount requested: \$500,000

Franks, SJ (PI), J Rest and NC Kane (Co-PIs). Preliminary Proposal: The genetic basis of flowering time variation and evolution in *Brassica rapa*. NSF.

Franks, SJ (PI), J Rest and NC Kane (Co-PIs). The genetic basis of flowering time variation and evolution in *Brassica rapa*. NSF. Preliminary proposal submitted January 2013, invited to full proposal April 2013 (only 17% of preliminary proposal invited to full proposals). Full proposal submitted August 2013. Amount requested: \$1,248,508 (Fordham amount: \$571,315)

Franks, SJ (PI), CL Sagers, S Travers and N Kane (Co-PIs). Crop-wild hybridization, herbicide resistance and weed evolution. Our letter of intent was invited for a full proposal, to be submitted to the United States Department of Agriculture (USDA) February 19, 2013. This is a revision of a previously submitted proposal. Amount requested: \$500,000.

Wheeler, GS (PI), **SJ Franks**, D Williams and PA Stansly (Co-PIs). Genetic variation and selection dynamics of native and introduced populations of the invasive weed

Brazilian pepper (*Schinus terebinthifolius*). Our letter of intent was invited for a full proposal, submitted to the USDA February 19, 2013. This is a revision of a previously submitted proposal. Amount requested: \$500,000.

Franks, SJ (PI). Career: Rapid Evolution in *Brassica rapa* Fast Plants: A Model System in Research and Education. Submitted to NSF July 23, 2012. Total requested: \$673,968.

Rest, J (PI), **SJ Franks** and T Peever (Co-PIs). GEPR: Interactions between drought and pathogen responses in Brassica: A combined evolutionary and functional genomic perspective. Submitted to NSF March 2012. Total requested: \$516,405. This was a revision of a previously submitted proposal.

Franks, SJ (PI) and J Rest (Co-PI). Preliminary Proposal: The Genetic Basis of Flowering Time Variation and Evolution in an Annual Plant. Submitted to NSF January 2012.

Franks, SJ (PI), R Colautti (PI). Collaborative Research: A global field survey network to test hypotheses of plant invasions success. Submitted to NSF July 2011. Fordham amount requested: \$218,031.

Franks, SJ (PI), S Travers and CL Sagers (Co-PIs). Transgene escape and the evolution of herbicide resistance in feral weeds. Submitted to the USDA June 2011. Amount requested: \$500,000.

Wheeler, GS (PI), **SJ Franks** and D Williams (Co-PIs). Genetic variation and selection dynamics of native and introduced populations of the invasive weed Brazilian pepper (*Schinus terebinthifolius*). Submitted to the USDA Jun3 2011. Amount requested: \$500,000.

Rest, J and **SJ Franks** (Co-PI). GEPR: The genetic basis of plasticity and adaptive evolution in response to pathogens and drought in the annual plant *Brassica rapa*. Submitted to NSF February 2011. Amount requested: \$1,099,445.

Hekkala, E (PI) and **SJ Franks** (Co-PI). MRI: Acquisition of an Applied Biosystems 3730XL Genetic Analyzer for the Enhancement of Interdisciplinary Research and Training at Fordham University. Submitted to NSF January 2011. Amount requested: \$143,000.

Franks, SJ (PI) and A Litt (Co-PI). The Genetic Basis of an Evolutionary Response to an Environmental Change. Submitted to NSF July 2010. Amount requested: \$491,786. This was a revision of a previously submitted proposal.

Franks, SJ (PI), J Etterson (PI) and S Mazer (PI). Dimensions: Collaborative Research: Project Baseline, a living plant genome reserve for the study of evolution and biodiversity across taxa, space and time. Submitted to NSF June 2010. Fordham amount requested: \$589,412. This was a revision of a previously submitted proposal.

Franks, SJ (PI), J Etterson (PI) and S Mazer (PI). Collaborative Research: Project Baseline - A seed bank for the study of evolution. Submitted to NSF January 2010. Fordham amount requested: \$304,672.

