

**CURRICULUM VITAE**  
**Kimberly Nelson-Vasilchik**

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## **I. Personal History and Professional Experience**

### **A. Educational Background**

B.A.-Biological Sciences, 1998, State University of New York at Binghamton  
Binghamton, New York.

### **B. List of Academic and Industry Positions since Final Degree**

#### **The Plant Biotechnology Laboratory at The University of Rhode Island.**

(2008-present).

##### ***Research Scientist/Program Manager***

The Plant Biotechnology Laboratory (PBL) at The University of Rhode Island, is a grant funded research and educational laboratory with a focus on genetic improvement of plants using genomics, advanced breeding, tissue culture and genetic modification. The PBL maintains active programs in Research, Education, Outreach, and Industry Interactions. Responsibilities consist of: Business and Administration (see below); Laboratory Management including Planning and Preparation of Experimental Design, Purchasing, Grant Preparation and Administration, Human Resources, management of staff and undergraduate interns, travel planning, contributing to publications, grants, and patents. Additional responsibilities include: conducting research projects on genetic modification of rice, switchgrass, sorghum, and maize. Laboratory responsibilities include: *Agrobacterium*-mediated transformation experiments, Transient expression experiments via microprojectile bombardment, maintenance and regeneration of transgenic cell cultures, collection and preparation of DNA for Southern Blot Analysis, Southern Blot Analysis, PCR, Gel Electrophoresis, Gel Visualization, acclimating *in vitro* plants to greenhouse, Record and Maintain organized, neat scientific laboratory notebook. Personally responsible for establishing Switchgrass, Maize, Rice and Sorghum Transformation protocols.

#### **Lifeedu.us An Educational Non-profit Organization, West Kingston, Rhode Island.**

(2008-present).

##### ***Program Manager/Co-editor***

Lifeedu is a nonprofit organization established for the creation, production, and distribution of educational materials for middle school, high school, general university and college undergraduate students and the general public. Responsible for the Production and Co-editing of the On Campus and Online Versions of the University of Rhode Island's Biotechnology Class-*Issues in Biotechnology*. This class currently enrolls 100 students/semester on campus and 100 students/semester online. Solely responsible for the implementation of the Online Version of this class through the University of Rhode Island. The course, *Issues in Biotechnology*, (BCH 190) is intended for a broad audience.

#### **Plant Advancements, Inc. An Agricultural Biotechnology Company, West Kingston, RI**

(2007-2008)

##### ***Research Associate/Laboratory Manager***

Plant Advancements, Inc. is an early stage agricultural biotechnology company developing innovative Hybrid Plant Breeding Systems. Plant Advancements has a strong association with a well-established seed company, (Ernst Conservation Seeds, Inc.) and has developed capacities for genomics assisted breeding, licensing of new varieties and a substantial R&D program. Responsible for day to day laboratory management including Planning and Preparation of Experiments, Maintaining Laboratory Supply Inventory. Maintain cell cultures, Prepare growth Media, Plan & Perform plant transformation experiments, Keep accurate and up to date safety logs and MSDS records, Keep chemical and supply inventory, Collection and Preparation of DNA for Southern Blot Analysis, Southern Blot Analysis, PCR, Gel Electrophoresis, Gel Visualization, acclimate *in vitro* plants to greenhouse, record and Maintain organized, neat scientific laboratory notebook. Personally responsible for

establishing Maize and Switchgrass Transformation for bio-fuel development.

**HybriGene, Inc An Agricultural Biotechnology Company, West Kingston, RI**

(2000 – 2007)

***Research Associate II***

HybriGene Inc was an agricultural biotechnology company with a focus on genetic improvement of grasses and cereal crops. Responsibilities included: Laboratory establishment, and functioning., Maintenance of plant cell cultures, Preparation of cell culture growth media; Planning and performance of plant transformation experiments; Laboratory notebook, reporting and laboratory record keeping; Maintenance of accurate and up to date safety logs and MSDS records; Keeping chemical and supply inventory, Collection and Preparation of DNA for Southern Blot Analysis, Southern Blot Analysis, PCR, Gel Electrophoresis, Gel Visualization, acclimate in vitro plants to greenhouse, record and Maintain organized, neat scientific laboratory notebook. Turfgrass and Rice Transformation.

