

## CURRICULUM VITAE

Alan Monte Jones  
Departments of Biology and Pharmacology  
University of North Carolina  
Chapel Hill, NC 27599-3280  
(919) 962-6932 fax 962-1625  
email= alan\_jones@unc.edu

### EDUCATION

Ph.D. Plant Biology, 1983, University of Illinois, Urbana  
B.S. *cum laude*, Botany, 1978, University of Florida, Gainesville

### APPOINTMENTS

2004- present Professor of Pharmacology, University of North Carolina-Chapel Hill  
1999- present Professor of Biology, University of North Carolina-Chapel Hill  
1992-1999, Associate Professor of Biology, Univ. of North Carolina-Chapel Hill  
1986-1992 Assistant Professor of Biology, Univ. of North Carolina-Chapel Hill  
1983-1986 Res. Associate with Dr. Peter Quail, Botany, Univ. of Wisconsin  
1982-1983 Research Assistant with Dr. David Ho, Univ. of Illinois.  
1981-1982 Research Assist. with Dr. Fred Meins, Friedrich Miescher Inst. in Basel.  
1978-1981 Res Assist. for Dr. Larry Vanderhoef, Plant Biology, Univ. of Illinois.

### PROFESSIONAL

2010- Editor *Current Opinion in Plant Sciences*  
2010 USDA AFRI, Panel Manager  
2007-2010 Executive Committee, Amer. Soc. Plant Biologists (elected)  
2005- BASF IBC member  
2004- NIH Study Section, Immunology Fellowships, permanent  
2003- DOE Bioscience Program, panel member  
2002- NSF, Cell Biology Signal Transduction, regular member  
2002- NIH study section member, SSS-Y (SBIR), permanent  
2001 USDA NRICGO, Panel Manager  
1999 NIH Study Section, Molecular Biology, CDF-1  
1991-1998; 2005- Editor, *Plant Physiology*  
1998- Faculty member in Program in Genetics and Molecular Biology  
1997- Faculty member in Program in Cell Biology  
1991-1996, Faculty member in the Program for Protein Engineering and Molecular Biology  
1992-1996 1998- 2006 Associate Editor, *J. Plant Growth Regulation*  
Member: AAAS, IPGSA, ISPMB, ASCB, ASPP, NCAS  
1991-1993 USDA NRICGO, panel member  
BARD Program CoChairman, 1995; BARD Chairman 1996

## HONORS AND AWARDS

2010 Elected Full Fellow of Sigma Xi  
2009 Fellow of the American Society of Plant Biologists  
2005- George and Alice Welsh Distinguished Professor of Cell Biology  
1996- Alexander von Humboldt Research Fellow  
1987 John T. Lupton Award  
1987 IBM Junior Faculty Award  
1982 University of Illinois Competitive Graduate Research Award

## PUBLICATIONS (Peer-reviewed manuscripts)

### *Under review:*

Uhrig, et al (AM Jones) The Arabidopsis heterotrimeric G protein interactome based on exhaustive genetic complementation using yeast. *Current Biology*  
Kushwah1, S., Jones, AM and Laxmi, A Signal integration at the root tip. *Plant Physiol.*  
Montgomery, ER, Temple, BRS, Booker, BK, Martin, JW, Smolski, WC, Rogers, SL, Jones, AM and Meigs, TE Class-distinctive residues of G $\alpha$ 12 necessary for Hsp90-dependent mitogenic signaling. *J. Biol. Chem.*  
Mudgil, Y. and Jones, AM NDL protein regulation of meristem initiation and shoot branching. *Plant Physiology*  
Cao, H., Guo, S., Xu, Y., Jiang, K., Xu,, Jones, AM, Chong, K. A golgi localized monosaccharide transporter (OsGMST1) from rice (*Oryza sativa* L.) *New Phytologist*  
Booker, F., Burkey, K., Morgan, P., Fiscus, E., and Jones, AM Sinapoyl malate, kaempferol glycoside and ascorbic acid responses to ozone in the leaf apoplast of *Arabidopsis thaliana* L. *New Phytologist*  
Booker, F., Burkey, K., Morgan, P., Fiscus, E., and Jones, AM Minimal influence of G-protein null mutations on ozone-induced changes in gene expression, foliar injury, gas-exchange and peroxidase activity in *Arabidopsis thaliana* L. *New Phytologist*  
Friedman, EJ, Wang, HX, Perovic, I, Deshpande, A, Pochapsky, TC,, Temple, BRS, Hicks, SN, Harden, TK, Jones AM Aci-reductone dioxygenase 1 (ARD1) is an effector of the heterotrimeric G protein beta subunit in *Arabidopsis*. *J Biol. Chem.*