Steven J. Franks, CV

Franks, SJ (PI). Fellowship, "Fulbright- A global approach to a global problem: Understanding plant evolution in response to climate change", Fulbright, Government - Federal, Submitted: July 2009.

Franks, SJ (PI) and A Litt (Co-PI). The Genetic Basis of an Evolutionary Response to Climate Change. Submitted to NSF July 2009. Amount requested: \$475,732.

Franks, SJ (PI). CAREER: Evolution of experimental lines of an annual plant in response to simulated climate change. Submitted to NSF July 2008. Amount requested: \$985,597.

Franks, SJ (PI). The effects of evolutionary responses to climate change on terrestrial population and ecosystem dynamic. Submitted to the Department of Energy (DOE) May 2009. Amount requested: \$125,000.

Franks, SJ (PI). Effects of climate change on the distribution and population dynamics of an invasive species. Submitted to the Department of Energy (DOE) May 2008. Amount requested: \$250,000.

Internal Support (funding received)

Fordham-NYU fellowship. 2018. Fordham University Research Office, \$5,000.

Research assistance award. 2017. Fordham University Research Office, \$10,000.

Publication assistance award. 2016. Fordham University Research Office, \$4,000.

The genetic basis of flowering time variation and evolution in an annual plant. Faculty Research Grant 2012. Amount received: \$6,500.

Candidate genes in flowering time evolution. Faculty Undergraduate Research Grant 2012. Amount received: \$9,966. This grant funded the summer stipend of one Fordham undergraduate student (Mohammed Hosen) and the research of 6 additional Fordham undergraduate students.

Gene flow over time following climate change. Faculty Research Grant 2010. Amount received: \$6,500. This grant funded stipends of two Fordham undergraduate students (Rebecca Lalchan and Kim Barnum).

The genetic basis of flowering time evolution. Faculty Research Grant 2008. Amount received: \$6,500.

Past Support

30 Grants totaling over \$60,000 from various sources (available on request)

Student Fellowships

2000-2002. National Estuarine Research Reserve Graduate Fellowship, NOAA.

1999. Catherine Beattie Fellowship for rare plant research, Garden Club of America.

1996-1999. University of Georgia Graduate School University-wide Fellowship.

PROFESSIONAL ACTIVITY

Panelist reviewing NSF grant proposals, Division of Environmental Biology, Evolutionary Processes. 2012.

Participant in NSF-funded Research Coordinated Network (RCN): Integrating ecological and evolutionary approaches to understanding biological invasions.

Society Memberships: American Institute of Biological Sciences, American Society of Naturalists, Botanical Society of America, Ecological Society of America, Society for the Study of Evolution.

Editor:

Associate editor for *Evolutionary Ecology* (September 1, 2018- present)

Guest editor for *American Journal of Botany* (January 1- Dec. 31, 2015)

Reviewer:

Journals: *Acta Oecologica*, *American Biology Teacher*, *American Journal of Botany*, *American Midland Naturalist*, *Annals of Botany*, *Biological Invasions*, *Biology Letters*, *BioScience*, *Canadian Journal of Botany*, *Climate Change*, *Conservation Genetics*, *Ecological Monographs*, *Ecology Letters*, *Ecoscience*, *Evolution*, *Evolutionary Applications*, *Functional Ecology*, *Global Change Biology*, *Heredity*, *Integrative and Comparative Biology*, *Journal of Applied Ecology*, *Journal of Ecology*, *Journal of the Torrey Botanical Society*, *Molecular Ecology*, *Molecular Phylogenetics and Evolution*, *Nature Reviews*, *New Phytologist*, *Oecologia*, *PeerJ*, *Perspectives in Plant Ecology, Evolution and Systematics*, *Philosophical Transactions of the Royal Society B*, *Plant Ecology*, *Plant Ecology and Evolution*, *Plant Systematics and Evolution*, *Proceedings of the National Academy of Science*, *Proceedings of the Royal Society B*, *Public Library of Science One*, *Restoration Ecology*, *Weed Technology*.

Book Publishers: Wiley & Sons.

