

## **Curriculum Vita**

### **Diane Janick-Buckner, Ph.D.**

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#### **Education**

1978-82            B.A. in Biology with Departmental Honors, Gettysburg College, Gettysburg, PA  
1982-87            Ph.D. in Cell Biology, University of Vermont, Burlington, VT  
1987-1990        Postdoctoral Research Associate, Department of Biochemistry and Biophysics,  
Iowa State University, Ames, IA

#### **Professional Positions**

2004-            Professor of Biology, Truman State University, Kirksville, MO  
1999-2006        Coordinator of Pre-medical Student Advising, Truman State University, Kirksville, MO  
1996-2004        Associate Professor of Biology, Truman State University, Kirksville, MO  
1990-1996        Assistant Professor of Biology, Truman State University, Kirksville, MO  
Spring 1989      Instructor, Department of Biology, Drake University, Des Moines, IA.

#### **Teaching and Advising Awards**

Nominated for Truman's Educator of the Year Award (1991-92, 2003-04, 2004-05 Academic Years)  
Finalist for Truman's Educator of the Year Award (1992-93, 1996-97, 1999-00 and 2001-02 Academic Years)  
Recipient of Order of Omega's "Golden Apple Teaching Award" (1996-97 Academic Year)  
Who's Who among American University Professors (1997)  
Recipient of Truman's chapter of the American Medical Student Association's "Golden Apple Award" (2000-2001 Academic Year)  
Nominated for William O'Donnell Lee Advising Award (1995-96 Academic Year)  
Recipient of William O'Donnell Lee Advising Award (2001-02 Academic Years)  
Nominated for Truman's Allen Award (2003-04, 2004-05, 2005-06, 2006-07 Academic Years)  
Recipient of Truman's Walker and Doris Allen Faculty Fellowship (2006-07 Academic Year)  
Recipient Truman's Allen Award for Faculty Excellence (2006-07 Academic Year)

#### **Courses Taught at Truman State University**

Biology for Non-majors (BIOL 100), Introductory Biology for Majors I (BIOL 107), Cell Biology (BIOL 200), Cytology (BIOL 505), Immunology (BIOL 520), Cancer Biology (BIOL 518), Advanced Cell Biology (BIOL 518), Senior Biology Seminar (BIOL 545), Biology Graduate Seminar I & II (BIOL 606)

#### **Publications** (\*undergraduate authors)

- 1. Janick-Buckner D**, Ranges GE and Hacker MP. 1989 Alteration of bronchoalveolar cells following bleomycin treatment in mice. *Toxicology and Applied Pharmacology*: **100**: 465-473.
- 2. Janick-Buckner D**, Ranges GE and Hacker MP. 1989 Depletion of T-lymphocyte subpopulations does not alter pulmonary fibrosis caused by intratracheal bleomycin in C57BL/6J mice. *Toxicology and Applied Pharmacology*. **100**: 474-484.
- 3. Janick-Buckner D** and Warner CM. 1990 An analysis of major histocompatibility antigen expression on C57BL/6 lymphocytes during aging. In, *Genetic Effects on Aging II* (D. Harrison, ed.), The Telford Press, Caldwell, NJ.