### *Published*

87. Jones, JC, Temple, BRS, Jones, AM and Henrik G. Dohlman Functional reconstitution of an atypical G protein heterotrimer and RGS protein from *Arabidopsis thaliana*. (2011) *J Biol. Chem.* (**in press**)
86. Jones, JC, Duffy, JW, Machius, M, Temple, BRS, Dohlman, HG and Jones AM (2011) The crystal structure of a self-activating G $\alpha$  protein reveals a new mechanism of G protein activation. *Science Signaling* (**in press**) 10.1126/scisignal.2001446 (cover feature)
85. Xu, T, Wen, M, Fu, Y, Chen, J-G, Wu, M-J, Perrot-Rechenmann, C, Friml, J, Jones, AM, Yang, Z (2010) ABP1 and ROP GTPase-dependent auxin signaling modulates cellular interdigitation in *Arabidopsis* *Cell* **143**:99-110
84. Robert, S., Kleine-Vehn, J., Paciorek, T., Sauer, M., Barbez, E., Baster, P., Vanneste, S., Zhang, J., Simon, S., Hayashi, K., Dhonukshe, P., Bednarek, S., Jones, AM., Aniento, F., Zažímalová, E., Friml J. (2010) ABP1 mediates a non-nuclear auxin signaling for regulation of clathrin-dependent endocytosis in plants. *Cell* **143**: 111-121

83. Booker, KS, Schwarz, J, Jones AM Auxin and glucose signaling mediate a novel G protein regulated bimodality in lateral roots. *PLoS One* published 17 Sep 2010 10.1371/journal.pone.0012833
82. Temple, BRS., Jones, CD., Jones, AM. (2010) Evolution of a signaling nexus constrained by protein interfaces and conformational states. *PLoS Comp. Biol.* **6**: e1000962
81. Schenck, D, Christian, M., Jones, AM, Lüthen, AM (2010) Rapid auxin-induced cell expansion and gene expression: A four-decade old question revisited. *Plant Physiol.* **152**:1183-1185
80. Mudgil, Y., Jiang, K, Jones, AM (2009) Arabidopsis N-MYC DOWN-REGULATED-LIKE1, a novel downstream effector of AGB1-mediated auxin signaling in roots. *Plant Cell* **21**: 3591-609
79. Galvez-Valdivieso, G., Fryer, MJ, Lawson, T, Slattery, K, Truman, W, Smirnoff, N, Asami, T, Davies, WJ, Jones, AM, Baker, NR Mullineaux, PM (2009) Paracrine signaling between vascular and bundle sheath cells is part of the Arabidopsis high light response. *Plant Cell* **21**: 2143-2162
78. Friedman, EJ, Temple, BRS, Hicks, SN, Sondek, J, Jones, CD, Jones, AM (2009) Prediction of protein-protein interfaces on G-protein  $\beta$  subunits reveals a novel phospholipase2  $\beta$  domain. *J. Mol. Biol.* **392**: 1044-1054
77. Chen, Z, Noir, S, Kwaaitaal, M, Hartmann, AH, Wu, M-J, Muday, G, Mudgil, Y, Panstruga, R., Jones, AM (2009) Two Seven-transmembrane Domain MLO Proteins Co-function in Root Thigmotropism *Plant Cell* **21**: 1972-1991 (featured on the cover)
76. Weerasinghe, R., Swanson, S., Okada, S., Garrett, M. B., Kim, S-Y., Stacey, G., Boucher, R. C., Gilroy, S., Jones, A. M. (2009) Touch induces ATP release in Arabidopsis roots that is modulated by the heterotrimeric G complex. *FEBS Lett.* **583**: 2521-2526
75. Lu, G, Wang, Z, Jones, AM, Moriyama, EN (2009) 7TMRmine: A Web Server for Hierarchical Mining of 7TMR Proteins. *BMC Genomics* (doi:10.1186/1471-2164-10-275)
74. Botto, JF., Ibarra, S., Jones, AM. (2009) Heterotrimeric G protein regulates light sensitivity in Arabidopsis seed germination. *Photochem. Photobiol.* **85**(4):949-54
73. Christian, M, Hannah, WB, Lüthen, H, Jones, AM (2008) New Auxins from a Chemical Genomics Approach. *J. Expt. Bot* **59**: 2757-2767
72. Fan, L-M., Zhang, W., Chen, J-G., Taylor, JP, Jones, AM, Assmann, SM (2008) Abscisic acid regulation of guard-cell inwardly-rectifying  $K^+$  channels in  $G\beta$  and RGS-deficient Arabidopsis lines *Proc. Natl Acad Sci USA* **105**: 8476-8481
71. Grigston, JC, Osuna, D., Scheible, W-R., Stitt, M., Jones, AM (2008) Structural requisites for acute vs. chronic D-glucose sensing mediated by AtRGS1 and AtGPA1. *FEBS Lett.* **582**: 3577-3584
70. Johnston, C.A., Temple, B.R., Chen, J.G., Gao, Y., Moriyama, E.N., Jones, AM, Siderovski, DP, Willard, FS (2007) Comment on 'A G protein-coupled receptor is a plasma membrane receptor for the plant hormone abscisic acid'. *Science* **318**: 914c
69. Günther F. E. Scherer, Marc Zahn, Judy Callis, Alan M. Jones (2007) A role for phospholipase A in auxin-regulated gene expression. *FEBS Lett* **581**:4205-4211
68. Trusov, Y, Rookes, JE, Tilbrook, K, Chakravorty, D, Mason, MG, Anderson, D, Chen, J-G, Jones, AM, Botella, JR. (2007) Heterotrimeric G protein  $\gamma$  subunits provide functional selectivity in  $G\beta\gamma$  dimer signaling in Arabidopsis. *Plant Cell* **19**:1235-1250
67. Johnston, CA, Taylor, JP, Gao, Y, Kimple, AJ, Chen, JG, Siderovski, DP, Jones, AM, Willard, FS (2007) GTPase acceleration as the rate-limiting step in Arabidopsis G-protein coupled sugar sensing. *Proc. Natl Acad Sci USA* **104**:17317-17322

