

CURRICULUM VITAE

Name: David William Galbraith

Title: Professor Emeritus, School of Plant Sciences

Education: Cambridge University, England. BA Biochemistry, 1973.
Cambridge University, England. MA, Biochemistry, 1976.
Cambridge University, England. PhD, Biochemistry, 1977.

ORCID: 0000-0003-4020-1635

Professional Experience

1976-78: NATO Science Research Fellowship, Department of Biological Sciences, Stanford University.

1978-82: Assistant Professor, Section of Genetics, Molecular and Cellular Biology, School of Biological Sciences, University of Nebraska-Lincoln.

1982-1988: Associate Professor, Sections of Genetics, Molecular and Cellular Biology and of Molecular Plant Biology, School of Biological Sciences, University of Nebraska-Lincoln.

1989: Professor, School of Plant Sciences, University of Arizona.
Member, Arizona Cancer Center.

1999-2012: Director, Arizona Microarray Laboratories.

2003: Professor and Member, Bio5 Institute.

2003-2017: Member, BME Graduate Interdisciplinary Program.

2017: Professor, Department of Biomedical Engineering.

2023: Director, School of Plant Sciences.

2024: Emeritus Professor, University of Arizona.,

Honors

Selected for Scholarship and College Prize, Jesus College, and to the Benn W. Levy Research Studentship, Department of Biochemistry, Cambridge University, 1973.

Selected for NATO Science Research Fellowship, 1976.

Invited Panel Review Member, USDA Competitive Grants Program, Genetic Mechanisms for Crop Improvement, 1983-85.

Editorial Board member Plant Physiology (1985-88), and Plant Molecular Biology Reporter (1985-87).

Specialty Chief Editor, Section of Genomic Assay Technologies, Frontiers in Genetics 2011-2015.

Invited lecturer at the Gordon Conferences (Plant Tissue Culture), Plymouth, June 1985.

Invited participant in a NSF-Japan joint biotechnology workshop, Honolulu, June 1986.

Plenary lecturer, Third Annual Conference of the French Association for Flow Cytometry, Gif-sur-Yvette, November 1986.

Invited participant in a DOE sponsored workshop: Analysis of plant chromosomes and genomes, Los Alamos National Laboratory, November 1986.

Invited participant in a NSF Interkingdom Workshop: Membrane Traffic and Recycling in Eukaryotes, Tampa, May 1988.

Invited instructor at an EMBO Practical Course: Flow cytometry and sorting in molecular biology, Cologne, August, 1988, September, 1989, and September, 1991.

Invited organizer and chair of a Concurrent Session on Plant Sciences at the XVth Congress of the International Society for Analytical Cytology, Asheville, South Carolina, March 1990.

Invited discussant at the Gordon Conferences (Plant Molecular Biology), Plymouth, June 1990.

Invited NSF review team member, visiting Mexico City, Cuernavaca and Irapuato, July 1990.

Organizational Committee member, International Society for Plant Molecular Biology Congress, October 1991.

Invited plenary speaker, Rocky Mountain Cytometry Association Biennial Meeting, Vail, Colorado, October 1991.

Associate Editor, Cytometry, June 1992-present.

Invited organizer and chair of a Workshop Session on Other Life Forms at the XVII Congress of the International Society for Analytical Cytology, Colorado Springs, March 1993.

Invited instructor: Short Course in Plant Flow Cytometry, Casaccia, Rome, November 1994.

Invited organizer and chair of a Symposium Session on Analysis of Molecular and Cellular Interactions at the XVIII Congress of the International Society for Analytical Cytology, Rimini, Italy, April 1996.

Member, Publications Committee of the International Society for Analytical Cytology, 1996-2002.

Member, Scientific Advisory Committee of the International Society for Analytical Cytology, 1996-2002; 2008-2010.

Chair, Scientific Advisory Committee of the International Society for Analytical Cytology, 2002-2004.

Member, Organizational Committee, XIX Congress of the International Society for Analytical Cytology, Colorado Springs, February 1998.

Invited instructor, Second International School And Conference on Flow and Image Cytometry, Jagiellonian University, Krakow, Poland, June 1998.

Invited instructor, Annual Royal Microscopical Society Flow Cytometry Course, Sheffield University, England, September 1998.

Invited instructor, Biennial Course in Flow Cytometry, Los Alamos National Laboratory (1999-2007), University of New Mexico, Albuquerque (2009-date), June 1999, June 2001, June 2003, June 2005, June 2007, June 2009, June 2011, June 2013, June 2015.

Invited plenary speaker, Chips to Hits '99, Berkeley, November 1999.

Invited Frontiers plenary speaker, ISAC XX, Montpellier, France, May 2000.

Elected Councilor, International Society for Analytical Cytology, 2000-2004.

Invited plenary speaker, Brazil International Genome Conference, Agrados Reis, Brazil, March 2001.

Invited plenary speaker, Plant, Animal and Microbe Genomes X Conference, San Diego, January 2002.

Invited Cytomics plenary speaker, ISAC XXI, San Diego, May 2002.

Invited plenary speaker, 2nd Virtual Conference on Genomics and Bioinformatics, Washington, D.C., September 2002.

Invited plenary speaker, Queenstown Molecular Biology Meeting, Queenstown, New Zealand, September 2002.

Elected Fellow, American Association for the Advancement of Science, February 2003.

Invited plenary speaker, Maize Genetics meeting, Lake Geneva, March 2003.

Invited keynote speaker, 2nd National Congress in Analytical Cytology, Brno, Czech Republic, May 2003.

Invited plenary speaker, 1st International Cytomics Conference, Cardiff, Wales, May 2003.

Invited plenary speaker, SEB Symposium, Durham, England, July 2003.

Founder Fellow, Arizona Arts, Sciences and Technology Academy, January 2004.

Invited plenary speaker, 1st Annual ACPFG Research Symposium, Adelaide, Australia, October 2004.

Invited keynote speaker, Victorian Microarray Technology Consortium, Melbourne, Australia, May 2005.
 Invited organizer and instructor, 1st Portuguese Microarray Workshop, The University of Trás-os-Montes and Alto Douro, Vila Real, Portugal, June 2005.
 Founding Associate Editor, *Plant Methods*, 2005.
 Invited instructor, Biennial National Flow Cytometry Course, Bowdoin College, Maine, June 2006, June 2008, June 2010, June 2012, June 2014, June 2016, June 2018.
 Invited instructor, Second Plant Microarray Short Course, Boston, August 2006.
 Invited speaker, Gordon Conference, Mt. Holyoke College, Massachusetts, August 2006.
 Invited keynote speaker, Annual Meeting of the Czech Society for Analytical Cytology, Brno, Czech Republic, June 2007.
 Invited organizer and instructor, 2nd Portuguese Microarray Workshop, The University of Trás-os-Montes and Alto Douro, Vila Real, Portugal, October 2007.
 Invited organizer and chair of a Workshop on Plant Genomics at the XXIV Congress of the International Society for Analytical Cytology, Budapest, Hungary, May 2008.
 Invited keynote speaker, DGfZ (German Cytometry Society) Annual Meeting, Leipzig, Germany, October 2009.
 Invited keynote speaker, GIC (Italian Cytometry Society) Annual Meeting, Ferrara, Italy, October 2009.
 Invited keynote speaker, IVth International Congress in Flow Cytometry, Bogota, Colombia, May 2010.
 Invited keynote speaker, Microbial Single Cell Genomics Workshop 2010, Bigelow Laboratory, Boothbay Harbor, Maine, September 2010.
 Invited symposium speaker, CYTO 2011: XXVIth Congress of the International Society for Advancement of Cytometry, Baltimore, May 2011.
 Invited keynote speaker, SUMMIT 2011: Inaugural meeting of the Southern California Flow Cytometry Association, Los Angeles, November 2011.
 Invited keynote speaker - CellTech 2013 - Flow Cytometry, San Diego, January 2013.
 Invited instructor, QIMR flow cytometry methods course and workshop, Queensland Institute for Medical Research, July 2013.
 Invited keynote speaker. PepTalk 2014, Palm Springs, January 2014.
 Invited keynote speaker, SEFCIG Annual Meeting, Atlanta, March 2015.
 Elected secretary, International Society for Advancement of Cytometry, May 2016.
 Appointed International Academic Master, 111 Program in Plant Stress Biology, at Henan University, Kaifeng, China, April, 2017.
 Appointed Honorary Dean, School of Life Sciences, Henan University, December, 2018.
 Invited instructor, Biennial National Flow Cytometry Course, Wisconsin Institute for Medical Research, Madison, June 2019, June 2022.
 Invited keynote speaker, FlowCOWS (Cytometrists of Western States) First Annual Meeting, Scottsdale, February 2020.
 Appointed member of the International Advisory Board of the Balqees Akhtar Plant Technology Institute, Lahore, Pakistan, June 2021.

Professional Affiliations

International Society for Advancement of Cytometry.
 American Society of Plant Biologists.
 American Association for the Advancement of Science.

Publications (Google Scholar 23,738 citations; H-index 71)

1. Galbraith, D.W. (1977). Membranes of soybean callus. Ph.D. thesis. University of Cambridge. 214 pp.

2. Galbraith, D.W., and Northcote, D.H. (1977). The isolation of plasma membranes from protoplasts of soybean suspension cultures. *Journal of Cell Science* 24:295-310.
3. Galbraith, D.W., and Galbraith, J.E.C. (1979). A method for the identification of fusion of plant protoplasts derived from tissue cultures. *International Journal of Plant Physiology* 93:149-158.
4. Galbraith, D.W., and Mauch, T.J. (1980). Identification of fusion of plant protoplasts II. *International Journal of Plant Physiology* 98:129-140.
5. Galbraith, D.W., and Mauch, T.J. (1980). Somatic hybridization of higher plants. *What's New in Plant Physiology* 11:21-24.
6. Galbraith, D.W. (1981). Identification and sorting of plant heterokaryons. U. S. Dept. of Commerce Patent 4,300,310.
7. Galbraith, D.W., Mauch, T.J., and Shields, B.A. (1981). Analysis of the initial stages of plant protoplast development using 33258 Hoechst: reactivation of the cell cycle. *Physiologia Plantarum* 51:380-386.
8. Galbraith, D.W. (1981). Microfluorometric quantitation of cellulose biosynthesis by plant protoplasts using Calcofluor White. *Physiologia Plantarum* 53:111-116.
9. Galbraith, D.W., and Shields, B.A. (1982). The effects of inhibitors of cell wall synthesis on tobacco protoplast development. *Physiologia Plantarum* 55:25-30.
10. Galbraith, D.W., and Harkins, K.R. (1982). Cell sorting as a means for isolating somatic hybrids. In: *Plant Tissue Culture 1982* (A. Fujiwara, ed.) Maruzen Press, Tokyo, pp. 617-618.
11. Galbraith, D.W., Harkins, K.R., Maddox, J.R., Ayres, N.M., Sharma, D.P., and Firoozabady, E. (1983). Rapid flow cytometric analysis of the cell cycle in intact plant tissues. *Science* 220:1049-1051.
12. Sharma, D.P., Firoozabady, E., Ayres, N.M., and Galbraith, D.W. (1983). Improvement of anther culture in *Nicotiana*: media, culture conditions and flow cytometric determination of ploidy levels. *International Journal of Plant Physiology* 111:441-450.
13. Harkins, K.R., and Galbraith, D.W. (1984). Flow sorting and culture of plant protoplasts. *Physiologia Plantarum* 60:43-52.
14. Galbraith, D.W. (1984). Selection of hybrid cells by fluorescence- activated cell sorting. In: *Cell Culture and Somatic Cell Genetics of Plants* (I.K. Vasil, ed.) Academic Press, N. Y., pp. 433-447.
15. Galbraith, D.W. (1984). Flow cytometric analysis of the cell cycle in higher plants. In: *Cell Culture and Somatic Cell Genetics of Plants* (I.K. Vasil, ed.) Academic Press, N. Y., pp. 765-777.
16. Firoozabady, E., and Galbraith, D.W. (1984). Transformation of plant protoplasts by *Agrobacterium* does not require an intact plant cell wall. *Plant Cell, Tissue and Organ Culture* 3:175-188.
17. Galbraith, D.W., Afonso, C.L., and Harkins, K.R. (1984). Flow sorting and culture of protoplasts: Conditions for high-frequency recovery and growth of sorted protoplasts of suspension cultures of *Nicotiana*. *Plant Cell Reports* 3:151-155.
18. Afonso, C.L., Harkins, K.R., Thomas-Compton, M., Krejci, A., and Galbraith, D.W. (1985). Production of somatic hybrid plants through fluorescence-activated sorting of protoplasts. *Nature Biotechnology* 3:811-816.
19. Shoemaker, R.C., Couche, L., and Galbraith, D.W. (1986). Callus induction, somatic embryogenesis and plant regeneration in cotton (*Gossypium hirsutum* L.). *Plant Cell Reports* 3:178-181.
20. Harkins, K.R., and Galbraith, D.W. (1987). Factors governing the flow cytometric analysis and sorting of large biological particles. *Cytometry* 8:60-71.
21. Keeler, K.H., Kwankin, B., Barnes, P.W., and Galbraith, D.W. (1987). Polyploid polymorphism in big bluestem (*Andropogon gerardii* Vitman). *Genome* 29:374-379.
22. Shoemaker, R.C., Christofferson, S.E., and Galbraith, D.W. (1987). Storage protein accumulation patterns in somatic embryos of cotton (*Gossypium hirsutum* L.). *Plant Cell Reports* 6:12-15.
23. Meyer, D.J., Afonso, C.L., Harkins, K.R., and Galbraith, D.W. (1987). Analysis of plant plasma membrane antigens. In: *Plant Membranes: Structures, Function and Biogenesis* (C. J. Leaver, H. Sze, eds.). UCLA Symposia on Molecular and Cellular Biology, New Series, 63:123-140.
24. Galbraith, D.W., Harkins, K.R., and Jefferson, R.A. (1988). Flow cytometric characterization of the chlorophyll contents and size distributions of plant protoplasts. *Cytometry* 9:75-83.
25. Meyer, D.J., Afonso, C.L., and Galbraith, D.W. (1988). Isolation and characterization of monoclonal antibodies directed against plant plasma membrane and cell wall epitopes: Identification of a