4. **Janick-Buckner D**, Briggs CW, Meyer TE, Harvey N and Warner CM. 1991 Major histocompatibility complex antigen expression on lymphocytes from aging strain A mice. *Growth, Development and Aging*. **55**: 53-62.
5. **Janick-Buckner D**, Barua AB and Olson JA. 1991 Induction of HL-60 cell differentiation by water-soluble and nitrogen containing conjugates of retinoic acid. *FASEB Journal*. **5**: 320-325.
6. Barua AB, Furr HC, **Janick-Buckner D** and Olson JA. 1993 Simultaneous analysis of individual carotenoids, retinol, retinyl esters, and tocopherols in serum by isocratic non-aqueous reverse phase high pressure liquid chromatography. *Food Chemistry*. **46**: 419-424.
7. Armstrong MJ, **Janick-Buckner D**, Harvey N, Briggs CJ and Warner CM. 1993 Lymphocyte aging in bone marrow chimeras. *Growth, Development and Aging*. **57**: 251-260.
8. Buckner B, San Miquel P, **Janick-Buckner D** and Bennetson J. 1996 Molecular characterization of the *Y1* gene of maize. *Genetics*. **143**: 479-488.
9. **Janick-Buckner D**. 1997 Getting undergraduates to critically read and discuss primary literature: an approach used in an advanced cell biology course. *Journal of College Science Teaching*. **27**: 29-32.
10. Buckner B, **Janick-Buckner D**, Gray J and Johal GS. 1998 Cell-death mechanisms in maize. *Trends in Plant Science*. **3**: 218-223.
11. **Janick-Buckner D**, Hammock JD\*, Johnson JM\*, Osborn JM and Buckner B. 1999 Biochemical and ultrastructural analysis of the *y10* mutant of maize. *Journal of Heredity* **90**: 507-513.
12. Buckner B, GS Johal and **Janick-Buckner D**. 2000 Cell death in maize. *Physiologia Plantarum* **108**: 231-239.
13. **Janick-Buckner D**, O'Neal JM\*, Joyce EK\* and Buckner B. 2001 Genetic and biochemical analysis of the *y9* gene of maize, a carotenoid biosynthetic gene. *Maydica* **46**: 41-46.
14. Gray J<sup>§</sup>, **Janick-Buckner D**<sup>§</sup>, Buckner B and Johal GS. 2002 Light-dependent death of maize *lls1* cells is mediated by mature chloroplasts. *Plant Physiology* **130**: 1-14.
15. Beck J, Buckner B, Nikolova O\*, and **Janick-Buckner D**. 2007 Using interdisciplinary bioinformatics undergraduate research to recruit and retain computer science students. Accepted to *SIGCSE Bulletin*.
16. Buckner B, Beck J, Browning, K\*, Hoxha E\*, Grantham L\*, Kamvar Z\*, Lough A\*, Nikolova O\*, and Schnable PS, Scanlon MJ, and **Janick-Buckner D**. 2007 Involving undergraduates in the annotation and analysis of global gene expression studies: creation of a maize shoot apical meristem expression database. *Genetics* **176**: 741-747.
17. Zhang X, Nettleton D, Buckner B, **Janick-Buckner D**, Beck J, Timmermans MC, Schnable PS and Scanlon MJ. 2007 Meristem laser microdissection reveals domain-specific gene expression during maize leaf development. *PLoS Genetics*. **3**: 1040-1052.
18. Ohtsu K, Smith M, Emrich SJ, Borsuk LA, Zhou R, Chen T, Zhang X, Timmermans MPC, Beck J, Buckner B, **Janick-Buckner D**, Nettleton DS, Scanlon MJ and Schnable PS. Global gene expression analysis of the shoot apical meristem of maize (*Zea mays* L.). *Plant Journal*. (Epub: 2007-08-30. Epub ahead to print)
19. Buckner B, Swaggart KA\*, Wong CC\*, Smith HA\*, Aurand KM\*, Scanlon MJ, Schnable PS, **Janick-Buckner D**. 2008 Expression and Nucleotide Diversity of the Maize *RIK* Gene. *Journal of Heredity*. **99**: 407-16.

#### **Manuscripts Submitted** (\*undergraduate authors)

- Kangas J\*, Beck J, Buckner B, **Janick-Buckner D**. Automated functional annotation using artificial neural networks and an iteratively developed vocabulary. Submitted *Bioinformatics*.
- Huang H, Slewinski T, Baker F, **Janick-Buckner D**, Buckner B, Johal G, Braun D. Camouflage patterning in maize leaves results from a defect in porphobilinogen deaminase. Submitted to *Plant Journal*.

Brooks L, Strable J, Zhang X, Ohtsu K, Zhou R, Sarkar A, Hargreaves S, Eudy D, Pawlowska T, Janick-Buckner D, Buckner B, Timmermans MCP, Schnable PS, Nettleton D, Scanlon MJ. Microdissection of Shoot Meristem Functional Domains. Submitted to *Plant Cell*.

### **Manuscripts in Preparation** (\*undergraduate authors)

Buckner B, Dove C\*, Manton C\*, O'Connell R\*, Spencer CR\*, Scanlon MJ, Schnable PS, **Janick-Buckner D**. Expression and Nucleotide Diversity of the Maize *fas1* Paralogs. In preparation for *Journal of Heredity*.

Ma Z, Cooper C, **Janick-Buckner D**. A study of Rubisco through western blotting and tissue printing techniques. In preparation for *Cell Biology Education*.

### **Newsletter Articles** (\*undergraduate authors)

1. Buckner, B and **Janick-Buckner D**. 1994 Distribution of carotenoids and *Y1* mRNA in maize kernels. *Maize Genetics Cooperation Newsletter*. **68**: 45-46, 1994.