Granting organizations: The National Science Foundation, The National Environmental Research Council, The Binational Science Foundation, The Danish Agency for Science, Florida Sea Grant, Genome British Columbia, Velux Stiftung, Ohio State University, **Fordham University (Faculty Research Grants)**

2004 Participant- Quantitative and Population Genetics workshops. The Summer Institute for Statistical Genetics, North Carolina State University, Raleigh, NC

2002 Participant- Molecular markers workshop (PCR, AFLP's, microsatellite development, cloning and screening). The University of Florida, Gainesville, FL

HONORS AND AWARDS

2019: Outstanding Externally Funded Research Award, Fordham University.

2019: Fordham-NYU Faculty Research Fellowship Award, Fordham University.
2012, 2014, 2015, 2016, 2017, 2018: Merit recognition, Fordham University
2010, 2016: Fordham Faculty Fellowship
2008- present: Honorary Research Associate, The New York Botanical Gardens
2007: Faculty of 1000 citation
2000-2002: NOAA Fellow
1999: Catherine Beattie Fellow
2002: Jaworski Memorial Excellence in Teaching Award
2001: Phi Kappa Phi
1998: Outstanding Teaching Assistant award
1998: Outstanding Mentoring award
1993: Degree with honors from Brown University
1992: Sigma Xi award

TEACHING EXPERIENCE

Courses taught at Fordham

Contemporary Evolution. Undergraduate, Fordham University. Created and taught for 3 semesters. This is a Manresa freshman seminar, and is an EP course.

Evolutionary Biology. Undergraduate, Fordham University. Taught for 3 semesters.

Grant Writing. Graduate, Fordham University. Taught for 3 semesters, co-taught for 3 additional semesters.

Ecology. Undergraduate, Fordham University. Taught for 10 semesters.

Ecology Lab. Undergraduate, Fordham University. Taught for 8 semesters.

Field Methods in Ecology. Graduate, Fordham University. Assisted with course, 2 semesters.

Ecological Genetics. Graduate, Fordham University. Created and taught 1 semester.

Molecular Ecology. Graduate, Fordham University. Taught 1 semester.

Biology Colloquium (3 semesters).

Guest lectures at Fordham

Ecology A Human Approach. Undergraduate, Fordham University.

Conservation Biology. Graduate, Fordham University.

Biological Concepts I. Undergraduate, Fordham University.

MENTORING EXPERIENCE

Postdoctoral Research Associates

2018- present. Mike Sekor, Volunteer Postdoctoral Research Associate, Fordham University.

2018 (Jan.- August.). Irina Calic, Postdoctoral Fellow, Fordham University. System genomics of rice stress adaptation. Funded by NSF.

2016- present. Elena Hamann, Postdoctoral Fellow, Fordham University. Funded by fellowship from the Swiss National Science Foundation to Elena Hamann (2016-2017) and then by NSF (2018-present).

2015. Niamh O'Hara, Postdoctoral Fellow, Fordham University. Project Baseline, Funded by NSF.

2012- 2015. Jenn Weber, Postdoctoral Fellow, Fordham University. Project Baseline, funded by NSF.

Graduate students supervised (10 students total, 9 Fordham students)

2018- 2019. Conor Gilligan. M.S. student, Fordham University. Received two Fordham Undergraduate Research Awards.

2016-present. Stephen Johnson, Ph.D. candidate, Fordham University.

2016- 2018. Hansol Lee, M.S. student, Fordham University. M.S. received in 2018.

2012- 2018. Acer VanWallendael, Ph.D. candidate, Fordham University. Evolutionary responses of the invasive plant *Fallopia japonica*. Acer received a McCloskey research grant from Fordham University. Ph.D. awarded in 2018.

2011- 2017. Beth Ansald, Fordham University. Reproductive ecology of *Triodanis*. Ph.D awarded in 2017.

2010-2017. Michael Sekor, Fordham University. Evolution of introduced genotypes of *Brassica rapa*. Mike has received a Schering Plough award and a Tamburro award from the Graduate School of Arts and Sciences at Fordham. Ph.D. awarded 2017.