- monoclonal antibody that recognizes extensin and analysis of the process of epitope biosynthesis in plant tissues and cell cultures. *Journal of Cell Biology* 107:163-175.
26. Galbraith, D.W. (1989). Flow cytometry and cell sorting: applications to higher plant systems. *International Review of Cytology* 116:165-227.
 27. Galbraith, D.W. (1989). Flow cytometric analysis and sorting of somatic hybrid and transformed protoplasts. In: *Biotechnology in Agriculture and Forestry* Vol. 9, Plant Protoplasts and Genetic Engineering (Y.P.S. Bajaj, ed.). Springer-Verlag, New York, pp. 304-327.
 28. Harkins, K.R., Jefferson, R.A., Kavanagh, T.A., Bevan, M.W., and Galbraith, D.W. (1990). Expression of photosynthesis-related gene fusions is restricted by cell-type in transgenic plants and in transfected protoplasts. *Proceedings of the National Academy of Sciences U.S.A.* 87:816-820.
 29. Fox, M.H., and Galbraith, D.W. (1990). The application of flow cytometry and sorting to higher plant systems. In: *Flow Cytometry and Cell Sorting* (M.R. Melamed, T. Lindmo, M.L. Mendelsohn, eds.), John Wiley, N. Y.: pp. 633-650.
 30. Galbraith, D.W. (1990). Isolation and flow cytometric characterization of plant protoplasts. In: *Methods in Flow Cytometry* (Z. Darzynkiewicz, H. Crissman, eds.), *Methods in Cell Biology* 33:527-547.
 31. Galbraith, D.W. (1990). Flow cytometric analysis of plant genomes. In: *Methods in Flow Cytometry* (Z. Darzynkiewicz, H. Crissman, eds.), *Methods in Cell Biology* 33:549-562.
 32. DeRocher, E.J., Harkins, K.R., Galbraith, D.W., and Bohnert, H.J. (1990). Developmentally-regulated systemic endopolyploidy in succulents with small genomes. *Science* 250:99-101.
 33. Galbraith, D.W. (1991). Fluorescence-activated cell sorting of protoplasts and somatic hybrids. In: *Plant Tissue Culture Manual: Fundamentals and Applications* (J.M. Brevis, ed.), Kluwer Academic Publishers, Dordrecht, D5:1-19.
 34. Galbraith, D.W., Harkins, K.R., and Knapp, S. (1991). Systemic endopolyploidy in *Arabidopsis thaliana*. *Plant Physiology* 96:985-989.
 35. Galbraith, D.W., Zeiher, C.A., Harkins, K.R., and Afonso, C.L. (1992). Biosynthesis, processing and targeting of the G-protein of Vesicular Stomatitis Virus in tobacco protoplasts. *Planta* 186:324-336.
 36. Galbraith, D.W. (1992). Large particle sorting. In: *Flow Cytometry and Cell Sorting* (A. Radbruch, ed.), Springer-Verlag, Berlin, pp. 189-204.
 37. Bharathan, G., Lambert, G., and Galbraith, D.W. (1994). Nuclear DNA content of monocotyledons and related taxa. *American Journal of Botany* 81:381-386.
 38. Galbraith, D.W. (1994). Flow cytometry and sorting of plant protoplasts and cells. In: *Methods in Flow Cytometry, Second Edition* (Z. Darzynkiewicz, H. Crissman, J.P. Robinson, eds.), *Methods in Cell Biology* 42: 539-561, Academic Press, San Diego.
 39. Afonso, C.L., and Galbraith, D.W. (1994). The callus associated protein (CAP) gene of *Nicotiana tabacum*: Isolation, characterization, and evidence for possible function as a transcriptional factor. *In Vitro Cell and Developmental Biology (Plants)* 30:44-54.
 40. Zilmer, N.A., Rodriguez, J.J., Yopp, T.A., Lambert, G.M., and Galbraith, D.W. (1995). Flow cytometric analysis using digital signal processing. *Cytometry* 20:102-117.
 41. Galbraith, D.W., Bohnert, H.J., and Bourque, D.P. (1995). Methods in Plant Cell Biology (part A) (editors). *Methods in Cell Biology* Volume 49, Academic Press.
 42. Galbraith, D.W., Bourque, D.P., and Bohnert, H.J. (1995). Methods in Plant Cell Biology (part B) (editors). *Methods in Cell Biology* Volume 50, Academic Press.
 43. Galbraith, D.W., Grebenok, R.J., Lambert, G.M., and Sheen, J. (1995). Flow cytometric analysis of transgene expression in higher plants: Green Fluorescent Protein. *Methods in Cell Biology* 50:3-12.
 44. Sheen, J., Hwang, S., Niwa, Y., Kobayashi, H., and Galbraith, D.W. (1995). Green fluorescent protein as a new vital marker in plant cells. *Plant Journal* 8:777-784.
 45. Godavarti, M., Rodriguez, J.J., Yopp, T.A., Lambert, G.M., and Galbraith, D.W. (1995). Neural network analysis of digital flow cytometric data. *Proceedings of the IEEE International Conference on Neural Networks* vol. 5 (Perth, Australia), Nov./Dec. 1995, pp. 2211-2216.
 46. Galbraith, D.W., and Lambert, G.M. (1996). Advances in the flow cytometric characterization of plant cells and tissues. In: *Flow Cytometric Applications in Cell Culture* (M. Al-Rubeai and A. N. Emery, eds.), Marcel Dekker, New York, pp. 311-326.

47. Gong, F.-C., Giddings, T.H., Meehl, J.B., Staehelin, L.A., and Galbraith, D.W. (1996). Z-membranes: artificial organelles for over-expressing recombinant integral membrane proteins. *Proceedings of the National Academy of Sciences U.S.A.* 93:2219-2223.
48. Grebenok, R.J., Galbraith, D.W., Benveniste, I., and Feyereisen, R. (1996). Ecdysone 20-mono-oxygenase, a cytochrome P450 enzyme from spinach, *Spinacia oleracea*. *Phytochemistry* 42:927-933.
49. Godavarti M., Rodriguez, J.J., Yopp, T.A., Lambert, G.M., and Galbraith, D.W. (1996). Automated particle classification based on digital acquisition and analysis of flow cytometric pulse waveforms. *Cytometry* 24:330-339.
50. Grebenok, R.J., Pierson, E.A., Lambert, G.M., Gong, F.-C., Afonso, C.L., Haldeman-Cahill, R., Carrington, J.C., and Galbraith, D.W. (1997a). Green-Fluorescent Protein fusions for efficient characterization of nuclear localization signals. *Plant Journal* 11:573-586.
51. Shen, Z., Corbin, D.R., Greenplate, J.T., Grebenok, R.J., Galbraith, D.W., and Purcell, J.P. (1997). Studies on the mode of action of cholesterol oxidase on insect midgut membranes. *Archives of Insect Biochemistry and Physiology* 34:429-442.
52. Grebenok, R.J., Galbraith, D.W., and Della Penna, D. (1997b). Characterization of *Zea mays* endosperm C-24 sterol methyltransferase: one of two types of sterol methyltransferase in higher plants. *Plant Molecular Biology* 34:891-896.
53. Grebenok, R.J., Lambert, G.M., and Galbraith, D.W. (1997c). Characterization of the targeted nuclear accumulation of GFP within the cells of transgenic plants. *Plant Journal* 12:685-696.
54. Galbraith, D.W. (1998). Miniatis? *Trends in Plant Science* 3:157-158.
55. Galbraith, D.W., Dolezel, J., Lambert, G., and Macas, J. (1998). DNA and ploidy analyses in higher plants. *Current Protocols in Cytometry* (J.P. Robinson *et al.*, eds.), Wiley, New York, pp 7.6.1 - 7.6.22.
56. Schmelz, E.A., Grebenok, R.J., Galbraith, D.W., and Bowers W.S. (1998). Damage-induced accumulation of phytoecdysteroids in spinach: a rapid root response involving the octadecanoic acid pathway. *Journal of Chemical Ecology* 24:339-360.
57. Macas, J., Nouzova, M., and Galbraith, D.W. (1998). Adapting the Biomek 2000 Laboratory Automation Workstation for printing DNA microarrays. *BioTechniques* 25:106-110.
58. Galbraith, D.W., Anderson, M.T., and Herzenberg, L.A. (1998). Flow cytometric analysis and sorting of cells based on GFP accumulation. *Methods in Cell Biology* 58: 315-341.
59. Macas, J., Lambert, G.M., Dolezel, D., and Galbraith, D.W. (1998). NEST (Nuclear Expressed Sequence Tag) analysis: a novel means to study transcription through amplification of nuclear RNA. *Cytometry* 33:460-468.
60. Winkler, R.G., Frank, M.R., Galbraith, D.W., Feyereisen, R., and Feldmann, K.A. (1998). Systematic reverse genetics of Transfer-DNA-tagged lines of *Arabidopsis*: isolation of mutations in the cytochrome P450 gene superfamily. *Plant Physiology* 118:743-750.
61. Grebenok, R.J., Ohnmeiss, T.E., Yamamoto, A., Huntley, E.D., Galbraith, D.W., and Della Penna, D. (1998). Isolation and characterization of an *Arabidopsis thaliana* C-8,7 sterol isomerase: functional and structural similarities to mammalian C-8,7 sterol isomerase emopamil-binding protein. *Plant Molecular Biology* 38:807-815.
62. Galbraith, D.W., Herzenberg, L.A., and Anderson, M. (1999). Flow cytometric analysis of transgene expression in higher plants: Green Fluorescent Protein. *Methods in Enzymology* 320:296-315.
63. Johnston, J.S., Bennett, M.D., Rayburn, A.L., Galbraith, D.W., and Price, H.J. (1999). Reference standards for determination of DNA content of plant nuclei. *American Journal of Botany* 86:609-613.
64. Chytilova, E., Macas, J., and Galbraith, D.W. (1999). Green Fluorescent Protein targeted to the nucleus, a transgenic phenotype useful for studies in plant biology. *Annals of Botany* 83:645-654.
65. Macas, J., Nouzova, M., and Galbraith, D.W. (1999). Adapting the Biomek 2000 Laboratory Automation Workstation for printing DNA microarrays. In: *Expression Genetics: accelerated and high-throughput methods*. BioTechniques Books, Update Series (M. McClelland and A.B. Pardee, eds.), Eaton Publishing, pp. 13-19.
66. Staehelin, L.A., Galbraith, D. W., and Giddings, T.H. (1999). Product and process for cellular protein segregation. U. S. Dept. of Commerce Patent 5,935,822.