**AgriBioTech, Inc. An International Seed Company**

(1999-2000)

***Research Assistant I***

AgriBioTech, Inc was an international seed company that attempted to consolidate a fragmented seed market, which eventually spun off HybriGene Inc (see above) Responsibilities included: Laboratory Startup; Maintain cell cultures, Planning Perform plant transformation experiments, Perform gel electrophoresis, Acclimate in vitro plants to greenhouse, Record and maintain organized, neat scientific notebook. Alfalfa, Turfgrass and Arabidopsis Transformation.

**II. Business and Administrative Experience.**

**As Program Manager for the Plant Biotechnology Laboratory:** Provided leadership, strategic planning, and day-to-day management of the fiscal, laboratory, administrative, and business functions at the Plant Biotechnology Laboratory (PBL). Basic functions also include management of personnel (as above), organization of laboratory functions, preparation of written materials; including publications, patents, grant proposals and quarterly and annual reports. Provided oversight and mentoring of the fiscal/administrative staff and functions for the PBLs Center's project collaborations including CIAT, Yale University, Harvest Plus and Plant Advancements. Basic business functions include, as the financial and budgetary organizer for the Plant Biotechnology Laboratory, maintaining an annual average budget of over \$2,100,000 annually. Basic laboratory functions include oversight of laboratory management and operations. Worked with the PBL Director in strategic and financial planning, revenue projection, fundraising and grant writing. Developed complex, multi-year budgets for multi-million dollar proposals for collaborative projects, and produce all supporting documentation required by the donor Request for Proposal.

Assisted in the recruitment and hiring of scientific research assistants and associates, student interns and post-docs, and once hired, provide in-person, training to these staff in the fiscal, contractual, and reporting requirements of the federal agencies, private foundation donor(s) and the University.

Served as the primary liaison with the University's Office of Sponsored Projects Review and the University's fiscal offices (Grant and Contract Accounting, Budget, Controller, Purchasing), and the University's Legal Counsel to identify creative solutions that allowed for response to the needs of scientific projects and collaborations, and adhered to the rules and regulations of the University, the state of Rhode Island, and the donor (primarily CIAT, Cali Colombia) for the international projects

(NSF BREAD and Gates Foundation). In addition these responsibilities included other Federal agencies (DOE, USDA, NIFA, etc.) and/or private foundations such as the Gates Foundation).

Experience with management of grant and donation funds from Federal and government agencies, and the private sector. Played a lead role in periodic audits the University may make of the PBLs project accounts. Experience with reporting across various project activity categories, deliverables, and budget maintenance. Excellent verbal and written English communication skills; demonstrated availability to work effectively in a team environment with minimal supervision; experience working with funding and/or granting agencies across the public, private, and government sectors. High level of competency using Microsoft Excel to develop complex budgets that rely on the use of linked worksheets, macros and other sophisticated computation functions.

### III. Awards

1. **Staff Excellence Award**, University of Rhode Island, College of the Environment and Life Sciences, May 2009.
2. **Inventor of the Year**, University of Rhode Island, College of the Environment and Life Sciences, January 2013.