66. Pandey, S., Chen, J-G., Jones, AM., Assmann, SM. (2006) G protein complex mutants are hypersensitive to ABA-regulation of germination and post-germination development. *Plant Physiol.* **141**: 243-256
65. Wang, HX, Perdue, T, Weerasinghe, R., Taylor, JP, Cakmakci, NG, Marzluff, WF, Jones, AM (2006) A golgi hexose transporter involved in heterotrimeric G protein regulated early development in Arabidopsis. *Mol. Biol. Cell* **17**: 4257-4269.
64. Chen, J-G, Gao Y, Jones, AM (2006) Differential roles of heterotrimeric G-protein subunits in root development in Arabidopsis. *Plant Physiology* **141**: 887-897 (featured on the cover)
63. Chen, Z, Hartmann, HA, Wu, M-J, Friedman, EJ, Chen, J-G, Pulley, M, Schulze-Lefert, P, Panstruga, R and Jones AM (2006) Expression Analysis of the AtMLO Gene Family Encoding Plant-Specific Seven-Transmembrane Proteins. *Plant Mol. Biol.* **60**:583-597
62. Chen, J-G, Ullah, H., Temple, B. Liang, J., Alonso, J.M., Ecker, J., Jones, A.M. (2006) RACK1 mediates hormone responses and regulates multiple developmental processes in Arabidopsis. *J. Expt. Bot.* **57**: 2697-2708.
61. Joo, JH, Wang, S, Chen, JG, Jones, AM, Federoff, NV (2005) Different Signaling and Cell death Roles of Heterotrimeric G Protein  $\alpha$  and  $\beta$  Subunits in the *Arabidopsis* Oxidative Stress Response to Ozone. *Plant Cell* **17**: 957-970
60. Huang, J, Taylor, JP, Chen, JG, Wang, M, Uhrig, JF, Nakagawa, T, Korth, KL, Jones, AM (2006) The plastid protein THYLAKOID FORMATION1 and the plasma membrane G-protein GPA1 interact in a novel sugar-signaling mechanism in Arabidopsis. *Plant Cell* **18**:1226-38.
59. Moriyama, EN, Strobe, PK, Opiyo, SO, Chen, Z. and Jones, AM (2006) Mining the *Arabidopsis thaliana* genome for highly-divergent seven transmembrane receptors. *Genome Biology* [genomebiology.com/2006/7/10/R96](http://genomebiology.com/2006/7/10/R96)
58. Chen, J-G, Wang, S, Lazarus, CM, Napier, RM, Jones, AM (2006) Altered expression of auxin-binding protein 1 affects cell proliferation and auxin pool size in tobacco cells. *J. Plant Growth Regulation* **25**:69-78
57. Yu, X-H, Jones, B, Jones, AM, Heimer, YM (2005) A protease activity displaying some thrombin-like characteristics in conditioned medium of zinnia mesophyll cells undergoing tracheary element differentiation *J. Plant Growth Regulation* **23**:292-300
56. Wang, Q, Sullivan, RW, Kight, A, Henry, RL, Jones, AM, Korth, KL (2004) Deletion of the chloroplast-localized THYLAKOID FORMATION1 gene product in *Arabidopsis thaliana* leads to deficient thylakoid formation and variegated leaves. *Plant Physiology* **136**: 3594-3604
55. Booker, FL, Burkey, KO, Overmyer, K, Jones, AM (2004) Differential responses of G-protein *Arabidopsis thaliana* mutants to ozone. *New Phytologist* **162**: 633-641
54. Chen, JG, Pandey, S, Huang, J, Alonso, JM, Ecker, JR, Assmann, SM, Jones, AM (2004) GCR1 acts independently of heterotrimeric G protein in response to brassinosteroids and gibberellic acid in Arabidopsis seed germination *Plant Physiol.* **135**:907-915
53. Miles, GP, Samuel, MA, Jones, AM, Ellis, BE (2004) Mastoparan rapidly activates plant MAP Kinase signaling independent of heterotrimeric G proteins. *Plant Physiol.* **134**: 1332-1336
52. Pufky, J., Qiu, Y., Rao, M. V., Hurban, P. Jones, A. M. (2003) The auxin-induced transcriptome for etiolated Arabidopsis seedlings using a structure/function approach. *Functional Integrative Genomics.* **3**:135-143