67. Chytilova, E., Macas, J., Sliwinska, E., Rafelski, S., Lambert, G., and Galbraith, D.W. (2000). Nuclear dynamics in *Arabidopsis thaliana*. *Molecular Biology of the Cell* 11:2733-2741.
68. Galbraith, D.W., and Lucretti, S. (2000). Large particle sorting. In: *Flow Cytometry and Cell Sorting Second Edition*, (A. Radbruch, ed.), Springer-Verlag, Berlin, pp. 293-317.
69. Nouzová, M., Neumann, P., Navrátilová, A., Galbraith, D.W., and Macas, J. (2001). Microarray-based survey of repetitive genomic sequences in *Vicia* spp. *Plant Molecular Biology* 45:229-244.
70. Bak, S., Tax, F.E., Feldmann, K.E., Galbraith, D.W., and Feyereisen, R. (2001). CYP83B1, a Cytochrome P450 at the metabolic branchpoint in auxin and indole glucosinolate biosynthesis in *Arabidopsis thaliana*. *Plant Cell* 13:101-111.
71. Bohnert, H.J., Ayoubi, P., Borchert, C., Bressan, R.A., Burnap, R.L., Cushman, J.C., Cushman, M.A., Deyholos, M., Galbraith, D.W., Hasegawa, P.M., Jenks, M., Kawasaki, S., Koiwa, H., Kore-eda, S., Lee, B.H., Michalowski, C.B., Misawa, E., Nomura, M., Ozturk, N., Postier, B., Prade, R., Song, C.-P., Tanaka, Y., Wang H., and Zhu J.-K. (2001). A genomics approach towards salt stress tolerance. *Plant Physiology & Biochemistry* 39:1-17.
72. Kawasaki, S., Borchert, C., Deyholos, M., Wang, H., Brazille, S., Kawai, K., Galbraith, D.W., and Bohnert, H.J. (2001). Gene expression profiles during the initial phase of salt stress in rice (*Oryza sativa* L.). *Plant Cell* 13:889-906.
73. Bohnert, H.J., Kawasaki, S., Michalowski, C., Wang, H., Ozturk, N., Deyholos, M., and Galbraith, D. (2001). Isolation of candidate genes for tolerance to abiotic stresses. In: *Rice Genetics IV* (G.S. Khush, D.S. Brar, and B. Hardy, eds.), Science Publisher Inc., New Hampshire, USA, pp. 345-363.
74. Deyholos, M.K., and Galbraith, D.W. (2001). High-Density DNA microarrays for gene expression analysis. *Cytometry* 43:229-238.
75. Galbraith, D.W., Macas, J., Pierson, E.A., Xu, W., and Nouzová, M. (2001). Printing DNA microarrays using the Biomek® Laboratory Automation Workstation. In: *DNA Arrays: Methods and Protocols* (J.B. Rampal, ed.). *Methods in Molecular Biology* 170:131-140.
76. Chytilova, E., Macas, J., Sliwinska, E., Rafelski, S., Lambert, G., and Galbraith, D.W. (2001). Nuclear Dynamics in *Arabidopsis thaliana*. In: *GFP in Motion, volume II* (B. Ludin, ed.). CD-ROM, published by Trends in Cell Biology, Elsevier Press.
77. Xu, W., Bak, S., Decker, A., Paquette, S.M., Feyereisen, R., and Galbraith, D.W. (2001). Microarray-based analysis of gene expression in very large gene families: the Cytochrome P450 gene superfamily of *Arabidopsis thaliana*. *Gene* 272:61-74.
78. Zhang, X., Zhang, L., Dong, F., Gao J., Galbraith, D.W., and Song, C.-P. (2001). Hydrogen peroxide is involved in abscisic acid-induced stomatal closure in *Vicia faba*. *Plant Physiology* 126:1438-1448.
79. Xiong, L., Gong, Z., Rock, C.D., Subramanian, S., Guo, Y., Xu, W., Galbraith, D., and Zhu, J.-K. (2001). Modulation of abscisic acid sensitivity and biosynthesis by a Sm-like protein in *Arabidopsis*. *Developmental Cell* 1:771-781.
80. Staehelin, L.A., Galbraith, D. W., Giddings, T.H., and Cowan, C. (2002). Product and process for cellular protein segregation. U. S. Dept. of Commerce Patent 6,344,343.
81. Fernandes, J., Brendel, V., Gai, X., Lal, S., Chandler, V.L., Elumalai, R., Galbraith, D.W., Pierson, E., and Walbot, V. (2002). Comparison of RNA expression profiles based on maize EST frequency analysis and microarray hybridization. *Plant Physiology* 128:896-910.
82. Ozturk, Z.N., Talamé, V., Deyholos, M., Michalowski, C.B., Galbraith, D.W., Gozukirmizi, N., Tuberosa, R., and Bohnert, H.J. (2002). Monitoring large-scale changes in transcript abundance in drought- and salt-stressed barley. *Plant Molecular Biology* 48:551-573.
83. Sliwinska, E., and Galbraith, D.W. (2002). Factors affecting nuclear dynamics and Green Fluorescent Protein targeting to the nucleus in *Arabidopsis thaliana* roots. *Plant Science* 163:425-430.
84. Murthi, S., Sankaranarayanan, S., Xia, B., Rodríguez, J.J., and Galbraith, D.W. (2002). An improved data acquisition system for digital flow cytometry. *ISCAS 2002. IEEE International Symposium on Circuits and Systems* 1:669-672.
85. Galbraith, D.W. (2003). Global analysis of cell type-specific gene expression. *Comparative and Functional Genomics* 4:208-215.

86. Boyce, J.M., Knight, H., Deyholos, M., Openshaw, M., Galbraith, D.W., Warren, G., and Knight, M.R. (2003). The *sfr6* mutant of *Arabidopsis* is defective in transcriptional activation via CBF/DREB1 and DREB2 and shows sensitivity to osmotic stress. *Plant Journal* 34:395-406.
87. Postier, B.L., Wang, H.-L., Singh, A., Impson, L., Andrews, H.L., Klahn, J., Li, H., Risinger, G., Pesta, D., Deyholos, M., Galbraith, D.W., Sherman, L.A., and Burnap, R.L. (2003). The construction and use of bacterial DNA microarrays based on an optimized two-stage PCR strategy. *BMC Genomics* 2003, 4:23.
88. Wang, H., Kawai, K., Deyholos, M., Galbraith, D.W., and Bohnert, H.J. (2003). Temporal progression of gene expression responses to salt shock in maize roots. *Plant Molecular Biology* 52:873-891.
89. Birnbaum, K., Shasha, D.E., Wang, J.Y., Jung, J.W., Lambert, G.M., Galbraith, D.W., and Benfey, P.N. (2003). A gene expression map of the *Arabidopsis* root. *Science* 302:1956-1960.
90. Galbraith, D.W. (2004). Cytometry and plant sciences, a personal retrospective. *Cytometry* 58:37-44.
91. Galbraith, D.W., Elumalai, R., and Gong, F.-C. (2004). Integrative flow cytometric and microarray approaches for use in transcriptional profiling. *Methods in Molecular Biology* 263:259-279.
92. Meyers, B.C., Galbraith, D.W., Nelson, T., and Agrawal, V. (2004). Methods for transcriptional profiling in plants: be fruitful and replicate. *Plant Physiology* 135:637-652.
93. Song, C-P., Guo, Y., Qiu, Q., Lambert, G., Galbraith, D.W., Jagendorf, A., and Zhu, J.-K. (2004). A probable Na⁺/H⁺ exchanger on the chloroplast envelope functions in pH homeostasis and chloroplast development in *Arabidopsis thaliana*. *Proc. Natl. Acad. Sci. U.S.A.* 101:10211-10216.
94. Inan, G., Zhang, H., Li, P., Wang, Z., Cao, Z., Zhang, C., Quist, T.M., Goodwin, S.M., Zhu, J., Shi, H., Damsz, B., Charbaji, T., Gong, Q., Ma, S., Fredricksen, M., Galbraith, D.W., Jenks, M.A., Rhodes, D., Hasegawa, P.M., Bohnert, H.J., Joly, R.J., Bressan, R.A., and Zhu, J.-K. (2004). Salt Cress (*Thellungiella halophila*): a halophyte and cryophyte *Arabidopsis* Relative Model System (ARMS) and its applicability to molecular genetic analyses of growth and development of extremophiles. *Plant Physiology* 135: 1718-1737.
95. Miyazaki, S., Fredricksen, M., Hollis, K.C., Poroyko, V., Shepley, D., Galbraith, D.W., Long, S.P., and Bohnert, H.J. (2004). Transcript expression profiles of *Arabidopsis thaliana* grown under controlled conditions and open-air elevated concentrations of CO₂ and of O₃. *Field Crops Research* 90:47-59.
96. Galbraith, D.W. (2004). Nuclear Dynamics in Higher Plants. In: *The Nuclear Envelope* (D. E. Evans, C.J. Hutchinson, and J.A Bryant, eds.), *SEB Symposium Series Volume 56*, Garland Science/BIOS Scientific Publishers, Abingdon, pp.217-228.
97. Galbraith, D.W. (2004). The rainbow of Fluorescent Proteins. *Methods in Cell Biology* 75:153-169.
98. Galbraith, D.W., and Bak, S. (2004). Functional Genomics of the Cytochrome P450 Gene Superfamily in *Arabidopsis thaliana*. In: *Plant Functional Genomics* (D. Leister, ed.), Haworth Press, Binghamton, New York, pp. 595-620.
99. Kristensen, C., Morant, M., Olsen, C.E., Galbraith, D.W., Lindberg-Møller, B., and Bak, S. (2005). Metabolic engineering of dhurrin in transgenic *Arabidopsis* plants with marginal inadvertent effects on the metabolome and transcriptome. *Proc. Natl. Acad. Sci. U.S.A.* 102:1779-1884.
100. Zanetti, M.E., Chang, I.-F., Gong, F.C., Galbraith, D.W., and Bailey-Serres, J. (2005). Immunopurification of polyribosomal complexes of *Arabidopsis* for global analysis of gene expression. *Plant Physiology* 138:624-635.
101. Birnbaum, K., Jung, J.W., Wang, J.Y., Lambert, G.M., Hirst, J.A., Galbraith, D.W., and Benfey, P.N. (2005). Cell-type specific expression profiling in plants using fluorescent reporter lines, protoplasting, and cell sorting. *Nature Methods* 2:1-5.
102. Murthi, S., Sankaranarayanan, S., Xia, B., Lambert, G.M., Rodríguez, J.J., and Galbraith, D.W. (2005). Performance analysis of a dual-buffer architecture for digital flow cytometry. *Cytometry* 66A:109-118.
103. Galbraith, D.W., Bartos, J., and Dolezel, J. (2005). Flow Cytometry and Cell Sorting in Plant Biotechnology. In: *Flow Cytometry in Biotechnology* (L.A. Sklar, ed.), Oxford University Press, New York, pp. 291-322.
104. Brown, J.K., Lambert, G.M., Ghanim, M., Czosnek, H., and Galbraith, D.W. (2005). Nuclear DNA content of the whitefly *Bemisia tabaci* (Aleyrodidae: Hemiptera) estimated by flow cytometry. *Bulletin of Entomological Research* 95:309-312. PMID: 16048678.