2009-2014. Niamh O'Hara, Ph.D. Stony Brook University (co-supervised with Josh Rest). The evolution of pathogen resistance in *Brassica rapa* in response to climate change. Niamh was the recipient of an American Association of University Women (AAUW) Fellowship (2013-2014). Niamh received her Ph.D. in 2014.

2012- 2013. Larry Wells, M.S. student, Fordham University. Evolution of flowering time candidate genes.

2009- 2012. David Waring, M.S. student, Fordham University. The effects of urbanization on invasion and population dynamics in *Alliaria petiolata*. David received a Grellar Research Grant from the Torrey Botanical Society. David successfully earned his Fordham MS degree.

2009- 2012. Rachel Welt, M.S. student, Fordham University. The effects of climate change on gene flow and local adaptation in *Brassica rapa*. Rachel received a Sigma Xi grant. Rachel successfully earned her Fordham MS degree.

Graduate student committees (24 students total, 20 Fordham students)

2019- present. Molly McCargar, Ph.D. student, Fordham University

2018- present. Daniella Lemma, Ph.D. student, Fordham University.

2018-present. Michael Kausch, Ph.D. student, Fordham University.

2017- present. Elle Barnes, Ph.D. student, Fordham University.

2017- present. Liz Carlen, Ph.D. student, Fordham University.

2016- present. Stephen Gottschalk, Ph.D. student, Fordham University.

2016- present. Nicole Fusco, Ph.D. student, Fordham University.

2015- 2019. Matt Combs, Ph.D. student, Fordham University.

2015- 2017: Erin Dickman, M.S. student, UC Merced.

2015. Stephen Harris, Ph.D. student, CUNY.

2014-2018: Chelsea Butcher, Ph.D. student, Fordham University.

2014- 2017. Catharina Grubaugh, Ph.D. student, Fordham University.

2014- 2015: Becky Ravenelle, M.S. student, Fordham University.

2013-2017: Xiupeng Zhang, Ph.D. student, Fordham University.

2012-2015: Deena Lopez*, M.S. student, Fordham University.

2012: Alison Cucco, M.S. student, Fordham University.

2011: Joe Rozek, M.S. student, Fordham University.

2011-2014: Xian Wang, Ph.D. student, Fordham University.

2010: Huansheng Cao, Ph.D. student, Fordham University.

2010-2011: Kelly O'Donnell, Ph.D. student, Stony Brook University.

2010-2014: Seth Ganzhorn, Ph.D. student, Fordham University.

2008- 2013: Evelyn Fetridge, Ph.D. student, Fordham University.

2008-2009: Anne McDonough, M.S. student, Fordham University.

2005- 2010: Lucero Sevillano*, Ph.D. student, University of Miami.

*Minority or non-traditional student

Pre-graduate mentoring (122 students total, 59 Fordham students)

2019- present. Molly Dunn, Fordham University. CSUR student summer 2019.