2. Buckner B, Bonds LA\* and **Janick-Buckner D**. 1994 Carotenoid content in the endosperm of pale yellow and white kernels that are homozygous for a recessive allele of *Y1*. *Maize Genetics Cooperation Newsletter*. **68**: 46-47, 1994.

**Reviewer** for *Journal of College Science Teaching*, *Journal of Biological Education* and *Journal of Heredity, Genetics*

### **External Grants**

Co-Principal Investigator on NSF Proposal *Genomic Analyses of Shoot Meristem Function in Maize*. Michael J. Scanlon, Cornell University, head principal investigator.

Co-Principal Investigator on NSF Award DBI-0321595, *Functional Analyses of Genes Involved in Meristem Organization and Leaf Initiation in Maize*, Michael J. Scanlon, Cornell University, head principal investigator.

Participated in the Educational Outreach Component of NSF Award DBI-0110168, *Evolution and Expression of Mitochondrial Genomes in the Genus Zea*, Kathy Newton, University of Missouri-Columbia, head principal investigator.

### **Presentations by Undergraduate Research Students**

**Sharon Reeves**, "The effect of retinoids on B cell antibody production," Truman Undergraduate Research Conference, 1992

**Kelly Felkins**, "Effects of retinoic acid on major histocompatibility complex molecule expression in WEHI-3 cells," Truman Undergraduate Research Conference, 1993

**Lian Bonds**, "Analysis of carotenoids in the endosperm of maize ears segregating for a 12:3:1 ratio of yellow, pale yellow and white kernels," Truman Undergraduate Research Conference, 1994

**Kathleen Eubanks-Meng**, "Effects of gamma interferon and retinoic acid on the expression of MHC glycoproteins," Truman Undergraduate Research Conference, and Missouri Academy of Sciences, 1995

**David Kolwyck**, "Effects of retinoic acid on lipopolysaccharide stimulated mononuclear spleen cells," Truman Undergraduate Research Conference, 1995

**Tom Leeper**, "Cytostatic effects induced in mouse T-cells by extracts of *Impatiens sp.*"

Truman Undergraduate Research Conference and Missouri Academy of Sciences, 1994 & 1995

**Mindy Steiniger**, "The effects of *impatiens sp.* extracts on the delayed-type hypersensitivity reaction caused by the poison ivy antigen, urushiol," Truman Undergraduate Research Conference and National Conference on Undergraduate Research, Asheville, NC, 1996

**Shawn Degler**, “Effects of gamma interferon and retinoic acid on MHC glycoprotein expression,” Truman Undergraduate Research Conference and National Conference on Undergraduate Research, Asheville, NC, 1996

**Janet O’Neal**, “Genetic and biochemical analyses of the *y9* and *y12* genes of maize demonstrate that they are allelic,” Maize Genetics Conference, Clearwater Beach, FL, 1997

**John Hammock**, “Biochemical analysis of the *y10* mutant of maize,” Maize Genetics Conference, Clearwater Beach, FL, 1997

**Jennifer Johnson**, “Biochemical analysis and complementation of the *y10* mutant of maize,” National Conference on Undergraduate Research, Austin, TX, 1997

**Justin Cox**, “Characterization of the *camouflage 1* mutant of maize,” Maize Genetics Conference, Couer de’Alene, ID, 2000

**Danielle Slater and Kimberly Cressman**, “Assessment of Rubisco Degradation in Response to Wound-Induced Programmed Cell Death in Plants,” Truman Undergraduate Research Conference, 2001

**Matthew Hardee and Brittan Hallar**, “Cell death in the *lethal leafspot1* mutant of maize and its ortholog in sorghum, *dropdead1*,” Truman Undergraduate Research Conference, 2002

**Brittan Hallar**, “Cell death in the *lethal leafspot1* mutant of maize and its ortholog in sorghum, *dropdead1*,” National Conference on Undergraduate Research, Whitewater, WI, 2002, & Maize Genetics Conference, Lake Geneva, WI, 2003

**Jacqueline Weiss**, “Isolation of an *fbx6*-like gene from maize: an *F-box* gene family member,” Maize Genetics Workshop, Mexico City, Mexico, 2004

**Kristen Haley**, “Photosynthetic pigment levels in cell death mutants,” Truman Student Research Conference, 2004

**Michael Ravenscraft**, “Isolation of a maize *FBX6* cDNA from shoot apical meristem,” Truman Student Research Conference, 2004

**Lisa Schell and Jacqueline Weiss**, “Analysis of maize mutants: differential protein expression in *camouflage1* plants,” Truman Student Research Conference, 2004