105. LaJeunesse, T.C., Lambert, G., Andersen, R.A., Coffroth, M.A., and Galbraith, D.W. (2005). *Symbiodinium* (Pyrrhophyta) genome sizes (DNA content) are smallest among dinoflagellates. *Journal of Phycology* 41:880-886.
106. Zhang, C.Q, Gong, F.C., Lambert, G.M., and Galbraith, D.W. (2005). Cell type-specific characterization of nuclear DNA contents within complex tissues and organs. *Plant Methods* 2005, 1:7 doi:10.1186/1746-4811-1-7. PMID: 16270943.
107. Gardiner, J.M., Buell, C.R., Elumalai, R., Galbraith, D.W., Henderson, D.A., Iniguez, A.L., Kaeppler, S.M., Kim, J.J., Liu, J., Zheng, L., and Chandler, V.L. (2005). Design, production, and utilization of long oligonucleotide microarrays for expression analysis in maize. *Maydica* 50:425-435.
108. Ammiraju, J.S.S., Luo, M., Wang, W., Kudrna, D., Goicoechea, J.L., Mueller, C., Talag, J., Kim, H.R., Sisneros, N.B., Blackmon, B., Fang, E., Tomkins, J., Brar, D., MacKill, D., McCouch, S., Kurata, N., Lambert, G., Galbraith, D.W., Arumuganathan, K., Rao, K., Walling, J.G., Gill, N., SanMiguel, P., Soderlund, C., Jackson, S., and Wing, R.A. (2006). The Oryza Map Alignment Project (OMAP) bacterial artificial chromosome library resource: unveiling a new era in whole genome comparative genomics to study monocot plant evolution, development, and physiology. *Genome Research* 16:140-147.
109. Song, C-P., and Galbraith, D.W. (2006). AtSAP18, an orthologue of human SAP18, is involved in the regulation of salt stress and mediates transcriptional repression in *Arabidopsis*. *Plant Molecular Biology* 60:241-257. PMID: 16429262.
110. Galbraith, D.W., and Birnbaum, K. (2006). Global studies of cell type-specific gene expression in plants. *Annual Reviews of Plant Biology* 57:451-475.
111. Rangwala, S.H., Elumalai, R., Vanier, C., Ozkan, H., Galbraith, D.W., and Richards, E.J. (2006). Meiotically-stable natural epigenetic variation in *Sadhu*, a novel *Arabidopsis* retroposon. *P.L.o.S. Genetics* 2:270-281.
112. Barthelson, R.A., Sundareshan, P., Galbraith, D.W., and Woosley, R.L. (2006). Development of a comprehensive detection method for medicinal and toxic plant species. *American Journal of Botany* 93:566-574.
113. Ozkan, H., Tuna, M., and Galbraith, D.W. (2006). No DNA loss in autotetraploids of *Arabidopsis thaliana*. *Plant Breeding* 125:288-291.
114. Xiong, Z., Barthelson, R., Weng, Z., and Galbraith, D.W. (2006). Designing and testing of a Citrus tristeza virus resequencing microarray. *Proceedings of the XVI Conference of the International Organization of Citrus Virologists*, Monterrey, Nuevo León, México November 07-13, 2004.
115. Li, J., Li, X., Su, H., Chen, H., and Galbraith, D.W. (2006). A framework of integrating gene relations from heterogeneous data sources: an experiment on *Arabidopsis thaliana*. *Bioinformatics* 22:2037-2043. PMID: 16820427.
116. Galbraith, D.W. (2006). The daunting process of MIAME. *Nature* 444:31. PMID: 17080064.
117. Galbraith, D.W. (2006). Microarray analyses in higher plants. *OMICS: A Journal of Integrative Biology* 10:455-473. PMID: 17233557.
118. Galbraith, D.W. (2007). Protoplast analysis using flow cytometry and sorting. In: Dolezel, J., Greilhuber, J., Suda, J. (eds.): *Flow Cytometry with Plant Cells*, Wiley-VCH, pp. 231-250.
119. Galbraith, D.W. (2007). Analysis of plant gene expression using flow cytometry and sorting. In: Dolezel, J., Greilhuber, J., Suda, J. (eds.): *Flow Cytometry with Plant Cells*, Wiley-VCH, pp.405-422.
120. Agrawal, A., Cronin, J.P., Tonazzi, J.C., Goodyear, A. G., LeCompte, R.S., Hogan, M.E., and Galbraith, D.W. (2007). High surface area substrates for microarrays and methods to make same. U. S. Dept. of Commerce Patent 7,195,872.
121. Galbraith, D.W. (2007). Silica breaks through in plants. *Nature Nanotechnology* 2:272-273. PMID: 18654282. <https://doi.org/10.1038/nnano.2007.118>
122. Kris, R.M., Felder, S., Deyholos, M., Lambert, G.M., Botros, I., Martel, R., Seligmann, B., and Galbraith, D.W. (2007). High-throughput, high-sensitivity analysis of gene expression in *Arabidopsis thaliana*. *Plant Physiology* 144:1256-1266. PMID: 17496109.

123. Weng, Z., Barthelson, R., Gowda, S., Hilf, M.E., Dawson, W.O., Galbraith, D.W., and Xiong, Z. (2007). Persistent infection and promiscuous recombination of multiple genotypes of an RNA virus within a single host generate extensive diversity. *P.L.o.S. ONE* 2(9): e917. doi:10.1371 / journal.pone.0000917.
124. Keilin, T., Pang, X., Venkateswari, J., Halaly, T., Crane, O., Ogradovitch, A., Sherman, A., Volpin, H., Galbraith, D.W., and Or, E. (2007). Digital expression profiling of a grape-bud EST collection leads to new insight into molecular events during grape-bud dormancy release. *Plant Science* 173: 446-457.
125. Barthelson, R.A., Lambert, G.M., Vanier, C., Lynch, R.M., and Galbraith, D.W. (2007). Comparison of the contributions of the nuclear and cytoplasmic compartments to global gene expression in human cells. *B.M.C. Genomics* 8:340. PMID: 17894886.
126. Pang, X., Halaly, T., Crane, O., Keilin, T., Keren, A., Ogradovitch, A., Galbraith, D., and Or, E. (2007). Involvement of calcium signaling in dormancy release of grape buds. *Journal of Experimental Botany* 58:3249-3262.
127. Noizet, M., Harrabi, F., Vijayalakshmi, M.A., Galbraith, D.W., Thomas, D., and Thomasset, B. (2008). Targeted protein accumulation promoted by auto-assembly and its recovery from plant cells. *Biotechnology Journal* 3:392-402.
128. Zhang, C.Q., Barthelson, R.A., Lambert, G.M., and Galbraith, D.W. (2008). Characterization of cell-specific gene expression through fluorescence-activated sorting of nuclei. *Plant Physiology* 147:30-40. PMID: 18354040.
129. Yuan, J.S., Galbraith, D.W., Dai, S.Y., Griffin, P., and Stewart, C.N., Jr. (2008). Plant Systems Biology comes of age. *Trends in Plant Sciences* 13:165-171.
130. Edwards, J.D., Sweeney, M., Janda, J., Gaikwad, A., Liu, B., Leung, H., and Galbraith, D.W. (2008). Development of a high-throughput, low-cost genotyping platform based on oligonucleotide microarrays, and its evaluation in rice. *Plant Methods* 2008, 4:13. PMID: 18510771.
131. Facella, P., Lopez, L., Carbone, F., Galbraith, D.W., Giuliano, G., and Perrotta, G. (2008). Global profiling of diurnal and circadian transcriptional oscillations in tomato and their modulation by cryptochrome photoreceptors. *P.L.o.S. ONE* 3(7): e2798. doi:10.1371/journal.pone.0002798.
132. Mathiason, K., He, D., Grimplet, J., Galbraith, D.W., Or, E., and Fennell, A. (2008). Transcript profiling in *Vitis riparia* during chilling requirement fulfillment reveals coordination of gene expression patterns with optimized bud break. *Functional and Integrative Genomics* 9:81-96.
133. Galbraith, D.W. (2009). Global expression profiling of the corn genome. In: *Molecular Genetic Approaches to Maize Improvement* (A.L. Kriz and B.A. Larkins, editors). *Biotechnology in Agriculture and Forestry*, volume 63: Springer-Verlag, Berlin, pp. 251-266.
134. Sliwinska, E., Pisarczyk, I., Pawlik, A., and Galbraith, D.W. (2009). Measuring genome size of desert plants using dry seeds. *Botany* 87:127-135.
135. Luo, Q., Köksul, F., Janda, J., Samanta, M.P., Stolc, V., Galbraith, D.W., and Rock, C.D. (2009). Evidence for antisense transcription associated with microRNA target mRNAs in *Arabidopsis*. *P.L.o.S. Genetics* 5(4): e1000457. doi:10.1371/journal.pgen.1000457.
136. Lee, T.-H., Kim, Y.-K., Pham, T.T.M., Song, S.I., Kim, J.-K., Kang, K.Y., An, G., Jung, K., Galbraith, D.W., Kim, M., Yoon, U.-H., and Nahm, B.H. (2009). RiceArrayNet: A database for correlating gene expression from transcriptome profiling, and its application to the analysis of co-expressed genes in rice. *Plant Physiology* 151:16-33.
137. Galbraith, D.W. (2009). Simultaneous flow cytometric quantification of plant nuclear DNA contents over the full range of described angiosperm 2C values. *Cytometry* 75A:692-698. PMID: 19565637.
138. Andrés, F., Galbraith, D.W., Talón, M., and Domingo, C. (2009). Analysis of a new allele of *SE5* sheds light on the role of phytochromes in photoperiodic flowering in rice. *Plant Physiology* 151:681-690.
139. Ophir, R., Pang, Z., Venkateswari, J., Halalya, T., Laveea, S., Galbraith, D., and Or, E. (2009). Gene-expression profiling of grape bud response to two alternative dormancy-release stimuli expose possible links between impaired mitochondrial activity, hypoxia, ethylene-ABA interplay and cell enlargement. *Plant Molecular Biology* 71:403-423.
140. Galbraith D.W. (2009). Flow cytometry and sorting of plant protoplasts and cells. In: *Essential Cytometry Methods* (Z. Darzynkiewicz, J.P. Robinson, and M. Roederer. Eds.). Elsevier.

141. Galbraith D.W. (2009). The rainbow of Fluorescent Proteins. In: *Essential Cytometry Methods* (Z. Darzynkiewicz, J.P. Robinson, and M. Roederer. Eds.). Elsevier.
142. Mustroph, A., Zanetti, M.E., Jang, C.J.H., Galbraith, D.W., Girke, T., and Bailey-Serres, J. (2009). Profiling translomes of discrete cell populations resolves altered cellular priorities during hypoxia in *Arabidopsis*. *Proc. Natl. Acad. Sci. U.S.A.* 106:18849-18854.
143. Barthelson R.A., Qaisar U., and Galbraith, D.W. (2010). Functional analysis of the *Gossypium arboreum* genome. *Plant Molecular Biology Reporter* doi: 10.1007/s11105-009-0157-5.
144. Galbraith, D.W., and Edwards, J.D. (2010). Applications of microarrays for crop improvement: here, there, and everywhere. *BioScience* 60:337-348.
145. Galbraith, D.W. (2010). Flow cytometry and fluorescence-activated cell sorting in plants: the past, present, and future. *Biomedica* 2010;30(Suppl.):65-70.
146. Zárate, X., Henderson, D.C., Phillips, K.C., Lake, A.D., and Galbraith, D.W. (2010). Development of high-yield autofluorescent protein microarrays using hybrid cell-free expression with combined *Escherichia coli* S30 and wheat germ extracts. *Proteome Science* 2010, 8:32 doi:10.1186/1477-5956-8-32. PMID: 20546627.
147. Oh, D.H., Dassanayake, M., Haas, J.S., Kropornika, A., Wright, C., Paino d'Urzo, M., Hong, H., Ali, S., Hernandez, A., Lambert, G., Inan, G., Galbraith, D.W., Bressan, R.A., Yun, D.J., Zhu, J.-K., Cheeseman, J.M., and Bohnert, H.J. (2010). Genome structures and halophyte-specific gene expression of the extremophile *Thellungiella parvula* in comparison to *Thellungiella salsuginea* (*T. halophila*) and *Arabidopsis thaliana*. *Plant Physiology* 154:1040-1052.
148. Liu, Y., Zhu, X.Y., Zhang, S., Bernardo, M., Edwards, J.D., Galbraith, D.W., Leach, J., Zhang, G., Liu, B., and Leung, H. (2011). Dissecting quantitative resistance against blast using heterogeneous inbred families in rice. *Theoretical and Applied Genetics* 122:341-353.
149. Galbraith, D.W., Janda, J., and Lambert, G.M. (2011). Multiparametric analysis, sorting, and transcriptional profiling of plant protoplasts and nuclei according to cell type. *Methods in Molecular Biology* 699:407-429.
150. Krishnan, A.R., Sweeney, M., Vasic, J., Galbraith, D.W., and Vasic, B. (2011). Barcodes for DNA sequencing with guaranteed error correction capability. *Electronics Letters* 47:236-237.
151. Bourzac, K.M., Rounseville, M.P., Zarate, X., Maddula, V.S.R.K., Henderson, D.C., Luckey, J., Seligmann, B., and Galbraith, D.W. (2011). A high-density quantitative nuclease protection microarray platform for high throughput analysis of gene expression. *Journal of Biotechnology* 154:68-75. PMID: 21504771.
152. Kimzey, M.J., Zarate, X., Galbraith, D.W. and Lau, S.S. (2011). Optimizing microarray-based *in situ* transcription-translation of proteins for MALDI mass spectrometry. *Analytical Biochemistry* 414:282-286.
153. Galbraith, D.W. (2011). Frontiers in Genomic Assay Technologies: the grand challenges in enabling data-intensive biological research. *Frontiers in Genetics* 2:26. doi:10.3389fgene.2011. 00026. PMID 22303322.
154. Vasic, B., Ravanmehr, V., and Galbraith, D.W. (2011). Analysis and synthesis of boolean cell-cycle gene regulatory networks. *Proc. 2011 Information Theory and Applications Workshop, San Diego*.
155. Galbraith, D.W., Bennetzen, J.L., Kellogg, E.A., Pires, J.C., and Soltis, P.S. (2011). The genomes of all angiosperms: a call for a coordinated global census. *Journal of Botany* Article 646198 doi:10.1155/2011/646198.
156. Baisakh, N., Ramana Rao, M. V., Rajasekaran, K., Subudhi, P., Janda, J., Galbraith, D., Vanier, C. and Pereira, A. (2012). Enhanced salt stress tolerance of rice plants expressing a vacuolar H⁺-ATPase subunit c1 (*SaVHAc1*) gene from the halophyte grass *Spartina alterniflora* L. *Plant Biotechnology Journal* 10:453-464.
157. Galbraith, D.W., Lambert, G.M., Lasken, R., and Grindberg, R.V. (2012). Method for Classification of Cells Based on Gene Expression. Provisional Patent Application filed with the U. S. Dept. of Commerce.
158. Zhang, C.Q., and Galbraith, D.W. (2012). RNA interference-mediated gene knockdown within specific cell types. *Plant Molecular Biology* 80:169-176. PMID: 22740284.