### IV. Publications

1. Hong Luo, Qian Hu, Kimberly Nelson, Chip Longo, Albert P. Kausch, Joel M. Chandlee, Joseph K. Wipff and Crystal Rose Fricker (2004) *Agrobacterium tumefaciens*-mediated creeping bentgrass (*Agrostis stolonifera* L.) transformation using phosphinothricin selection results in a high frequency of single-copy transgene integration. Plant Cell Reports 22:645-652.
2. Hong Luo, Qian Hu, Kimberly Nelson, Chip Longo and Albert P. Kausch (2004) Controlling transgene escape in genetically modified grasses. In: Molecular Breeding of Forage and Turf, Hopkins A, Wang ZY, Mian R, Sledge M and Barker R (eds.), Kluwer Academic Publishers, Dordrecht/Boston/London, pp. 245-254.
3. Hong Luo, Qian Hu, Kimberly Nelson, Chip Longo, Joel M. Chandlee and Albert P. Kausch, (2005) *Agrobacterium tumefaciens*-mediated turfgrass transformation. In: Methods in Molecular Biology – Agrobacterium Protocols (2<sup>nd</sup> edition), Wang K (ed.) The Humana Press Inc., Totowa, NJ
4. Hong Luo, Albert P. Kausch, Qian Hu, Kimberly Nelson, Joseph K. Wipff, Crystal C. R. Fricker, T. Page Owen, Maria A. Moreno, Jang-Yong Lee and Thomas K. Hodges (2005) Controlling transgene escape in GM creeping bentgrass. Molecular Breeding 16:185-188.
5. Hong Luo, Jang-Yong Lee, Qian, Hu, Kimberly Nelson, Albert P. Kausch, Joel M. Chandlee, Tim K. Eitas, Collin Lickwar, Thomas K. Hodges (2005) *RTS*, an anther-specific gene isolated from rice is required for male fertility and its promoter sequence directs tissue-specific transcription in dicotyledonous species. Plant Molecular Biology 62:397-408.
6. Qian Hu, Kimberly Nelson, David Viola, Collin Lickwar, JM Chandlee, Thomas K. Hodges and Hong Luo (2005) FLP-mediated site-specific DNA recombination for use in hybrid rice production. Plant Biotechnology Journal.
7. Qian Hu, Kimberly Nelson, Hong Luo (2006) FLP-mediated site-specific recombination for genome

modification in turfgrass. *Biotechnology Letters* 28:1793-1804.

8. Longo, C.; Lickwar, C.; Hu, Q.; Nelson-Vasilchik, K.; Viola, D.; Hague, J.; Chandlee, J.; Luo, H.; Kausch, A. Turf Grasses. In *Agrobacterium Protocols Volume 2*; Wang, K., Ed. Humana Press: 2007; Vol. 344, pp. 83-95.
9. Qian Hu, Halina Kononowicz-Hodges, Kimberly Nelson-Vasilchik, David Viola, Peiyu Zeng, Haibo Liu, Albert P. Kausch, Joel M. Chandlee, Thomas K. Hodges, Hong Luo (2008) FLP-mediated site-specific recombination in rice. *Plant Biotechnology Journal* 6:176-188 (Featured on the Journal cover page).
10. Kausch, A.P., J. Hague, A. Deresienski, M. Tilelli, C. Longo and K. Nelson. (2011) *Male Sterility and Hybrid Plant Systems for Gene Confinement In Plant Gene Containment*. M. Oliver and Y. Li (2011) John Wiley and Sons, Inc. New York, New York
11. Hague J, Dellaporta S, Moreno M, Longo C, Nelson K, and Kausch AP. (2012) Pollen Sterility - A Promising Approach to Gene Confinement and Breeding for Genetically Modified Bioenergy Crops. *Agriculture 2*: 295-315
12. Kausch, AP, Hague, J, Deresienski A, Tilelli M, Longo C, and Nelson, K (2012) Male Sterility and Hybrid Plant Systems for Gene Confinement. In *Plant Gene Containment*; 1st ed.; Oliver, M. J.; Li, Y., Eds.; Wiley-Blackwell: Ames, IA, USA, pp. 83-98.
13. Kausch, AP, Hague, J, Deresienski A, Tilelli M, Longo C, and Nelson, K (2013) Issues in Biotechnology: A Massive Open Online Course (MOOC) Covering in Simple Terms Basic Knowledge About DNA and Biotechnology INTED Proceedings.
14. Kausch, A. Nelson, K., Hague, J., Longo, C., Moreno, M.A., and S. Dellaporta, (2013). Optimization of tissue culture and genetic transformation of switchgrass (*Panicum virgatum* L.). *Plant Cell Reports* (in preparation).
15. Deresienski, A., K. Nelson, J. Hague, and A.P. Kausch. (2013) Use of an herbicide resistance selectable marker for recovery of intraspecific and interspecific hybrids in switchgrass (*Panicum virgatum* L.). *Nature Biotechnology* (in preparation)