- 2019- present. t'Jacques Guillot, Fordham University.
- 2019- present. Rachel Konshok, Fordham University.
- 2019- present. Monika Komza. Fordham University.
- 2018- 2019. Kayleigh Robertson. Fordham University. CSUR student summer 2018.
- 2018- present. Colleen Cochran. Fordham University. Colleen received a Fordham Summer Undergraduate Research Award for summer 2018 and summer 2019.
- 2018- present. Alexander Oruci. Fordham University.
- 2017- 2018. Conor Gilligan. Fordham University, CSUR student.
- 2017- 2018. Eryk Kropiwnicki, Fordham University.
- 2017- present. Johanna Neggie, Bronx Science (High school student).
- 2016- 2017. Adair Boudreaux, Fordham University. Evolution in fast plants.
- 2016- 2017. Sam Davey, Fordham University, Honors student. Seed aging.
- 2016- 2017. Joanna Flores. Fordham University. Herbarium phenology.
- 2016- 2017. Veronica Kot. Fordham University. Biology thesis student. Parks, pollution and human health.
- 2016- 2017. Stephanie Leo. Fordham University.
- 2016- 2017. Daniel Restifo, Fordham University. Fitness in knotweed.
- 2015- 2016. Angelica Storino. Fordham University.
- 2015- 2016. Ioannis (John) Stavrinoudis. Fordham University. Postbac.
- 2015- 2016. Xiaolu Ning, Fordham University. Germination in *Triodanis*.
- 2015- 2016. Maura Byrne, Fordham University. Defense chemistry of *Brassica rapa*.
- 2015- 2016. Gabrielle Cremone, Fordham University. Reproduction in *Triodanis*.
- 2015- 2017. Dominic Fogarasi, Fordham University. Honors student. Flow cytometry n in Janapese knotweed.
- 2015- 2016. Jacqueline Morin, Fordham University. Project Baseline.
- 2015- 2017. Siobhan Rueda, Fordham University. Project Baseline.
2015. Sayre Sundberg, Fordham University. Project Baseline.
2015. Arianna Collins, Temple University, CSUR student. Selection in *Penstemon*.
2015. Emily Kottler, Vassar College, REU student. Epigenetics in *Brassica rapa*.
- 2014- 2017. Paul Supple, Fordham University. Project Baseline.
- 2014- 2015. Naiem Habib, Fordham University. Evolutionary change in an introduced population.
- 2014- 2015. Aleksandar Popovic, Fordham University. Selection on germination in a novel environment.

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2014. Jodie Crose, Oklahoma State University, REU student. Project Baseline.
2014. Megan Bishop, Humboldt State University, REU student. Project Baseline.
- 2013-2015. Sandra Zajac, Fordham University. Evolution in experimentally introduced *Brassica rapa* plants.
- 2013- 2016. Alison Biltz, Fordham University. *Triodanis* reproductive ecology and germination. Alison was a student in the honors program and completed an honors thesis.
- 2013- 2014. Nick Dovgala-Carr, Fordham University. Fast plant genetics.
- 2013- 2014. Rahitul Bhuiyan, Fordham University.
- 2013- 2014. Henrique Valim, Fordham University. Plant chemical ecology.
- 2013- 2016. Colette Berg, Fordham University. Project Baseline, volunteer coordinating (NYBG and Rosedale Center), *Triodanis*, herbivory. Colette received a Fordham College Rose Hill undergraduate research grant.
- 2013- 2015. Gabriel Diaz, Fordham University. Project Baseline. Gabriel received a Fordham College Rose Hill undergraduate research grant.
- 2013- 2015. James Goehl, Fordham University. Evolution of ancestral *Brassica rapa* fast plants.
- 2013- 2014. Lauren Kawulicz, Fordham University. Project Baseline.
- 2013- 2016. Nick Genovese, Fordham University. *Brassica rapa* herbivory. Nick received a Fordham College Rose Hill undergraduate research grant and completed a senior thesis.
- 2013- 2016. Marissa Stockdale, Fordham University. *Brassica rapa* herbivory.
2013. Mohamed Sabour [HEOP], Fordham University. Project Baseline.
- 2013- 2014. Maren Toor, Fordham University. Maternal and paternal effects on seed characteristics in ancestral *Brassica rapa* fast plants.
2013. David Fajoyomi, Fordham University. Seed and reproductive traits, Project Baseline.
- 2013- 2015. Chris Yiachos, Fordham University. Evolution of ancestral *Brassica rapa* fast plants.
2013. Kevin Lee, Vassar College. CSUR student. Pollen limitation in *Penstemon digitalis*. Kevin will present the results of our research at the Emerging Researchers National STEM Conference in Washington, D.C. February 21, 2014.
2013. Dominick Congiusta, Fordham University. Multi-population characterization of garlic mustard seeds.
- 2013- 2014. Diana Shao, Fordham University. Variation in flowering time promoter genes. Received a Fordham University Summer Science Internship.
- 2012- 2013. Kathryn Posocco, Fordham University. Genetic differences in early and late flowering *Brassica rapa* plants.