159. Galbraith, D.W. (2012). Flow Cytometry and Cell Sorting: the Next Generation (guest volume editor). *Methods* Volume 57.
160. Galbraith, D.W. (2012). Flow Cytometry and Cell Sorting: the Next Generation: Introduction. *Methods* 57:249-250.
161. Galbraith, D.W., and Lambert, G.M. (2012). High-throughput monitoring of plant nuclear DNA contents via flow cytometry. *Methods in Molecular Biology* 918:311-325.
162. Wang, Z., Hobson, N., Galindo, L., McDill, J., Hawkins, S., Neutelings, G., Datla, R., Lambert, G., Galbraith, D.W., Cullis, C., Wong, G.K.-S., Wang J., and Deyholos, M.K. (2012). The genome of flax (*L. usitatissimum*) assembled *de novo* from short shotgun sequence reads. *Plant Journal* 72:461-473.
163. Qin, J., Scheuring, C.F., Wei, G., Zhi, H., Zhang, M., Huang, J.J., Zhou, X., Galbraith, D.W., and Zhang, H.-B. (2013). Identification and characterization of a repertoire of genes differentially expressed in developing top ear shoots between a superior hybrid and its parental inbreds in *Zea mays* L. *Molecular Genetics and Genomics* 288:691-705.
164. Grindberg, R.V., Yee-Greenbaum, J.L., McConnell, M.J., Novotny, M., O' Shaughnessy, A.L., Lambert, G.M., Araúzo-Bravo, M.J., Lee, J., Fishman, M., Lin, X., Robbins, G.E., Lin, X., Venepally, P., Badger, J.H., Galbraith, D.W., Gage, F.H., and Lasken, R.S. (2013). RNA-Seq from single nuclei. *Proceedings of the National Academy of Sciences U.S.A.* 110:19802-19807.
165. Galbraith, D.W. (2014). Flow cytometry and sorting in *Arabidopsis*. In: *Arabidopsis Protocols* (3rd edition; J.J.S. Serrano, ed.). *Methods in Molecular Biology* 1062:509-537.
166. Zarate, X., and Galbraith, D.W. (2014). A cell-free expression platform for production of protein microarrays. *Methods in Molecular Biology* 1118:297-307.
167. Galbraith, D.W. (2014). Endoreduplicative standards for calibration of flow cytometric C-value measurements. *Cytometry* 85A:368-374.
168. Chen, S.-C., Cannon, C.H., Kua, C.-S., Liu, J.J., and Galbraith, D.W. (2014). Genome size variation in the Fagaceae and its implications for trees. *Tree Genetics and Genomes* 10:977-988.
169. Mittal, A., Balasubramanian, R., Cao, J., Singh, P., Subramanian, S., Hicks, G., Nothnagel, E.A., Abidi, N., Janda, J., Galbraith, D.W., and Rock, C.D. (2014). *TOPOISOMERASE 6B* is involved in chromatin remodeling associated with hormone and environmental control of carbon partitioning, secondary metabolite and cell wall synthesis, and epidermal morphogenesis in *Arabidopsis*. *Journal of Experimental Botany* 65:4217-4239.
170. Galbraith, D.W. (2014). Challenges and solutions in cytometric measurements of non-mammalian species. *Cytometry* 85A:831-832.
171. Naivar, M.A., and Galbraith, D.W. (2015). Digital data acquisition and processing. *Current Protocols in Cytometry* 71:10.19.1-10.19.12. doi: 10.1002/0471142956.cy1019s71.
172. Galbraith, D.W. (2015). Redrawing the frontiers in the age of post-publication review. *Frontiers in Genetics*: doi: 10.3389/fgene.2015.00198.
173. Cantu-Bustosa, J.E., Vargas-Corteza, T., Morones-Ramirez, J.R., Balderas-Renteria, I., Galbraith, D.W., McEvoy, M.M., and Zarate X. (2016). Expression and purification of recombinant proteins in *Escherichia coli* tagged with the metal-binding protein CusF. *Protein Expression and Purification* 121:61-65 doi: 10.1016/j.pep.2016.01.007.
174. Samadder, P., Weng, N., Doetschman, T.C., Heimark, R., and Galbraith, D.W. (2016). Flow cytometry and single nucleus sorting for Cre-based analysis of changes in transcriptional states. *Cytometry* 89: 430-442.
175. Canady, M., Clark, C., Smith, R., Larsen, C., Gutierrez, A., Janda, J., Galbraith, D.W., Blaszcak, A.G., and Wozniak, E.M. (2016). How the novel biostimulant CYT14 influences nutrient uptake of common foliar nutritional supplements as evidenced by genomics and ICP analysis. *Acta Horticulturae* 1148:69-75. doi: 10.17660/ActaHortic.2016.1148.8
176. Blaszcak, A.G., Smith, R., Gutierrez, A., Galbraith, D.W., Janda, J., Vanier, C., and Wozniak, E.M. (2016). Molecular mechanism of action for the novel biostimulant CYT31 in plants exposed to drought stress. *Acta Horticulturae* 1148: 85-92. doi: 10.17660/ActaHortic.2016.1148.10

177. Nicolini, A.M., Toth, T.D., Kim, S., Mandel, A.M., Galbraith, D.W., and Yoon, J.-Y. (2017). Mie scatter and interfacial tension based real-time quantification of colloidal emulsion nucleic acid amplification. *Advanced Biosystems* 1: 10. doi: 10.1002/adbi.201700098.
178. Cossarizza, A., Chang H.-D., Radbruch, A., Andrä, I., Annunziato, F., Bacher, P., *et al.* (2017). Guidelines for the use of flow cytometry and cell sorting in immunological studies. *European Journal of Immunology* 47: 1584-1797.
179. Galbraith, D.W., Sliwinska, E., and Samadder, P. (2018). Nuclear Cytometry: Analysis of the patterns of DNA synthesis and transcription using flow cytometry, confocal microscopy, and RNA sequencing. *Flow Cytometry Protocols*, 4th edition (Hawley and Hawley, eds.). *Methods in Molecular Biology* 1678:371-392.
180. Zheng, C., Acheampong, A.K., Shi, Z., Halaly, T., Kamiya, Y., Ophir, R., Galbraith, D.W., and Or, E. (2018). Distinct functions for gibberellin during and after grape bud dormancy release. *Journal of Experimental Botany* 69:1635-1648.
181. Zheng, C., Acheampong, A.K., Shi, Z., Mugzech, A., Halaly, T., Shaya, F., Colova, V., Ophir, R., Galbraith, D.W., and Or, E. (2018). ABA catabolism enhances dormancy release of grapevine buds. *Plant Cell & Environment* 41:2490-2503.
182. Bhosale, R., Boudolf, V., Cuevasa, F., Kumpf, R.P., Hu, Z., Van Isterdael, G., Lambert, G.M., Nowack, M., Smith, R., Vercauteren, I., De Rycke, R., Storme, V., Beeckman, T., Larkin, J.C., Kremer, A., Höfte, H., Galbraith, D.W., Kumpf, R.P., Maere, S., and De Veylder, L. (2018). A spatiotemporal DNA endoploidy map of the Arabidopsis root reveals roles for the endocycle in root development and stress adaptation. *Plant Cell* 30: 2330-2351. DOI: <https://doi.org/10.1105/tpc.17.00983>
183. Shi, Z., Halaly, T., Zheng, C., Weissberg, M., Ophir, R., Galbraith, D.W., Pang, X., and Or, E. (2018). Transient induction of a subset of ethylene biosynthesis genes is potentially involved in regulation of grapevine bud dormancy release. *Plant Molecular Biology* 98:507-523 DOI:10.1007/s11103-018-0793-y.
184. Santos, B.D., San Claudio, P.M., Morones-Ramirez, J.R., Balderas-Renteria, I., Casillas-Vega, N.G., Galbraith, D.W., and Zarate, X. (2019). Optimizing periplasmic expression for production in *Escherichia coli* of recombinant proteins tagged with the small metal-binding protein SmbP. *Molecular Biotechnology* 60:451-460.
185. Cossarizza, A., Chang H.-D., Radbruch, A., Acs, A., Adam, D., *et al.* (2019). Guidelines for the use of flow cytometry and cell sorting in immunological studies (2nd edition). *European Journal of Immunology* 49:1457-1973. DOI: 10.1002/eji.201970107
186. Wang, H., Guo, S., Qiao, X., Guo, J., Li, Z., Zhou, Y., Bai, S., Gao, Z., Wang, D., Wang, P., Galbraith, D.W., and Song, C.-P. (2019). BZU2/ZmMUTE controls the symmetrical division of guard mother cells and specifies neighbor cell fate in maize. *PLOS Genetics* 15(8): e1008377. <https://doi.org/10.1371/journal.pgen.1008377>.
187. Qiu, D., Bai, S., Ma, J., Zhang, L., Shao, F., Zhang, K., Yang, Y., Sun, T., Huang, J., Zhou, Y., Galbraith, D.W., Wang, Z., and Sun, G. (2019). The genome of *Populus alba* x *Populus tremula* var. *glandulosa* clone 84K. *DNA Research* 26:423-431.
188. Yan, Q., Bai, S., Li, W., Sun, T., Zhou, Y., Galbraith, D.W., Yang, Z., Zhou, Y., Sun, G., and Wang, B. (2020). Transcriptome analysis reveals key genes involved in the regulation of nicotine biosynthesis at early time points after topping in tobacco (*Nicotiana tabacum* L.). *BMC Plant Biology* 20, 30. <https://doi.org/10.1186/s12870-020-2241-9>
189. Iqbal, A., Latif, A., Galbraith, D.W., Jabbar, B., Ali, M.A., Ahmad, M., Gul, A., Rao, A.Q., Shahid, A.A., and Husnain, T. (2020). Structure-based prediction of protein-protein interactions between the GhWlm5 Domain1 and GhACTIN-1 proteins: a practical evidence with improved fibre strength. *Journal of Plant Biochemistry and Biotechnology* <https://doi.org/10.1007/s13562-020-00603-7>.
190. Shi, Z., Halaly-Basha, T., Zheng, C., Sharabi-Schwager, M., Wang, C., Galbraith, D.W., Ophir, R., Pang, X., and Or, E. (2020). Identification of post-ethylene events in the signaling cascade induced by dormancy release stimuli. *Plant Journal*: DOI:10.1111/tpj.14997
191. Galbraith, D.W. (2020). Shapiro's laws revisited: conventional and unconventional cytometry at CYTO2020. *Cytometry Part A*: DOI:10.1002/cyto.a.24228.