## V. Patents

1. Hong Luo, Qian Hu, Kimberly Nelson, Albert P. Kausch (2001) Methods and compositions for the use of site-directed recombination in transgenic turfgrass plants and their progeny. Assignee: HybriGene Inc. USA Patent Office Application.
2. Hong Luo, Qian Hu, Kimberly Nelson, Chip Longo, Albert P. Kausch (2002) Methods and compositions for the prevention of transgene escape in genetically modified plants. Assignee: HybriGene Inc. USA Patent Office Application.
3. Hong Luo, Qian Hu, Kimberly Nelson, Chip Longo, Albert P. Kausch (2002) Methods and compositions for the prevention of transgene escape in genetically modified turfgrass. Assignee: HybriGene Inc. USA Patent Office Application.
4. Hong Luo, Qian Hu, Kimberly Nelson, Chip Longo, Albert P. Kausch (2005) The production of herbicide resistant male sterile turfgrass and their progeny. Assignee: HybriGene Inc. USA Patent Office

Application.

5. Hong Luo, Qian Hu, Kimberly Nelson, Chip Longo, Albert P. Kausch (2009) Prevention of transgene escape in genetically modified perennials. Assignee: HybriGene Inc. USA Patent Office (Application). PCT/US03/03594.

6. Kausch AP, Hague, J, Deresienski, A, Tilelli, M, and Nelson, K (2013) The use of genetically modified plants for recovery of non-genetically modified hybrids from wide crosses. United States Patent Application. US 2013/004769 Assignee; University of Rhode Island.

7. Kausch AP, Hague, J, Deresienski, A, Tilelli, M, and Nelson, K (2013) In Situ Embryo Rescue as a Method for Recovery of Wide Crosses. United States Patent Application. US 2013/005832 Assignee; University of Rhode Island.

## **VI. Presentations in Meetings, Conferences and Symposia**

1. A. Kausch, J. Hague, L. Perretta and K. Nelson (2013), Agricultural Biotechnology: A Massive Open Online Course (MOOC) Module Covering in Simple Terms Basic Knowledge About DNA and Plant Biotechnology Plant Biology 2013, Annual Meetings of the American Society of Plant Biologist, July 20-24, Providence, Rhode Island, USA.

2. J. Hague, M. Tilelli, D. Cunha, K. Nelson and A. Kausch, (2013), In Situ Embryo Rescue as a Novel Method for Recovery of Non-GMO Hybrids from Wide Crosses Plant Biology 2013, Annual Meetings of the American Society of Plant Biologist, July 20-24, Providence, Rhode Island, USA.

3. A. Kausch, A. Deresienski, J. Hague, M. Tilelli, K. Nelson (2012), Issues in Biotechnology: An Online General Education Undergraduate Course Covering Simple Terms Basic Knowledge About DNA and Biotechnology. Plant Biology 2012, Annual Meetings of the American Society of Plant Biologist, July 20-24, Austin, TX, USA.

4. J. Hague, A. Deresienski, M. Tilelli, K. Nelson, A. Kausch (2012), The Analysis of Expression Characteristics of the Maize Pollen Specific Promoter MPSP Zm13 And A Strategy for Gene Confinement in Transgenic Bioenergy Crops. Plant Biology 2012, Annual Meetings of the American Society of Plant Biologist, July 20-24, Austin, TX, USA.

5. A. Deresienski, K. Nelson, M. Tilelli, J. Hague, A. Kausch (2012), Use of a Herbicide Resistance Selectable Marker for Recovery of Intraspecific and Interspecific Hybrids in Switchgrass. Plant Biology 2012, Annual Meetings of the American Society of Plant Biologist, July 20-24, Austin, TX, USA.

6. K. Nelson, A. Deresienski, M. Tilelli, J. Hague, A. Kausch (2012), A Project-based Undergraduate Internship Program in Agricultural Biotechnology. Plant Biology 2012, Annual Meetings of the American Society of Plant Biologist, July 20-24, Austin, TX, USA.