**Jacqueline Weiss**, “Cloning and tissue-expression studies of a *kanadi4-like* gene from *Zea mays*,” Maize Genetics Conference, Lake Geneva, WI and Truman Student Research Conference, 2005

**Christopher Spencer**, “Isolation and expression studies on a *fasciata1*-like gene in maize.” Maize Genetics Conference, Lake Geneva, WI and Truman Student Research Conference, 2005

**Benjamin Schmidt**, “DNA Sequence Diversity at a *SHAGGY*-like Gene among Inbred Lines and Open-Pollinated Landraces of Maize,” Truman Student Research Conference, 2005

**Ryan Douglas**, “DNA Sequence Diversity at an *ANGUSTIFOLIA*-like Gene among Inbred Lines and Open-pollinated Landraces of Maize,” Maize Genetics Conference, Lake Geneva, WI and Truman Student Research Conference, 2005

**Ashley Lough and Lisa Grantham**, “Global gene expression patterns in the maize shoot apical meristem,” Maize Genetics Conference and Truman Student Research Conference, 2006

**Ashley Lough**, “Global gene expression patterns in the maize shoot apical meristem.” Capitol Poster Day, Jefferson City, MO, 2006

**Lisa Grantham**, “Global gene expression patterns in the maize shoot apical meristem,” Tri-Beta Regional Conference, 2006

**Olga Nikolova**, “Gene Expression and Visualization Application (GENEVA): Development and Use in Shoot Apical Meristem Gene Expression Analysis,” Maize Genetics Conference, Pacific Grove, CA and Truman Student Research Conference, 2006

**Lisa Grantham and Olga Nikolova**, “Global gene expression patterns in the maize shoot apical meristem; creation of a maize shoot apical meristem database,” Applied Biotechnology Research Group, CIMMYT, Texcoco, Mexico, August 2005

**Christopher Spencer**, “DNA sequence diversity of the *fasciata1* paralogs among inbred lines and open-pollinated landraces,” Maize Genetics Conference, Pacific Grove, CA and Truman Student Research Conference, 2006

**Heath Smith**, “DNA sequence diversity of the *zeaxanthin epoxidase* paralogs among inbred lines and open-pollinated landraces,” Maize Genetics Conference, Pacific Grove, CA and Truman Student Research Conference, 2006

**Kate Browning and Ashleigh Fritz**, “Functional analysis of genes involved in meristem organization and leaf initiation,” Applied Biotechnology Research Group, CIMMYT, Texcoco, Mexico, August 2006

**Kate Browning, Ashleigh Fritz, Eneda Hoxha and Zhian Kamvar**, “Annotation and Analysis of Global Gene Expression Studies: Creation of a Maize Shoot Apical Meristem Expression Database” Maize Genetics Conference, St. Charles, IL and Truman Student Research Conference, 2007

**Kayleigh Swaggart, Cheryl Wong, Heath Smith and Kelsey Aurand**, “Bioinformatic, Expression and DNA Sequence Diversity Characterization of Two Shoot Apical Meristem Expressed Genes,” Maize Genetics Conference, St. Charles, IL and Truman Student Research Conference, 2007

**Cheryl Wong, Kayleigh Swaggart, Heath Smith and Kelsey Aurand**, “DNA Sequence Diversity of the Gene Encoding the Rough Sheath2 Interacting KH Domain Protein among Inbred Lines and Open-pollinated Landraces,” Maize Genetics Conference, St. Charles, IL and Truman Student Research Conference, 2007

**Joshua Kangas**, “Automated Functional Annotation of Maize Genes Using Artificial Neural Networks for Literature Analysis,” Society for Mathematical Biology Conference, San Jose, CA, 2007; Truman Student Research Conference, 2008 and Midwest Section of ASPB Meetings, Ames, IA, 2008

**Rebecca O'Connell, Christopher Dove, Kimberly Ingersoll and Christa Manton**. “Characterization of KH Domain Genes in *Zea mays*.” Truman Student Research Conference, 2008

**Rebecca O'Connell, Christopher Dove and Christa Manton**. “Annotation and Analysis of Global Gene Expression Studies: Creation of a Maize Shoot Apical Meristem Expression Database,” Midwest Section of ASPB Meetings, Ames, IA, 2008

**Eneda Hoxha**. “Functional Annotation of Genes Differentially Regulated in the Shoot Apical Meristem and Analysis of Potential Maize SUMO Proteins,” Truman Student Research Conference, 2008