192. Munawar, N., Mahmood, T., and Galbraith, D.W. (2020). Chemical control of rodents and its impact on rodent infestations during subsequent cropping season. *International Journal of Pest Management* 69 (2): 140-149. DOI: 10.1080/09670874.2020.1861362
193. Galbraith, D.W. and Sun, G. (2021). Flow cytometry and sorting in *Arabidopsis*. In: *Arabidopsis Protocols* (4th edition; J.J.S. Serrano, ed.). *Methods in Molecular Biology* 2200:255-294. DOI 10.1007/978-1-0716-0880-7_12.
194. Galbraith, D.W., Loureiro, J., Antoniadi, I., Bainsard, J., Bures, P., Capal, P., Castro, M., Castro, S., Certner, M., Certnerova, D., Chumová, Z., Doležel, J., Giorgi, D., Husband, B.C., Kolar, F., Koutecký, P., Kron, P., Leitch, I., Ljung, K., Lopes, S., Lucanová, M., Lucretti, S., Ma, W., Melzer, S., Molnar, I., Novak, O., Poulton, N., Skalický, V., Sliwinska, E., Smarda, P., Smith, T.W., Sun, G., Talhinas, P., Tárnok, A., Temsch, E., Travnicek, P., and Urfus, T. (2021). Best Practices in Plant Cytometry. *Cytometry Part A* DOI: 10.1002/cyto.a.24295.
195. Čertnerová, D., and Galbraith, D.W. (2021). Best practices in the flow cytometry of microalgae. In: Galbraith, D.W., and Loureiro J. (eds.). Best Practices in Plant Cytometry. *Cytometry Part A* DOI: 10.1002/cyto.a.24328.
196. Antoniadi, I., Skalický, V., Sun, G., Ma, W., Galbraith, D.W., Novak, O., and Ljung, K. (2021). Fluorescence Activated Cell Sorting – a selective tool for plant cell isolation and analysis. In: Galbraith, D.W., and Loureiro J. (eds.). Best Practices in Plant Cytometry. *Cytometry Part A* DOI: 10.1002/cyto.a.24461.
197. Xia, X., Shi, B., Wang, L., Liu, Y., Zou, Y., Liang X.-J., Bush, A.I., Zhao, D., Hyeon, T., Chen G., Yu, S.-H., Cao, Y., Yan, X., Stenzel, M.M., Gooding, J.J., Goldys, E.M., Jiang, L., Chen, X., Fan, C., Weiss, P., Zhao, Y., Davis, T.P., Dawson, K.A., Guo, Z., Parak, W.J., Qiao, S.-Z., Zhang, G., Whittaker, A.K., Rowan, A., Galbraith, D.W., Wang, X., Grof, C.P.L., Tang, B.Z., Offler, C.E., Patrick, J.W., and Song, C.-P. (2021). From mouse to mouse-ear cress: nanomaterials as delivery carriers in plant biotechnology. *Exploration* 1 (1) <https://doi.org/10.1002/EXP.20210002>.
198. Galbraith, D.W. (2021). Validation of crowd-sourced plant genome size measurements. *Cytometry Part A*: DOI: 10.1002/cyto.a.24493
199. Sliwinska, E., Loureiro, J., Leitch, I.J., Šmarda, P., Bainsard, J., Bureš, P., Chumová, Z., Horová, L., Koutecký, P., Lučanová, M., Trávníček, P., and Galbraith, D.W. (2021). Application-based guidelines for best practices in plant flow cytometry. *Cytometry Part A* DOI: 10.1002/cyto.a.24499.
200. Nunn, A., Rodriguez-Areviro, I., Tandukar, Z., Frels, K., Contreras-Garrido, A., Carbonell-Bejerano, P., Zhang, P., Ramos Cruz, D., Jandrasits, K., Lanz, C., Brusa, A., Mirouze, M., Dorn, K., Galbraith, D.W., Jarvis, B.A., Sedbrook, J.C., Wyse, D.L., Otto, C., Langenberger, D., Stadler, P.F., Weigel, D., Marks, M.D., Anderson, J.A., Becker, C., Chopra, R. (2022). The chromosome-level *Thlaspi arvense* genome provides new tools for translational research and for a newly domesticated cash cover crop of the cooler climates. *Plant Biotechnology Journal* 20:944-963 DOI: 10.1111/pbi.13775.
201. Sun, G., Xia, M., Li, J., Ma, W., Fang, S., Sun, T., Feng, X., Guo, G., Niu, Y., Bai, S., Hou, J., Ye, W., Ma, J., Guo, S., Long, Y., Wang, H., Huang, J., Zhang, C.Q., Galbraith, D.W., and Song, C.P. (2022). Single-nucleus transcriptome landscapes of the maize epidermis comprehensively reconstitute signaling networks governing the movement and development of grass stomata. *Plant Cell* 34 (5):1890-1911. <https://doi.org/10.1093/plcell/koac047>.
202. Galbraith, D.W., and Loureiro, J. (2022). Best Practices In Plant Cytometry: The Second Tranche. *Cytometry Part A*. PMID: 36047544 DOI: 10.1002/cyto.a.24681.
203. Loureiro, J., Čertner, M., Lučanová, M., Sliwinska, E., Kolář, F., Doležel, J., Garcia, S., Castro, S., and Galbraith, D.W. (2023). The use of flow cytometry for estimating genome sizes and DNA ploidy levels in plants. In: Garcia S, Heikam T (eds.) Plant Cytogenetics and Cytogenomics. *Methods in Molecular Biology* vol. 2672. Humana, New York, NY. https://doi.org/10.1007/978-1-0716-3226-0_2.
204. Li, Z., Li, B., Zhang, J., Wang, H., Wang, M., Guo, S., Wang, P., Li, Z., Galbraith, D. W., Li, D., and Song, C.-P. (2023). GA Associated Dwarf 5 encodes an ent-kaurenoic acid oxidase required for maize gibberellin biosynthesis and morphogenesis. *Crop Journal* <https://doi.org/10.1016/j.cj.2023.04.008>.
205. Song, C.P., Zhou, Y., Zhang, T., Wang, X., Wu, W., Xing, J., Li, Z., Qiao, X., Zhang, C., Wang, X., Wang, G., Li, W., Bai, S., Li, Z., Suo, Y., Wang, J., Niu, Y., Zhang, J., Lan, C., Hu, Z., Li, B., Zhang, X.,

- Wang, W., Galbraith, D.W., Chen, Y., and Guo, S. (2023). A maize epimerase modulates cell wall synthesis and glycosylation during stomatal morphogenesis. *Nature Communications* 14: 4384. <https://doi.org/10.1038/s41467-023-40013-6>.
206. Song, C.P., Wang, P., Li, Z., Li, H., Zhang, D., Wang, W., Xu, X., Xie, Q., Duan, Z., Xia, X., Guo, G., Shaheen, A., Zhou, Y., Wang, D., Guo, S., Hu, Z., and Galbraith, D.W. (2023). Smart Crop. *New Crops*: <https://doi.org/10.1016/j.ncrops.2023.12.002>.
207. Yuan, Y., Huo, Q., Zhang, Z., Wang, J., Chang, S., Cai, P., Song, K.M., Galbraith, D.W., Zhang, W., Huang L, Song, R., and Ma, Z. (2024). Decoding the gene regulatory network of endosperm differentiation in maize. *Nature Communications* 15, 34 (2024). <https://doi.org/10.1038/s41467-023-44369-7>

Invited Seminars and Presentations

- | | | |
|-----|---------------|--|
| 1. | February 1977 | Carnegie Institution, Division of Plant Biology, Stanford University. |
| 2. | March 1977 | School of Biological Sciences, University of Nebraska-Lincoln. |
| 3. | June 1980 | Division of Biological Sciences, University of Kansas, Lawrence. |
| 4. | February 1982 | Department of Biology, University of Nebraska-Omaha. |
| 5. | March 1982 | Advanced Genetic Sciences, Manhattan, Kansas. |
| 6. | July 1982 | Fifth International Congress of Plant Tissue and Cell Culture, Lake Yamanaka, Japan. |
| 7. | July 1982 | Iwata Tobacco Experiment Station, Iwata, Japan. |
| 8. | July 1982 | Dept. of Agricultural Chemistry, Kyoto University, Japan. |
| 9. | July 1982 | Phytogen, Inc., Pasadena. |
| 10. | August 1982 | University Genetics Co., Norwalk. |
| 11. | November 1982 | University of Nebraska Medical Center, Dept. of Biochemistry, Omaha. |
| 12. | January 1983 | Dept. of Botany, North Carolina State University, Raleigh. |
| 13. | January 1983 | 15 th Miami Winter Symposium, Miami. |
| 14. | January 1983 | First Plant Molecular Biology Association Conference, Miami. |
| 15. | January 1983 | Dept. of Biology, Florida State University, Tallahassee. |
| 16. | May 1983 | Dept. of Botany and Plant Pathology, University of California, Riverside. |
| 17. | August 1983 | Sixth International Protoplast Symposium, Basel, Switzerland. |
| 18. | October 1983 | School of Biological Sciences, University of Nebraska-Lincoln. |
| 19. | January 1984 | 3M Corporation, St. Paul. |
| 20. | January 1984 | Dept. of Botany, University of Wisconsin-Madison. |
| 21. | January 1984 | AgriGenetics, Madison. |
| 22. | June 1984 | Tissue Culture Association Annual Meeting, Houston. |
| 23. | May 1985 | Dept. of Biology, University of Manchester Institute of Science and Technology. |
| 24. | May 1985 | Dept. of Biology, Northeast London Polytechnic. |
| 25. | June 1985 | Gordon Conference (Plant Tissue Culture), Plymouth. |
| 26. | November 1985 | First International Congress of Plant Molecular Biology, Savannah. |
| 27. | November 1985 | Department of Biometry and Plant Breeding, Cornell University. |
| 28. | November 1985 | Dept. of Horticulture, Purdue University. |
| 29. | June 1986 | N.S.F.-Japan Workshop in Plant Biotechnology, Honolulu. |
| 30. | June 1986 | Dept. of Biology, University of Hawaii. |
| 31. | August 1986 | VI th International Congress of Plant Tissue and Cell Culture, Minneapolis. |
| 32. | November 1986 | Dept. of Plant Sciences, University of Arizona, Tucson, Arizona. |
| 33. | November 1986 | Los Alamos National Laboratory. |
| 34. | November 1986 | C.N.R.S. Gif-sur-Yvette, France. |
| 35. | November 1986 | E.N.E.A.-C.E.A., Casaccia, Rome. |
| 36. | November 1986 | Plant Breeding Institute, Cambridge, England. |

37.	January 1987	Dept. of Radiation Biology, Colorado State University, Fort Collins.
38.	February 1987	UCLA Conference on Plant Membranes, Park City.
39.	April 1987	Graduate Student seminar series, University of Kansas, Lawrence.
40.	August 1987	XIII Congress, International Society for Analytical Cytology (I.S.A.C.), Cambridge, England.
41.	December 1987	Dept. of Plant Sciences, University of Arizona, Tucson, Arizona.
42.	April 1988	Dept. of Biology, Texas A&M University, College Station.
43.	May 1988	N.S.F. Inter-kingdom Workshop on Targeting in Eukaryotic Systems, Tampa.
44.	May 1988	Biotechnology Program, University of Florida, Gainesville.
45.	June 1988	Coulter Corporation, New York.
46.	September 1988	E.M.B.O. Course, University of Cologne, West Germany.
47.	September 1988	XIV I.S.A.C. Congress, Breckenridge, Colorado.
48.	October 1988	Nebraska Criminal Defense Attorneys Association, Omaha.
49.	August 1989	Annual Meeting of the American Chemical Society, Miami.
50.	September 1989	E.M.B.O. Course, University of Cologne, West Germany.
51.	January 1990	ENEA-CEA, Casaccia, Rome.
52.	June 1990	Gordon Conference, Andover.
53.	December 1990	Salk Institute, La Jolla.
54.	February 1991	Dept. Radiation Oncology, University of Arizona Tucson, Arizona.
55.	September 1991	E.M.B.O. Course, University of Cologne, West Germany.
56.	September 1991	XVI I.S.A.C. Congress, Bergen, Norway.
57.	October 1991	Rocky Mountain Cytometry Association Biennial Meeting, Vail.
58.	January 1992	Zynaxis, Inc., Philadelphia.
59.	February 1992	Biotechnology Program, Oregon State University, Corvallis.
60.	February 1992	Molecular Probes, Inc., Eugene.
61.	February 1992	Dept. of Radiation Biology, Colorado State University, Fort Collins.
62.	March 1992	Dept. of Biology, Arizona State University, Tempe.
63.	April 1992	U.S.D.A. Western Regional Research Center, Albany.
64.	November 1993	Cell and Molecular Biology Program, Colorado State University, Fort Collins.
65.	February 1994	Dept. Anatomy, University of Arizona, Tucson, Arizona.
66.	June 1994	Smith-Kline-Beecham PLC, London, England.
67.	June 1994	Dept. of Biological Sciences, Oxford Brookes University, England.
68.	June 1994	Dept. of Chemical Engineering, University of Birmingham, England.
69.	July 1994	Scottish Crop Research Institute, Dundee. Scotland.
70.	November 1994	Noble Foundation, Ardmore, Oklahoma.
71.	November 1994	ENEA-CEA, Casaccia, Rome, Italy.
72.	November 1994	Biotechnology Program, University of Nebraska-Lincoln.
73.	June 1995	Dept. of Biological Sciences, Warwick University, England.
74.	June 1995	Dept. of Biology, De Montfort University, Leicester, England.
75.	July 1995	Dept. of Biology, University of Oregon, Eugene.
76.	November 1995	Monsanto Corporation, St. Louis, Missouri.
77.	April 1996	XVIII th I.S.A.C. Congress, Rimini, Italy.
78.	April 1996	CNR, Milan, Italy.
79.	May 1996	Ceregen, St. Louis, Missouri.
80.	August 1996	Czech Academy of Sciences, Olomouc, Czech Republic.
81.	August 1996	Czech Academy of Sciences, Ceske Budejovice, Czech Republic.
82.	October 1996	Pioneer Hi-Bred, Johnston, Iowa.
83.	December 1996	Sanger Center, Cambridge, England.
84.	December 1996	Carnegie Institution, Stanford University, California.
85.	April 1997	Dept. of Biology, University of Pennsylvania, Philadelphia.