51. Dharmasiri, N., Dharmasiri, S., Jones, A. M., Estelle, M. (2003) Auxin action in a cell-free system. *Curr. Biol.* **13**: 1418-1422
50. Chen, Jin-Gui, Willard, F.S., Huang, J., Liang, J., Chasse, S.A., \*Jones, A. M., Siderovski, D.P. (2003) A seven-transmembrane RGS protein that modulates plant cell proliferation. *Science* **301**: 1728-1731 \*corresponding senior author
49. Hayashi, K., Jones, A.M., Ogino, K., Yamazoe, A., Oono, Y., Inoguchi, M., Kondo, H. and Nozaki, H. (2003) Yokonolide B, a novel inhibitor of auxin action, blocks degradation of Aux/IAA factors. *J. Biol. Chem.* **278**: 23797-23806
48. Jones, AM, Ecker, JR, Chen J-G (2003) A Re-evaluation of the role of the heterotrimeric G protein in coupling light responses in Arabidopsis. *Plant Physiol.* **131**: 1623-27
47. Ullah, H., Chen, J-G., Temple, B., Boyes, D.C., Alonso, J.M., Davis, K.R., Ecker, J.R., Jones, A.M. (2003) The beta subunit of the Arabidopsis G protein negatively regulates auxin-induced cell division and affects multiple developmental processes. *Plant Cell* **15**: 393-409
46. Groover, A., Chen, J-G., Pattishall, A., and Jones, A.M. (2003) Auxin regulation of *Arabidopsis* IAA8 and zinnia zIAA8 in vascular development. *Plant Mol. Biol.* **51**: 427-435 *featured on the cover*
45. Höglund, A-S., Jones, A.M., and Josefsson, L-G. (2002) An antigen expressed during plant vascular development cross-reacts with antibodies towards KLH, keyhole limpet hemocyanin *J. Histochem.* **50**:999-1003
44. Ullah, H, Chen, J-G., Wang, S. Jones, A.M. (2002) Role of G $\alpha$  in regulation of *Arabidopsis* seed germination. *Plant Physiol* **129**: 897-907
43. Yu, X., Perdue, A, Heimer, Y., Jones, A. (2002) Mitochondrial participation in tracheary element cell death. *Cell Death and Differentiation* **9**: 189-198
42. Chen, J-G., Shimomura, S., Sitbon, F., Sandberg, G., Jones, A.M. (2001) Role of auxin-binding protein 1 in leaf cell growth. *Plant J.* **28**:607-617.
41. Wang, X-Q., Ullah, H., Jones, A.M., Assmann, SM (2001) G-protein regulation of ion channels and abscisic acid signaling in *Arabidopsis* guard cells *Science* **292**: 2070-2072
40. Ullah, H. Chen, J. G., Young, J., Im, K-H., Sussman, MR., Jones, AM (2001) Modulation of cell proliferation by heterotrimeric G-protein in *Arabidopsis*. *Science* **292**: 2066-2069
39. Fischer-Iglesias, C, Sundberg, B, Neuhaus, G and Jones, A.M. (2001) Auxin distribution and transport during embryonic pattern formation in wheat *Plant J.* **26**: 115-129.
38. Chen, J, Ullah, H., Young, J.C., Sussman, M.R., Jones, A.M (2001) ABP1 is required for organized cell elongation and division in *Arabidopsis* embryogenesis. *Genes and Development* **15**:902-911. *featured on the cover*
37. Im, K., Chen, J-G., Meeley, R., Jones, A.M (2000) Auxin-binding protein mutants in maize. *Maydica* **45**: 319-325
36. Im, H, Cosgrove, D, Jones, AM (2000) Subcellular localization of expansin mRNA in xylem cells. *Plant Physiol.* **123**: 463-470. *featured on the cover*
35. DeWitt, G., Richards, J., Mohnen, D. Jones, A.M. (1999) Comparative compositional analysis of walls with two different morphologies: archetypical versus transfer-cell like. *Protoplasma* **209**: 238-245
34. Groover, A., Jones, A.M. (1999) Tracheary element differentiation uses a novel mechanism coordinating programmed cell death and secondary cell wall synthesis. *Plant Physiology* **119**:375-384. *featured on the cover*