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- 2012- 2013. Audrey Trainor, Fordham University. Comparing ancestral and descendant *Brassica rapa* fast plants.
- 2012- 2013. Richard Stewart, Fordham University. Optimizing pcr reactions in flowering time candidate genes.
- 2012- 2013. Taylor Batson, Fordham University. Experimental evolution in multiple stress responses in *Brassica rapa* Fast Plants. Taylor received both a Summer Science Internship Grant and an Undergraduate Research Grant from Fordham for this project. Taylor was a student in the honors program and completed an honors thesis.
- 2012- 2015. Kyle Clonan, Fordham University (CSUR student and student in lab). Germination in *Brassica rapa* and *Triodanis* plants.
- 2012- 2014. Mohammad Khan, Fordham University. Project Baseline, Global Garlic Mustard Field Survey.
- 2012- 2013. Mike Perlowitz, Fordham University. Project Baseline.
2012. Ellen George, Fordham University. Variation in the gene BrSOC1 and its effect on flowering time.
- 2011-2013. Ricky Barnum, Fordham University. Candidate gene association mapping of BrFLC5 in relation to flowering time variation within a population. Ricky received the Alan J. McCarthy prize in biological sciences.
- 2011-2013. Andrew Biello, Fordham University. Sequencing internal segments of the promoter region of BrFLC2.
- 2011- 2012. Molly Clements, Fordham University. Local adaptation and evolution of *Brassica rapa* plants in a novel environment.
- 2011-2013. Mohammed Hosen, Fordham University. BrFT genetic diversity and flowering time effects in *Brassica rapa*.
- 2011-2012. Ben Marsh, Fordham University. Characterization of the promoter region of the gene BrFLC1 and assessment of genetic changes at this locus following drought.
2011. Tyler Bleeker, CSUR student from Calvin College. Selection and adaptation of field mustard in a novel environment.
- 2009- 2012. Kevin Jordan, Fordham University. Predicting promoter regions of flowering time genes using bioinformatics. Resulted in 1 funded internal grant proposal, 1 presentation and 1 publication. Kevin has been awarded membership in Sigma Xi.
- 2010- 2012. Jacqueline Gutkin*, Fordham University. Bioinformatics of flowering time genetics in *Brassica rapa*.
- 2009- 2011. Kim Barnum, Fordham University. Examining control of flowering time genes in *Brassica rapa*. Resulted in 2 funded internal grant proposals. Kim received a Champion Scholarship from the Office of Prestigious Fellowships at Fordham University for work in my lab. Kim has been awarded membership in Sigma Xi.

Kim is also an author (with me) on a peer reviewed scientific publication of the results of her work in my lab.

- 2010- 2011. Lolita Feld, Fordham University. Using genetic tools to detect pathogens in *Brassica rapa* seeds and leaves.
- 2010- 2011. Jeanne Valente, Fordham University. Candidate gene association mapping of flowering time in *Brassica rapa*.
2010. India Brown*, Calder Center REU student from Fort Valley State University, Georgia. Expression in a flowering time gene. Co-mentored with Amy Litt, NYBG. Resulted in 1 presentation.
- 2009- 2010. Meagan Hicks*. High school student.
2009. Stacey Barnaby, Fordham University.
2009. Noelle Tudor, Fordham University.
- 2008- 2010. Rebecca Lalchan*, Fordham University. The effects of climate change on gene flow in *Brassica rapa*. (co-mentored with A Litt). Resulted in 4 presentations, data for 3 grant proposals (2 funded) and 1 publication. Rebecca also received a Senior Leadership award from Fordham University for work in my lab.
2008. Sandra Wheeler*, CSUR student from Fort Valley State University, Georgia. Growth and reproduction of *Alliaria petiolata* (garlic mustard) at an urban and a suburban site. Resulted in 2 presentations and 1 honors thesis.
- 2004-2007. Sheina Sim*, UC Irvine. Heritability of flowering time and ecological genetics of *Brassica rapa*. (co-mentored with A.E. Weis). Resulted in 1 publication (in PNAS), 6 presentations, 1 grant proposal (funded) and 1 honors thesis. Currently a Ph.D. student at Notre Dame.
- 2004-2007. Amanda Dick*, UC Irvine. Prospective and retrospective estimates of assortative mating in *Brassica rapa*. (co-mentored with A.E. Weis). Resulted in one publication (in prep.), 1 grant proposal (funded), 2 presentations and 1 honors thesis. Currently a Ph.D. student at John Hopkins.
- 2006-2007. Amit Karmar*, UC Irvine. The effect of precipitation fluctuations on flowering time in *Brassica rapa*. (co-mentored with A.E. Weis). Resulted in 1 presentation, 1 grant proposal (funded) and 1 honors thesis.
- 2005-2007. Julia Hoang, UC Irvine. Field-based estimates of assortative mating in *Brassica rapa*. (co-mentored with A.E. Weis). Resulted in 1 presentation and 1 honors thesis.
- 2005-2007. Elise Luong, UC Irvine. Heritability of flowering schedule traits of *Brassica rapa* in the field. (co-mentored with A.E. Weis). Resulted in 1 presentation and 1 honors thesis.
- 2005-2007. Katty Afshar, UC Irvine. Unexpected patterns of inheritance in two *Brassica rapa* fast plant mutant strains. (co-mentored with A.E. Weis). Resulted in 1 presentation and 1 honors thesis.