86. April 1997 Biotechnology Program, Pennsylvania State University, State College.
87. July 1997 Technical University of Compiègne, France.
88. September 1997 Royal Botanical Gardens, Kew, England.
89. October 1997 International GFP Conference, New Brunswick, New Jersey.
90. October 1997 Plant Biology Program, Rutgers University, New Jersey.
91. January 1998 Biotechnology Program, Oregon State University, Corvallis.
92. February 1998 XIXth I.S.A.C. Congress, Colorado Springs.
93. May 1998 Scripps Research Institute, La Jolla, California.
94. June 1998 Czech Academy of Sciences, Olomouc, Czech Republic.
95. June 1998 Jagiellonian University, Krakow, Poland.
96. June 1998 Optical Biology Center, University of California, Irvine.
97. July 1998 C.N.R.S. Institute for Plant Molecular Biology, Strasbourg, France.
98. July 1998 IVth International Symposium on P450 Biodiversity, Strasbourg, France.
99. July 1998 Cornell University, Ithaca, New York.
100. September 1998 Annual Royal Microscopical Society Flow Cytometry Course, Sheffield University, England.
101. September 1998 Quantum Biotech, La Jolla, California.
102. November 1998 A.S.P.P. West Regional Symposium, San Francisco.
103. December 1998 North Carolina Biotechnology Center, Research Triangle Park, North Carolina.
104. January 1999 Third Kananaskis Tumor Heterogeneity Meeting, Calgary, Canada.
105. February 1999 U.S.D.A.-ARS, Plum Island, New York.
106. March 1999 Dept. of Biological Sciences, Durham University, Durham, England.
107. March 1999 Dept. of Plant Pathology, University of Arizona, Tucson, Arizona.
108. March 1999 Purdue University, Plant Biology Seminar Program, West Lafayette, Indiana.
109. April 1999 University of Washington, Dept. of Botany, Seattle, Washington.
110. April 1999 University of Minnesota, Dept. of Plant Biology, St. Paul, Minnesota.
111. May 1999 IInd International GFP Conference, San Diego, California.
112. June 1999 Annual Course in Flow Cytometry, Los Alamos National Laboratory, Los Alamos, New Mexico.
113. July 1999 U.T.C. Compiègne, France.
114. August 1999 C.I.P., Lima, Peru.
115. September 1999 Epicyte Pharmaceuticals, San Diego, California.
116. September 1999 Novartis Agriculture Discovery Institute, San Diego, California.
117. September 1999 University of Nebraska-Lincoln. Lincoln, Nebraska.
118. September 1999 Dept. of Physiology, University of Arizona, Tucson, Arizona.
119. November 1999 Chips to Hits '99, Berkeley, California.
120. February 2000 BioRad, Hercules, California.
121. March 2000 Society for Experimental Biology, Exeter, England.
122. April 2000 New Mexico State University, Las Cruces, New Mexico.
123. May 2000 KeyGene, Wageningen, Holland.
124. May 2000 XXth I.S.A.C. Congress, Montpellier, France.
125. May 2000 I.N.R.A., Montpellier, France.
126. June 2000 New York University, New York.
127. July 2000 Vth International Symposium on P450 Biodiversity, Elsinore, Denmark.
128. August 2000 E.M.B.O. Course, Uppsala, Sweden.
129. August 2000 Agricultural University of Uppsala, Sweden.
130. August 2000 Miltenyi Biotec, GmbH, Bergisch Gladbach, Germany.
131. October 2000 Stratagene Inc., La Jolla, California.
132. October 2000 The Salk Institute, La Jolla, California.
133. October 2000 Ceres Inc., Malibu, California.

134.	November 2000	Los Alamos National Laboratory, Los Alamos, New Mexico.
135.	November 2000	University of New Mexico, Albuquerque. New Mexico.
136.	December 2000	John Innes Institute, Norwich, England.
137.	December 2000	Cambridge University, England.
138.	December 2000	Oxford University, England.
139.	January 2001	Agilent, Palo Alto, California.
140.	January 2001	BASF, Inc., Raleigh, North Carolina.
141.	February 2001	Biomath Program, University of Arizona, Tucson, Arizona.
142.	February 2001	Biomedical Engineering Program, University of Arizona, Tucson, Arizona.
143.	March 2001	Brazil International Genome Conference, Agram dos Reis, Brazil.
144.	March 2001	Synergen, Brasilia, Brazil.
145.	March 2001	EMBRAPA, Sete Lagoas, Brazil.
146.	April 2001	University of Arkansas, Little Rock, Arkansas.
147.	May 2001	Royal Botanical Gardens, Kew, England.
148.	June 2001	Los Alamos National Laboratory, Los Alamos, New Mexico.
149.	September 2001	Genetics Program, University of Arizona, Tucson, Arizona.
150.	October 2001	Dept. of Plant Biology, Arizona State University, Tempe, Arizona.
151.	November 2001	GeneMachines, San Carlos, California.
152.	January 2002	Breault Research, Tucson, Arizona.
153.	January 2002	G.T.E.C., Tucson, Arizona.
154.	January 2002	X th Plant, Animal and Microbial Genome meeting, San Diego, California (plenary speaker).
155.	April 2002	Stowers Institute for Medical Research, Kansas City, Kansas.
156.	April 2002	Iowa State University, Ames, Iowa.
157.	April 2002	Macalester College, St. Paul, Minnesota.
158.	May 2002	XXI st I.S.A.C. Congress, San Diego, California (plenary speaker).
159.	July 2002	Annual Meeting of the American Phytopathological Society, Milwaukee.
160.	September 2002	Queenstown Molecular Biology Meeting, Queenstown, New Zealand.
161.	September 2002	HortResearch, Auckland, New Zealand.
162.	September 2002	Second Virtual Conference on Genomics and Bioinformatics, Washington, D.C.
163.	September 2002	N.S.F. Annual Plant Genome Grantee meeting, Washington D.C.
164.	November 2002	Annual Meeting of the Crop Science Society of America, Indianapolis, Indiana.
165.	January 2003	XI th Plant and Animal Genome meeting, San Diego, California.
166.	March 2003	Duke University, Department of Biology, North Carolina.
167.	April 2003	Texas A&M University, Genetics Program, College Station, Texas.
168.	May 2003	1 st International Cytomics Conference, Wales (keynote speaker).
169.	May 2003	2 nd Annual Meeting of the Czech Society for Analytical Cytology, Brno, Czech Republic (keynote speaker).
170.	June 2003	Workshop on redox regulation in plants, Washington University, St. Louis, Missouri.
171.	June 2003	Biennial National Flow Cytometry Course, Los Alamos, New Mexico.
172.	July 2003	SEB Symposium, Durham, England (keynote speaker).
173.	September 2003	NSF Annual Plant Genome Grantee meeting, Washington D.C.
174.	December 2003	University of Illinois, Department of Crop Sciences, Urbana-Champaign, Illinois.
175.	January 2004	XII th Plant and Animal Genome Meeting, San Diego, California.
176.	March 2004	University of Washington, Department of Biology, Seattle, Washington.
177.	April 2004	Crop Functional Genomics 2004, Jeju, South Korea.
178.	April 2004	Seoul National University, Seoul, South Korea.
179.	May 2004	XXII nd I.S.A.C. Congress, Montpellier, France.

180.	October, 2004	1 st Plant Functional Genomics Conference, Barossa, Australia (plenary speaker).
181.	October, 2004	University of Queensland, Brisbane, Australia.
182.	January 2005	XIII th Plant and Animal Genome Meeting, San Diego, California.
183.	March 2005	Czech Academy of Sciences, Olomouc, Czech Republic.
184.	April 2005	Carleton College, Minnesota.
185.	May 2005	Victorian Microarray Technology Consortium, Melbourne, Australia (keynote speaker).
186.	June 2005	First Portuguese National Microarray Workshop, Vila Real, Portugal (organizer and presenter).
187.	June 2005	U.S.D.A. N.R.I. Annual Grantee Meeting, Little Rock, Arkansas.
188.	June 2005	Biennial National Flow Cytometry Course, Los Alamos, New Mexico.
189.	June 2005	Pacific Northwest Conference, Richland, Washington.
190.	August 2005	Insightful Corporation, Seattle, Washington.
191.	September 2005	NSF Annual Plant Genome Grantee Meeting, Washington D.C.
192.	November 2005	International Rice Research Institute, Los Baños, The Philippines.
193.	November 2005	US-AID Linkage Program Meeting, Manila, The Philippines.
194.	January 2006	XIV th Plant and Animal Genome Meeting, San Diego, California.
195.	January 2006	C.N.R.S./I.N.R.A. Evry, Paris, France.
196.	February 2006	U.S.D.A. N.R.I. Annual Grantee Meeting, Woodlands, Texas.
197.	March 2006	Oregon Health Sciences Center, Portland, Oregon.
198.	April 2006	University of Nevada, Las Vegas, Nevada.
199.	June 2006	C.S.I.R.O., Canberra, Australia.
200.	June 2006	Biennial National Flow Cytometry Course, Bowdoin College, Maine.
201.	August 2006	Second Plant Microarray Short Course On Design and Analysis of Plant Microarray Experimentation, Boston, Massachusetts (plenary speaker).
202.	August 2006	Gordon Conference, Mt. Holyoke College, Massachusetts.
203.	October 2006	Fourth International Rice Functional Genomics Conference, Montpellier, France.
204.	January 2007	XV th Plant and Animal Genome Meeting, San Diego, California.
205.	January 2007	University of Arizona Biomedical Engineering Program, Tucson, Arizona.
206.	May 2007	Science Foundation Arizona, Tempe, Arizona.
207.	May 2007	Guangdong Academy of Agricultural Sciences, Guangzhou, China.
208.	May 2007	Huazhong Agricultural University, Wuhan, China.
209.	May 2007	Chinese Agricultural University, Beijing, China.
210.	June 2007	Biennial National Flow Cytometry Course, Los Alamos, New Mexico.
211.	June 2007	University of Colorado, Boulder, Colorado.
212.	June 2007	Annual Meeting of the Czech Society for Analytical Cytology, Brno, Czech Republic (keynote speaker).
213.	June 2007	Czech Academy of Sciences, Olomouc, Czech Republic.
214.	July 2007	Max Planck Institute, Golm, Germany.
215.	September 2007	Ceres, Inc., Thousand Oaks, California.
216.	September 2007	Pioneer Hi-Bred, Ames, Iowa.
217.	September 2007	University of Nebraska-Lincoln, Biotechnology Program, Lincoln, Nebraska.
218.	October 2007	University of Arizona, Interdisciplinary Graduate Program in Genetics, Tucson, Arizona.
219.	October 2007	Second Portuguese National Microarray Workshop, Vila Real, Portugal (organizer and presenter).
220.	October 2007	Fifth International Rice Functional Genomics Conference, Tsukuba, Japan.
221.	November 2007	University of Missouri, IPG Program, Columbia, Missouri.