33. Jones, A. M. , Im, K-H., Savka, M., Wu, M-J., DeWitt, N.G., Shillito, R. Binns, A. (1998) Auxin-dependent cell expansion mediated by overexpressed auxin-binding protein 1. *Science* **282**: 1114-1117
32. Brown, J. C., Prasad, P., Wu, M-J., Irzyk, G.P. Jones, A. M. (1998) Purification of a 65-kilodalton Nuclear Protein with Structural Homology to Glutathione-S-transferase. *Plant Science* **136**: 227-236.
31. Shinkle, J. R., Kadakia, R., Jones. A. M. (1998) Dim-red-light induced increase in polar auxin transport in cucumber seedlings: I. Development of altered capacity, velocity, and response to inhibitors. *Plant Physiol.* **116**: 1505-1513
30. Barker-Bridgers, M., Ribnicky, D.M., Cohen, J.D. Jones, A.M. (1998) Red-light regulated growth. II. Changes in the abundance of indoleacetic acid in the maize mesocotyl. *Planta* **204**: 207-211
29. Groover, A.T., DeWitt, N.G., Heidel, A.J., Jones, A.M. (1997) Programmed cell death of plant tracheary elements differentiating *in vitro*. *Protoplasma* **196**: 197-211.
28. Tian, H., Klambt, D. and Jones, A.M. (1995) Auxin-binding protein 1 does not bind auxin within the endoplasmic reticulum despite this being the predominant subcellular location for this hormone receptor. *J. Biol. Chem.* **270**:26962-26969
27. Harnden, D. and Jones, A.M. (1995) Organ localization of auxin-binding protein 1 in the etiolated maize seedling. *J. Plant Growth Reg.* **14**:109-113
26. Brown, J. C. and Jones, A. M. (1994) Mapping the auxin-binding site of auxin-binding protein 1. *J. Biol. Chem.* **269**: 21136-21140
25. Edgerton, M.D. Tropsha, A. and Jones, A.M. (1994) The auxin-binding site of auxin-binding protein 1. *Phytochemistry* **35**:1111-1123
24. Edgerton, M.D. and Jones, A.M. (1993) Subunit interactions in the carboxy-terminal domain of phytochrome. *Biochemistry* **32**:8239-8245
23. Edgerton, M.D., Santos, M., and Jones, A. M. (1993) *In vivo* suppression of phytochrome aggregation by the GroE chaperonins in *E. coli*. *Plant Mol Biol.* **21**: 1191-1194
22. Jones, A. M. and Herman, E. (1993) KDEL-containing, auxin-binding protein is secreted to the plasma membrane and cell wall. *Plant Physiol.* **101**:595-606
21. Frances, S., White, M.J., Edgerton, M. D., Jones, A.M., Elliot, R.C., and Thompson, W.F. (1992) Initial characterization of a pea mutant with light-independent photomorphogenesis. *Plant Cell* **4**: 1519-1530
20. Edgerton, M.E. and A.M. Jones (1992) Localization of protein-protein interaction between the subunits of phytochrome. *Plant Cell* **4**:161-171
19. Jones, A.M, D.S. Cochran, P.L. Lamerson, J. Cohen, M. Evans (1991) Red- light induced changes in auxin, an auxin-binding protein, and auxin transport in maize mesocotyl. *Plant Physiol.* **97**:352-358
18. Prasad, P.V., A.M. Jones (1991) A putative receptor for the plant growth hormone, auxin identified and characterized by anti- idiotypic antibodies. *Proc. Natl. Acad. Sci. USA* **88**:5479-5483.
17. Macdonald, H., A.M. Jones, P.J. King (1991) Photoaffinity labeling of soluble auxin-binding proteins. *J. Biol. Chem.* **266**:7393-7399
16. Zhou, S., A.M. Jones, T.K. Scott (1990) Phytochrome-mediated Swelling of Etiolated Leaf Protoplasts and Its Possible *In vivo* Significance. *Plant Cell Reports* **9**:435-438
15. Jones, A.M., P. Lamerson, M.A. Venis (1989) Comparison of Site I Auxin Binding and a 22-Kilodalton Auxin-binding Protein in Maize. *Planta* **179**:409-414
14. Jones, A.M. (1990) Location of Transported Auxin in Etiolated Maize Shoots Using 5-azidoindoleacetic acid. *Plant Physiol.* **93**:1154-1161