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- 2005-2007. Kevin Musser, UC Irvine. Heritability of flowering time after one generation of assortative mating in *Brassica rapa*. (co-mentored with A.E. Weis). Resulted in 1 presentation, 1 publication (in prep.), 1 grant proposal (funded) and 1 honors thesis.
- 2006-2007. Jason Lam, UC Irvine. The effects of assortative mating by flowering time on other phenological and morphological traits. (co-mentored with A.E. Weis). Resulted in 1 presentation, 1 grant proposal (funded) and 1 honors thesis.
- 2006-2006. Michael Nguyen, UC Irvine. Seed banks and gene flow through time in *Brassica rapa*. (co-mentored with A.E. Weis). Resulted in 1 presentation, 1 grant proposal (funded) and 1 honors thesis.
- 2004-2006. Esther Ko, UC Irvine. Phenotypic plasticity and flowering time in *Brassica rapa*. (co-mentored with A.E. Weis). Resulted in 4 presentations, 1 grant proposal (funded) and 1 honors thesis.
- 2004-2006. Phuong Le, UC Irvine. Physiology of drought tolerance and escape in *Brassica rapa*. (co-mentored with A.E. Weis). Resulted in 1 presentation and 1 honors thesis.
- 2004-2006. Angenele Ng, UC Irvine. Drought tolerance and plasticity in *Brassica rapa*. (co-mentored with A.E. Weis). Resulted in 1 presentation and 1 honors thesis.
- 2004-2006. Chris Herman, UC Irvine. Stratification and seed germination in *Brassica rapa*. (co-mentored with A.E. Weis). Resulted in 1 presentation, 1 grant proposal (funded) and 1 honors thesis.
- 2004-2006. Karo Torosia, UC Irvine. Competition and flowering time in *Brassica rapa*. (co-mentored with A.E. Weis). Resulted in 1 presentation and 1 honors thesis.
2005. Claudia Henriquez*, UC Irvine, visiting from UC Berkeley. Seed age and viability of natural seed banks in *Brassica rapa*. (co-mentored with A.E. Weis).
- 2004-2005. Phuong Tran, UC Irvine. Effects of photoperiod on flowering time of wild type and artificially selected *Brassica rapa*. (co-mentored with A.E. Weis). Resulted in 1 presentation, 1 grant proposal (funded) and 1 honors thesis.
- 2004-2005. Vinutha Chandra*, UC Irvine. Inheritance of accelerated flowering in rapid-cycling *Brassica rapa*: Looking for genotype-photoperiod interactions, dominance, and epistasis. (co-mentored with A.E. Weis). Resulted in 1 presentation, 1 grant proposal (funded) and 1 honors thesis.
- 2002-2003. Andrea Kral, USDA. Biological control insect herbivory on seedlings of *Melaleuca quinquenervia*. (co-mentored with P.D. Pratt). Resulted in 4 presentations and 1 publication.
- 2000-2002. Janine Cousins, The University of Georgia. Population genetics of *Uniola paniculata*. (co-mentored with J.L. Hamrick). Resulted in 4 presentations, 1 publication and 2 grant proposals (funded).
- Co-supervised (with A.E. Weis) 26 additional undergraduates (**43 total**) at UC Irvine: Chris Ardary, Tram Do, Christi Giang*, Lyndon Gonzalez*, Lynn Hua, Maggie Hui, Ann King*, France Lam, Chad Lationo, Ronny Le, Steve Lee, Gwen McClave,