222.	November 2007	University of Tennessee, Knoxville, Tennessee.
223.	November 2007	Oak Ridge National Laboratory, Oak Ridge, Tennessee.
224.	January 2008	XVI th Plant and Animal Genome Meeting, San Diego, California.
225.	January 2008	BIO5 Institute, University of Arizona, Tucson, Arizona.
226.	March 2008	Department of Plant Systems Biology, Ghent University, Belgium.
227.	May 2008	XXIV th I.S.A.C. Congress, Budapest, Hungary.
228.	May 2008	Royal Botanical Gardens, Kew, England.
229.	June 2008	Biennial National Flow Cytometry Course, Bowdoin College, Maine.
230.	September 2008	SUNY Stony Brook, New York.
231.	November 2008	Vidar Systems Corporation, Herndon, Virginia.
232.	January 2009	XVII th Plant and Animal Genome Meeting, San Diego, California.
233.	February 2009	CENICAFE, Chinchina, Colombia.
234.	February 2009	2 nd Annual Meeting of the Indian Cytometry Society, Bhubaneswar, India (plenary speaker).
235.	February 2009	National Research Centre on Plant Biotechnology, Indian Agricultural Research Institute, New Delhi, India.
236.	February 2009	Delhi University, New Delhi, India.
237.	February 2009	International Symposium on Recent Developments in Molecular Technologies, Panjab University, Chandigarh, India (plenary speaker).
238.	April 2009	XXXIV th Annual Meeting of the Portuguese Genetics Society, Lisbon (keynote speaker).
239.	June 2009	Biennial National Flow Cytometry Course, Albuquerque, New Mexico.
240.	September 2009	2 nd Biennial Flow Cytometry Conference, Food Research Institute, Norwich, England.
241.	October 2009	Max Planck Institute, Tuebingen, Germany.
242.	October 2009	19 th Annual Meeting of the German Society for Cytometry, Leipzig, Germany (keynote speaker).
243.	October 2009	G.I.C. (Italian Cytometry Society) Annual Meeting, Ferrara, Italy (keynote speaker).
244.	October 2009	E.N.E.A. Casaccia, Rome, Italy.
245.	October 2009	Donald Danforth Center, St. Louis, Missouri.
246.	November 2009	Xishuangbanna Tropical Botanical Garden, China.
247.	December 2009	University of Massachusetts, Amherst, Massachusetts.
248.	January 2010	XVIII th Plant and Animal Genome Meeting, San Diego, California.
249.	May 2010	SAGE Bionetworks, Seattle, Washington.
250.	May 2010	XXV th I.S.A.C. Congress, Seattle, Washington.
251.	May 2010	Cenicafe, Manizales, Colombia.
252.	May 2010	IV th International Congress in Flow Cytometry, Bogota, Colombia (plenary speaker).
253.	June 2010	Biennial National Flow Cytometry Course, Bowdoin College, Maine.
254.	July 2010	Association for Tropical Biology and Conservation workshop, Bali, Indonesia.
255.	September 2010	Microbial Single Cell Genomics Workshop 2010, Bigelow Laboratory, Boothbay Harbor, Maine, (plenary speaker).
256.	October 2010	Massachusetts General Hospital, Boston, Massachusetts.
257.	January 2011	XIX th Plant and Animal Genome Meeting, San Diego, California.
258.	February 2011	University of Liverpool, England.
259.	February 2011	Czech Academy of Sciences, Olomouc, Czech Republic.
260.	April 2011	Biomath Program, University of Arizona, Tucson, Arizona.
261.	May 2011	CYTO 2011: XXVI th Congress of the International Society for Advancement of Cytometry, Baltimore, Maryland (plenary speaker).
262.	June 2011	Stem Cell Institute, University of California, Irvine, California.

263.	June 2011	Biennial National Flow Cytometry Course, Albuquerque, New Mexico.
264.	June 2011	Chinese Agricultural University, Beijing, China.
265.	June 2011	Workshop on Tropical Biodiversity and Genomics, Xishuangbanna Tropical Botanical Gardens, China (plenary speaker).
266.	June 2011	Hong Kong University, China.
267.	June 2011	Beijing Genomics Institute, Shenzhen, China.
268.	July 2011	Western New York Flow Cytometry Group, Rochester, New York.
269.	July 2011	University of Rochester, Rochester, New York.
270.	October 2011	University of Toronto, Canada.
271.	November 2011	SUMMIT2011: Inaugural meeting of the Southern California Flow Cytometry Association, Los Angeles, California (plenary speaker).
272.	January 2012	XX th Plant and Animal Genome Meeting, San Diego, California.
273.	February 2012	Genetic Engineering News Webinar.
274.	April 2012	Biotechniques Webinar.
275.	June 2012	Biennial National Flow Cytometry Course, Bowdoin College, Maine.
276.	June 2012	Regeneron, Inc., White Plains, New York.
277.	July 2012	Royal Botanic Gardens, Kew, London, England.
278.	July 2012	Gregor Mendel Institute of Molecular Plant Biology, Vienna, Austria.
279.	September 2012	A.L.A.R.C., Maricopa, Arizona.
280.	September 2012	Dept. of Chemistry and Biochemistry, University of Arizona, Tucson, Arizona.
281.	November 2012	DowAgrosciences, Inc., Indianapolis, Indiana.
282.	December 2012	Institute on Science for Global Policy, Tucson.
283.	January 2013	FloCyte Associates Workshop, San Diego, California.
284.	January 2013	CellTech 2013 - Flow Cytometry, San Diego, California (keynote speaker).
285.	March 2013	North Carolina State University, Raleigh, North Carolina.
286.	March 2013	FloCyte Associates Workshop, University of North Carolina, Chapel Hill, North Carolina.
287.	May 2013	CYTO2013, San Diego, California.
288.	June 2013	Biennial National Flow Cytometry Course, Albuquerque, New Mexico.
289.	July 2013	Queensland Flow Cytometry Workshop, Queensland Institute of Medical Research, Brisbane, Australia.
290.	July 2013	University of Queensland, Brisbane, Australia.
291.	August 2013	Arizona Biological and Biomedical Sciences Program, Tucson, Arizona.
292.	November, 2013	Arizona Cancer Bioimaging Program, Tucson, Arizona.
293.	January 2014	XXII nd Plant and Animal Genome Meeting, San Diego, California.
294.	January 2014	PepTalk 2014, Palm Springs, California (keynote speaker).
295.	May 2014	Institute of Plant Sciences, Volcani Center, Beit Dagan, Israel.
296.	May 2014	Department of Plant Sciences, Weizmann Institute of Science, Rehovot, Israel.
297.	May 2014	CYTO2014, Fort Lauderdale, Florida.
298.	June 2014	Biennial National Flow Cytometry Course, Bowdoin College, Maine.
299.	October 2014	SELECTBIO Advances in Plant Genomics online conference.
300.	December 2014	Symposium & Workshop IARI (Indian Agricultural Research Institute), New Delhi, India.
301.	December 2014	Symposium Punjab Agricultural University, Ludhiana, India.
302.	December 2014	Symposium FACSAcademy, Jamia Hamdard University, New Delhi, India.
303.	December 2014	Symposium, School of Life Sciences, University of Hyderabad, India.
304.	December 2014	Symposium & Workshop, Calcutta University, India.
305.	December 2014	Department of Botany, Delhi University, New Delhi.

306.	January 2015	XXIII rd Plant and Animal Genome Meeting, San Diego, California.
307.	March 2015	SEFCIG Meeting, Atlanta.
308.	June 2015	Biennial National Flow Cytometry Course, Albuquerque, New Mexico.
309.	June 2015	CYTO2015, Glasgow, Scotland.
310.	September 2015	3 rd Plant Genomics Congress USA, St. Louis, Missouri.
311.	January 2016	XXIV th Plant and Animal Genome Meeting, San Diego, California.
312.	April 2016	Department of Biology, University of South Carolina.
313.	April 2016	Department of Biochemistry, Oklahoma State University.
314.	June 2016	Biennial National Flow Cytometry Course, Bowdoin College, Maine.
315.	January 2017	XXV th Plant and Animal Genome Meeting, San Diego, California.
316.	February 2017	U.S.D.A-A.L.A.R.C., Maricopa, Arizona.
317.	March 2017	2 nd Annual A.B.R.C. Research Conference, U.A.-C.O.M., Phoenix, Arizona.
318.	April 2017	Institute for Plant Stress Biology, Henan University, Kaifeng, China.
319.	June 2017	CYTO2017, Boston, Massachusetts.
320.	June 2017	Biennial National Flow Cytometry Course, Albuquerque, New Mexico.
321.	July 2017	Becton Dickinson/Biocompare Webinar: on-line presentation.
322.	October 2017	Institute for Plant Stress Biology, Henan University, Kaifeng, China.
323.	November 2017	Roswell Park Cancer Center, Buffalo, New York.
324.	January 2018	XXVI th Plant and Animal Genome Meeting, San Diego, California.
325.	January 2018	2018 KU-UA Joint International Symposium, Tucson, Arizona.
326.	April 2018	CYTO2018, Prague, Czech Republic.
327.	May 2018	Max Planck Institute for Plant Physiology, University of Potsdam, Golm, Germany.
328.	May 2018	Becton-Dickinson/BioLine Webinar: On-line presentation for Russian scientists.
329.	June 2018	Annual Meeting of the Society for In Vitro Biology, St. Louis, Missouri.
330.	June 2018	Biennial National Flow Cytometry Course, Bowdoin College, Maine.
331.	July 2018	Institute for Plant Stress Biology, Henan University, Kaifeng, China.
332.	November 2018	Panel discussion for UA School of Music/ENR-2 Performance of La Hija de Rappaccini, by Daniel Catán, Tucson, Arizona.
333.	December 2018	School of Life Sciences, Henan University, Kaifeng, China.
334.	January 2019	XXVII th Plant and Animal Genome Meeting, San Diego, California.
335.	February 2019	VacciniAMO Conference, University of Modena, Italy.
336.	February 2019	Gordon Research Conference on Quantitative Genetics and Genomics, Il Ciocco, Italy.
337.	March 2019	TEDxUofA talk, University of Arizona, Tucson, Arizona.
338.	April 2019	Beckman-Coulter Inc., Suzhou, China.
339.	June 2019	Biennial National Flow Cytometry Course, Madison, Wisconsin.
340.	June 2019	CYTO2019, Vancouver, Canada.
341.	July 2019	Plant Flow Cytometry Workshop, Botany 2019 Congress, Tucson, Arizona.
342.	November 2019	First International Workshop on Exotic Flow Cytometry: Checking Small Things... Better! ExoFlowMetry. ENEA Casaccia, Rome, Italy (Keynote Speaker).
343.	December 2019	College of Optical Sciences, Quantum Biology working group, University of Arizona.
344.	January 2020	XXVIII th Plant and Animal Genome Meeting, San Diego, California.
345.	January 2020	NanoCollect Biomedical Inc., La Jolla, California.
346.	February 2020	Cytometrists of Western States (Keynote speaker), Scottsdale, Arizona.
347.	January 2021	Henan University Journal Kick-Off Meeting (Keynote speaker: Zoom presentation).

- 348. June 2021 Annual Meeting of the Society for *In Vitro* Biology (Workshop leader; Zoom presentation).
- 349. June 2021 CYTO2021 Virtual Conference (Environmental Cytometry interest group coordinator; First-time Attendee discussion leader; three Zoom presentations).
- 350. June 2021 Second International Workshop on Exotic Flow Cytometry, Casaccia, Italy (Keynote speaker; Zoom presentation).
- 351. September 2021 GLIIFCA Great Lakes International Imaging and Flow Cytometry Association (Zoom Presentation).
- 352. October 2021 Ohalo Genetics, Aptos California.
- 353. November 2021 Australia Cytometry Society Conference (Workshop Organizer; Zoom Presentation).
- 354. December 2021 UCD Conway Flow Cytometry Winter School, Dublin Ireland (Zoom Presentation).
- 355. June 2022 CYTO2022, Philadelphia. Tutorial (Zoom Presentation).
- 356. June 2022 CYTO2022 Philadelphia. Plenary (Zoom Presentation).
- 357. June 2022 Biennial National Flow Cytometry Course, Madison, Wisconsin (Zoom presentation).
- 358. June 2022 UCD Conway Flow Cytometry Summer School, Dublin Ireland (Keynote speaker; Zoom Presentation).
- 359. November 2022 Third International Workshop on Exotic Flow Cytometry, Casaccia, Italy (Keynote speaker; Zoom presentation).
- 360. December 2022 HENU talk. (Zoom recording).
- 361. May 2023 UCD Conway Flow Cytometry Summer School, Dublin Ireland.
- 362. May 2023 CYTO2023 Montreal. Workshop presentation.
- 363. May 2024 CYTO2024, Edinburgh. Workshop presentation.
- 364. May 2024 Fourth International Workshop on Exotic Flow Cytometry, Casaccia, Italy (Keynote speaker; Zoom presentation).
- 365. June 2024 Biennial National Flow Cytometry Course, Madison, Wisconsin.
- 366. July 2024 UCD Conway Flow Cytometry Summer School, Dublin Ireland (Keynote speaker; Zoom Presentation).

Summary of Extramural Grant Activity

Over my academic career, I have been recipient of competitive grants as Principal or co-Principal Investigator in the total amount in excess of \$27,000,000. The funding agencies have included NSF, DOD, USDA, DOE, NIH (three institutes), CDC, BARD, the Human Frontiers Science Program, the International Rice Research Institute, and Science Foundation Arizona. These grants have funded projects that ranged from individual investigator-initiated activities, to large-scale collaborative research programs involving investigators within sister academic and research institutions both across the US and internationally. I have served as Principal Investigator of several large national and international collaborations.