13. Jones, A.M., M.A. Venis (1989) Photoaffinity Labeling of Auxin-Binding Proteins in Maize. *Proc. Natl. Acad. Sci. USA* **86**:6153-6156
12. Hicks, G. R., Rayle, D. L., Jones, A. M., Lomax, T. L. (1989) Specific Photoaffinity Labeling of Two Plasma Membrane Polypeptides with an Azido Auxin. *Proc. Natl. Acad. Sci. USA* **86**:4948-4952
11. Jones, A.M., P.H. Quail (1989) Phytochrome Structure: Peptide fragments from the amino-terminal domain involved in protein- chromophore interactions. *Planta* **178**:147-156
10. Jones, A.M., H.P. Erickson (1989) Domain Structure of Phytochrome from *Avena sativa* Visualized by Electron Microscopy. *Photochem. Photobiol.* **49**:479-483
9. Parks, B.M., A.M. Jones, P. Adamse, M. Koorneef, R.E. Kendrick, and P.H. Quail (1987) The Aurea Mutant of Tomato is Deficient in Spectrometrically and Immunochemically Detectable Phytochrome. *Plant Mol. Biol.* **9**:97-108.
8. Jones, A.M., C.D. Allen, G. Gardner, and P.H. Quail (1986) Synthesis of Phytochrome Apoprotein and Chromophore are not Coupled Obligatorily. *Plant Physiol.* **81**:1014-1016.
7. Jones, A.M. and P.H. Quail (1986) Quaternary Structure of 124-Kilodalton Phytochrome from *Avena sativa* L. *Biochemistry* **25**:2987- 2995.
6. Jones, A.M., R.D. Vierstra, S.M. Daniels, and P.H. Quail (1985) The role of separate molecular domains in the structure of phytochrome from etiolated *Avena sativa* L. *Planta* **164**:501-506.
5. Jones, A.M., L.L. Melhado, T.-H.D. Ho, C.J. Pearce, and N.J. Leonard (1984) Azido Auxins: Photoaffinity Labeling of Auxin-Binding Proteins in Maize Coleoptile with Tritiated 5-azidoindole-3- acetic acid. *Plant Physiol* **75**:1111-1116.
4. Melhado, L.L., A.M. Jones, T.-H.D. Ho, and N.J. Leonard (1984) Azido Auxins: Photolysis in Solution and Covalent Binding to Soybean. *Plant Physiol* **74**:289-294.
3. Jones, A.M., L.L. Melhado, T.-H.D. Ho, and N.J. Leonard (1984) Azido Auxins: Quantitative Binding Data in Maize. *Plant Physiol.* **74**:294-302.
2. Melhado, LL, Jones, AM, Leonard, NJ, Vanderhoef LN(1981) Azido Auxins: Synthesis and Biological Activity of Fluorescent Labeling Agents. *Plant Physiol.* **68**:469- 475.
1. Jones, A.M. and L.N. Vanderhoef (1980) The Effect of Abrading the Cuticle. *J. Expt. Bot.* **32**:405-410.

Book Chapters and Invited Reviews (\*indicates peer-reviewed):

37. Kline, KG, Sussman, MR, Jones AM. (2010) Abscisic Acid Receptors. *Plant Physiology* **154**: 479-482
36. Tanaka, K., Gilroy, S., Jones, AM., Stacey, G. (2010) Extracellular ATP signaling in plants. *Curr. Op. Cell Biol.* **20**:601-608
35. Yalovsky, S., Baluska, F., Jones, A (2009) Editors of "Integrated G Proteins Signaling in Plants. Series title "Signaling and Communication in Plants" Springer, New York
34. Jones, AM and Sussmann, MR A binding resolution.(2010) *Plant Physiol.* **150**: 3-5
33. Jones, A.M, Chory, J, Dangl, JL, Estelle, M, Jacobsen, SE, Meyerowitz, EDM, Nordborg, M, Weigel, D (2008) Arabidopsis Impact on Human Health Research: "Diversifying our portfolio" *Cell* **133**:939-943
32. Lei Ding, Jin-Gui Chen, Alan M. Jones, Sarah M. Assmann (2007) Heterotrimeric G-protein coupled signaling in higher plants. *In Plant Signal Transduction*, Z. Yang, ed., Blackwell Press.