7. M. Tilelli, K. Nelson, A. Deresienski, J. Hague, A. Kausch (2012), Use of a Selectable Marker for In Situ Embryo Rescue using Transgenic Switchgrass for Recovery of Wide Crosses. Plant Biology 2012, Annual Meetings of the American Society of Plant Biologist, July 20-24, Austin, TX, USA.

8. A. Deresienski, K. Nelson, J. Hague, A.P. Kausch (2009), Male sterility as a method for constructing wide crosses and for gene confinement in switchgrass and other biofuels grasses. Plant Biology 2009, Annual Meetings of the American Society of Plant Biologists, July 18-22, Hawaii, USA.

9. K. Nelson, J. Hague, A. Deresienski and A.P.Kausch (2009), Improved methods for tissue culture and genetic transformation of switchgrass. *Plant Biology* 2009 , Annual Meetings of the American Society of Plant Biologists, July 18-22, Hawaii, USA.
10. Jang-Yong Lee, Thomas K. Hodges, Tim. K. Eitas, Colin. Lickwar, Qian Hu, Kimberly Nelson, Albert P. Kausch, Joel M. Chandlee and Hong Luo (2004), *RTS*, an anther-specific gene isolated from rice is required for male fertility and its promoter sequence directs tissue-specific transcription in dicotyledonous species. *Plant Biology* 2004, Annual Meetings of the American Society of Plant Biologists, July 24-28, Florida, USA.
11. Qian Hu, Kimberly Nelson, Peiyu Zheng, Colin Lickwar, Albert P. Kausch, Joel M. Chandlee and Hong Luo (2004), Stable expression of yeast FLP site-specific recombinase in rice. *Plant Biology* 2004, Annual Meetings of the American Society of Plant Biologists, July 24-28, Florida, USA.
12. Hong Luo, Qian Hu, Kimberly Nelson, Chip Longo and Albert P. Kausch (2004) Strategies for prevention of transgene escape in genetically modified perennials. The 55<sup>th</sup> annual meeting of the American Institute of Biological Sciences, March 16-18, Washington D.C., USA.
13. Qian Hu, Kimberly Nelson, Peiyu Zheng, Colin Lickwar, Albert P. Kausch, Joel M. Chandlee and Hong Luo (2004), FLP-mediated site-specific DNA recombination in rice. 68<sup>th</sup> Annual meeting of Northeast Section of the American Society of Plant Biologists, June 4-5, Providence, USA.
14. Jang-Yong Lee, Thomas K. Hodges, Tim. K. Eitas, Colin. Lickwar, Qian Hu, Kimberly Nelson, Albert P. Kausch, Joel M. Chandlee and Hong Luo (2004), Isolation and characterization of *RTS*, a tapetum-specific gene in rice (*Oryza sativa* L.). 68<sup>th</sup> Annual meeting of Northeast Section of the American Society of Plant Biologists, June 4-5, Providence, USA.
15. Hong Luo, Qian Hu, Kimberly Nelson, Chip Longo and Albert P. Kausch (2003) Controlling transgene escape in genetically modified grasses. *Plant Biology* 2003, Annual Meetings of the American Society of Plant Biologists, July 25-30, Hawaii, USA.
16. Hong Luo, Qian Hu, Kimberly Nelson, Chip Longo and Albert P. Kausch (2003) Controlling transgene escape in genetically modified grasses. Oral presentation in the Molecular Breeding of Forage and Turf, Third International Symposium, May 18-22, Dallas, Texas, USA.
17. Qian Hu, Kimberly Nelson, Albert P. Kausch and Hong Luo (2001) FLP-mediated site-specific DNA recombination in grass cells. *Plant Biology* 2001, Quadrennial Joint Annual Meetings of the American Society of Plant Biologists and the Canadian Society of Plant Physiologists, July 21-25, Providence, USA.
18. Chip Longo, Yuexia Wang, Qian Hu, Hong Luo, Kimberly, Nelson, Chhandak Basu, Joel M. Chandlee and Albert P. Kausch (2001) Reliable transformation of grasses. *Plant Biology* 2001, Quadrennial Joint Annual Meetings of the American Society of Plant Biologists and the Canadian Society of Plant Physiologists, July 21-25, Providence, USA.

**References:**

(Available on Request)

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