### Invited Talks

“The Truman Shoot Apical Meristem (SAM) Project: A Collaboration between Biology and Computer Science Faculty and Students,” Truman State University Biology Seminar Series, September 15, 2006

“Involving undergraduates in the annotation and analysis of global gene expression studies: creation of a maize shoot apical meristem expression database”, Keynote Speaker, Plant Biology Retreat, Washington University of St. Louis, October 20, 2006

### Additional Professional Presentations (last 5 years)

Gray J, **Janick-Buckner D**, Greenberg J, and Johal G. “The cell death suppressing function of *lls1*, (*lethal leaf-spot 1*) involves protecting chloroplast integrity.” Maize Genetics Conference, 2001

Huang M, Buckner B, **Janick-Buckner D**, Johal G, and Braun D. “*camouflage1* patterning results from a defect in the chlorophyll biosynthetic pathway.” Maize Genetics Conference, 2005

Zhang X, Ohtsu K, Brooks L, Smith M, Buckner B, Nettleton D, **Janick-Buckner D**, Timmermans M, Scanlon M, Schnable P. “Global expression analyses of genes involved in meristem organization and leaf initiation.” Maize Genetics Conference, 2005

Huang M, Buckner B, **Janick-Buckner D**, Johal G, Braun D. “Molecular study of *camouflage1*, a gene involved in the chlorophyll biosynthesis pathway,” Maize Genetics Conference, 2006

Ohtsu K, Smith M, Lu P, Borsuk L, Beck J, Buckner B, **Janick-Buckner D**, Timmermans MCP, Scanlon MJ, Nettleton D, Schnable PS, “A Global Analysis Of Gene Expression In Histological Layers Of The Shoot Apical Meristem Of Maize,” Plant & Animal Genomes XV Conference, 2007

Ohtsu K, Smith M, Borsuk L, Lu P, Emrich S, Zhou R, Chen T, Zhang X, Jin H, Chen H, Brooks L, Beck J, Buckner B, **Janick-Buckner D**, Timmermans MCP, Scanlon MJ, Nettleton D, Schnable PS. “Global

Expression Analyses of Genes Involved in Meristem Organization and Leaf,” Maize Genetics Conference, 2007

### **Workshop**

Buckner B, Parikh A\* and **Janick-Buckner D**. An introduction to navigating protein and nucleic acid databases. Association of College and University Biology Educators Annual Meeting, Kirksville, MO, 2003

### **Additional Conferences Attended (last 5 years)**

Plant and Animal Genome Conference, San Diego, CA, January 2005

Plant Meristems Conference, Iowa State University, Ames, IA, June 2005

### **Service Activities (Academic Year of Activity)**

AMSA faculty advisor (1998-present)

Biology Bachelor of Arts Learning Plan Committee (1994-95 to present)

Biology Curriculum Committee (1992-93, 1993-94, 1995-96 and 1996-97)

Cell Biology Faculty Search Committee (1994-95 Chair, 1995-96, and 1996-97)

Developmental Biology Faculty Search Committee (1992-93 Chair, 1993-94)

Physiology Faculty Position Search Committee (1990-91, 1991-92, 1992-93)

Plant Physiology Faculty Position Search Committee, chair (2003-04)

Organismal Biology Faculty Search Committee (2005-06)

Focus on Excellence: Science in a Liberal Arts University (1992-93, 1993-94, 1994-95)

Institutional Animal Care and Use Committee (1991-92 to present)

Masters Thesis Committee Member (Claravon Mathews, Sharon Reeves, Ping Che, Gretchen Wagner, Yutao Liu, Cheri Dunham, Ashley Siegel)

Masters Thesis Advisor (Jaqueline Weiss, Christopher Spencer)

Mentor for New Biology Faculty Member (1992-93, 1995-96, 1999-00, 2005-06)

North Central Accreditation Planning Subcommittee (1993-94)

Roundtable Discussion on Gender and Minority Issues in Science (1996-97, Chair)

Senior Biology Seminar Coordinator (1996-97, 1998-99)

Steering Committee for CO-PLAC Biology Meeting (1994-95)

Women's Resource Center Advisory Board (1995-96, 1996-97)

Science Division's Promotion, Evaluation and Tenure Document Review Committee (1996-97 Chair, 2000-01)

Division of Science Undergraduate Research Proposal Review Committee (1998-99 Chair, 1999-00 Chair, 2000-01 Chair)

Truman's Coordinator of University of Missouri School of Medicine's Bryant Scholars (1999-present)

Truman's Coordinator of Kirksville College of Osteopathic Medicine's Pre-Osteopathic Scholars (1999-present)