31. Temple, BRS, Jones, AM (2007) The plant heterotrimeric G protein Complex. *Ann. Rev. Plant Biology* **58**:249-266
30. Perfus-Barbeoch, L, Jones, A. M., Assmann, S. M. (2004) Plant heterotrimeric G protein function: insights from Arabidopsis and rice mutants. *Curr. Op. Plant Biol.* **7**:719-731
29. Jones, AM, Ullah, H, Chen, J-G (2004) Dual pathways for auxin regulation of cell division and expansion. In Tobacco BY-2 Cells, Series: Biotechnology in Agriculture and Forestry, Nagata, T, Lörz, H, Widholm, JM eds. Vol 53, Springer, Tokyo
28. Chen, J-G., Jones, A. M. (2004) AtRGS1 function in Arabidopsis. *Meth. Cell Enzymol.* **389**: 338-350
27. \*Jones, A.M. and Assmann, S. M. (2004) Plants: the latest model system for G-protein research *EMBO Reports* **5**: 572-578
26. \*Beers, E. P., Jones, A. M., Dickerman, A. W. (2004) The S8 serine, C1A cysteine and A1 aspartic protease families in Arabidopsis. *Phytochemistry* **65**: 43-58
25. \*Jones, AM (2002) G-protein-coupled signaling in Arabidopsis. *Curr. Opin. Plant Biol.* **5**:402-407
24. \*Jones, A. M. ed. 2001 *Special Edition on Auxins. J. Plant Growth Reg.* Vol. 20 number 3
23. Jones, A. M., A. Groover, X Yu, T. Perdue (2001) Final and fatal step of tracheary element differentiation. In Molecular Breeding of Woody Plants, N. Morohoshi and A. Komamine, eds. Elsevier Science B. V. pp. 29-42
22. \*Jones, A M (2001) Programmed cell death in development and defense. *Plant Physiol.* **125**: 94-97
21. Jones, A.M. (2000) Does the plant mitochondrion integrate cellular stress and regulate programmed cell death? *Trends in Plant Sciences* **5**, 225-230
20. Jones, Alan M., Silvia Coimbra, Angelika Fath, Mariana Sottomayer and Howard Thomas Various "Methods for Study of Cell Death in Plants" In Cell Death, Second Edition, Larry Schwartz and Jonathan Ashwell, eds. Methods in Cell Biology Academic Press, San Diego
19. Jones, A.M. (1999) Manipulation of fiber content in plants. *AgriNews* **1**: 1-4
18. Jones, A.M. (1999) Textbook review 'Introduction to Plant Physiology, 2<sup>nd</sup> edition by William C. Hopkins' , American Society for Biology Bulletin
17. Jones, A.M. (1998) Auxin transport: Down and out and up again. *Science* **282**: 2201-2202
16. Jones, A.M. and Dangl, J. D. (1996) Logjam at the Styx: The multiplicity of programmed cell death in plants. *Trends in Plant Science* **1**: 114-119
15. Jones, A.M. and Lomax, T. L. (1996) Photoaffinity labeling with 5-azidoindole-3-acetic acid. In Plant Biochemistry and Molecular Biology, CRC Press, pp. 115-132
14. \*Jones, A.M. and Edgerton, M. D. (1994) The Anatomy of phytochrome: a unique photoreceptor in plants. *Seminars in Cell Biology* **5**:295-302
13. Jones, A. M. (1994) Surprising signals in plants. *Science* **263**:183-184
12. Jones, A. M. (1994) Auxin-binding proteins. *Annu. Rev. Plant Physiology and Plant Molecular Biology* **45**:393-420
11. Jones, A. M. (1993) Auxin-binding proteins and their possible role in cell development. Cellular Communication in Plants. Amasino, R., ed., Plenum, NY
10. \*Jones, A.M. (1992) What remains of the Cholodney-Went theory? Assymmetric redistribution of auxin need only occur over the distance of one cell width. *Plant Cell Environ.* **15**: 775-776. featured on the cover
9. Jones, A.M., P.V. Prasad (1991) Auxin-binding proteins and their possible roles in auxin-mediated plant growth. *BioEssays* **14**:43-48