Valerie Nguy, Annie Nguyen, Kristi Nguyen, Andrea Ogura, Shaliey Parekh*, Brian Park, Michael Popov, Jill Ramos, Peter Rath, Nina Reyes, Huma Siddiqui*, Manjinder Singh*, Ellen Thio, Kevin Yuan.

Co-supervised (with Paul Pratt) an additional 3 technicians (Sigfredo Gonzales*, Jenna Scheidigger and Marguerite Stetson), 2 post-graduate interns (Kirk Tonkel and Scott Wiggers), and one high school volunteer (Courtney Hopen).

*Minority or non-traditional student

Service

2018. External member of personnel committee, Psychology Department, Fordham.

2018, 2009. Faculty search committee member, Biology Department, Fordham.

2017. Faculty host at convocation for Gregory Long, C.E.O. of the New York Botanical Garden and honorary degree recipient.

2017- present. Member, Academic Integrity Committee, Fordham University.

2016- present. Calder management committee, the Calder Center, Fordham University.

2015- present. Biology majors curriculum committee member, Fordham University.

2015- present. Manresa advisor, Fordham University.

2014, 2015, 2016, 2018. Merit committee, Biology Department, Fordham University.

2013- 2015. Core Advisor, Fordham University.

2012- 2013. Sophomore Advisor, Fordham University.

2011- 2012: Freshman Advisor, Fordham University.

2009- present: Grader, graduate comprehensive exams.

2009- present: Graduate curriculum committee, Fordham University, Biology.

2007- 2009: Undergraduate curriculum committee member, Fordham University, Biology

Press and media

<https://news.fordham.edu/science/plants-adapt-to-climate-change-but-theres-a-catch/>

<http://www.molecularecologist.com/2016/08/the-genomics-of-rapid-adaptation/>

<http://www.popsci.com/california-drought-caused-plants-to-evolve-in-just-seven-years>

http://www.huffingtonpost.com/steve-franks2/climate-change-alters-gen_b_9690292.html

<http://news.fordham.edu/science/climate-change-drives-fast-genetic-changes-in-plants/>

<http://news.fordham.edu/science/pollen-ticks-and-unicorns-undergraduate-researchers-present-findings/>

Research reported on in over 100 media outlets, including Science, The New York Times, ABC News, Scientific American, and National Public Radio

Participated in ethnobotany show on Food Network- 2010

Gave a radio interview on WFUV- 2011

Interview on responses to climate change on weather.com- 2013

(<http://www.weather.com/news/science/environment/mostly-awful-climate-change-winners-20131009>)

SciArt in America (<http://read.uberflip.com/i/287619/3>)

National Geographic interview April 2014

(<http://news.nationalgeographic.com/news/2014/05/140506-climate-change-adaptation-evolution-coral-science-butterflies/>)

Interview with The Scientist, June 2014

Atlas Obscura, July 2015 (<http://www.atlasobscura.com/articles/lazarus-plants-why-3-million-seeds-are-being-sent-to-cold-storage-for-50-years>)

Sciences et Vie Découvertes, October 2015.

Synergistic activities

Coordinate research opportunities at the Rosedale Center in the Bronx, which focuses on promoting academic and personal achievement in young girls.

Participant in the LIGO project, which pairs scientists with artists who create works of art inspired by the research of the scientists. The art works were displayed at gallery in New York City January 2014. A video of the project can be seen at <http://vimeo.com/84741657>.

Participated in grant and fellowship for graduate students panel, Fordham University, October 10, 2015.

Participate in Manresa Scholars program, including enriching activities such as discussion dinners and service activities.