8. Jones, A.M. 1990 Do We Have the Auxin Receptor Yet? *Physiol. Plant.* **80**:154-158
7. Quail, P.H., Christensen, A.C., Jones, A.M., Lissemore, J.L., Parks, B.M., Sharrock, R.A. (1987) The Phytochrome Molecule and the Regulation of its Genes. In 4th FOAB Congress, Integration and Control of Metabolic Processes: Pure and Applied Aspects, ICSU Press. pp 41-54
6. Jones, AM Venis, MA (1987) Photoaffinity Labeling of auxin-binding proteins in maize. In "Physiology and Biochemistry of Auxins in Plants" Kutacek, Bandurski, Krekule, eds.
5. Jones, AM (1987) The effect of low fluence red light on growth and NAA binding. In "Physiology and Biochemistry of Auxins in Plants" Kutacek, Bandurski, Krekule, eds.
4. Quail, P.H., Barker, R.F., Colbert, J.T., Daniels, S.M., Hershey, H.P., Idler, K.B., Jones, A.M., and Lissemore, J.T. (1986) In *Molecular Biology of Plant Growth Control*, UCLA Symposium on Molecular and Cellular Biology, Alan R. Liss, Inc., pp 425-439  
Quail, P.H., Gatz, C., Hershey, H.P., Jones, A.M., Lissemore, J.L., Parks, B.M., Sharrock, R.A., Barker, R.F., Idler, K., Murray, M.G., Koorneef, M., Kendrick, R.E. (1987) *Molecular Biology of Phytochrome*. In *Phytochrome and Photoregulation in Plants*, Furuya, ed., Academic Press, pp 23-37
3. Trewavas, A.J. and A.M. Jones (1981) Consequences of hormone binding studies for plant growth research. *What's New in Plant Physiology?* 12:5-8.
2. Starling, R.J., A.M. Jones, and A.J. Trewavas (1985) Putative Plant Hormone Receptors. *What's New in Plant Physiology?* 15:37-40
1. Jones, A.M., A.S.N. Reddy, 1992 *Auxin*. McGraw-Hill Yearbook of Science and Technology

### **INVENTION DISCLOSURES AND PATENTS (UNC-CH only)**

ORS94-78 In vivo expression system for detection of homotypic protein-protein interactions

OTD96-91 A controllable genetic mechanism to increase the growth rate of plants

OTD98-25 A genetic mechanism to increase the growth rate of plants

OTD00-101 Plant cell expansion control by ABP1. (Patent Pending)

OTD02- Hyperpolarization-activated Ca<sup>++</sup> channels as reporters for membrane hyperpolarization

Docket # 2155P Methods of improving plant agronomic traits by altering the expression of plant G proteins alpha and beta. (Patent Pending)

### **MAJOR PRESENTATIONS (1986-present)**

A strange way to sense sugar; no April foolin' Cornell University, April 1<sup>st</sup> 2011

"Structure of a self-activating Ga subunit" DOE Contractors workshop, Baltimore, Oct 17-20, 2010

"Structure of a self-activating Ga subunit" NCBC PMB retreat, Ashville, NC Oct 1<sup>st</sup>, 2010

"The unusual (and useful) properties of heterotrimeric G protein signaling in Arabidopsis" University of Heidelberg June 24<sup>th</sup>, 2010.

"Glucose sensing by regulator of G signaling 1 protein coupled by heterotrimeric G protein complex: illuminating atomic structure and mechanism" University of Freiburg, June 25<sup>th</sup>, 2010 on the occasion of Eberhard Schaefer's retirement (special symposium)

"A new way to sense sugar", School of Life Science, UN-Las Vegas, Mar 5<sup>th</sup>, 2010

"Evolution of G protein Signaling" Duke University, Plant Biology, Jan 15, 2010

"How the G protein Complex Mediates Control of Cell Proliferation in Arabidopsis" Colloquium speaker, University of Wisconsin Madison Nov 5<sup>th</sup>, 2009

"Sui generis yet applicable G-protein cycling in the model organism, Arabidopsis". Medical University of South Carolina, Dept Cell and Molecular Pharmacology, October 22, 2009

"Sugar regulation of cell division through a Novel G protein complex" Clemson, March 13, 2009

"A Novel Receptor-GAP in Arabidopsis Glucose Signaling" Max Plank Institute Cologne, Dec 4<sup>th</sup>, 2008

"Arabidopsis (and other plants) impact on human health" Oxford University, December 2, 2008

"A Novel Receptor-GAP in Arabidopsis G cycling" Donald Danforth Center, St. Louis, Sept 15, 2008

"Glucose sensing through a novel receptor GAP" Banbury Conference entitled " Nutrient Sensing In Plants. What Can Other Model Organisms Tell Us?" Cold Spring Harbor, 21-24 September 2008

"Heterotrimeric G protein coupled D-glucose Signaling in Arabidopsis" Symposium speaker, ASPB annual Meeting, Merida Mexico, June 28, 2008

"A novel receptor-GAP in Arabidopsis G protein cycling" **Tolbert Distinguished Lectureship**, Michigan State University, April 17, 2008

"Sugar Regulation of Cell Proliferation via the Arabidopsis Heterotrimeric G Protein", Texas A&M, Molecular and Environmental Plant Sciences Symposium, Keynote speaker, College Station, TX, Mar 4<sup>th</sup>, 2008

"Sugar Sensing via a Hexose-regulated Receptor GTPase Accelerating Protein" University of Minnesota, Symposium Speaker, February 20, 2007 **Graduate Student Invitation**

"Sugar Sensing via a Hexose-regulated Receptor GTPase Accelerating Protein" Brody School of Medicine at ECU, Nov. 13<sup>th</sup>, 2006

"Signaling through the Plant Heterotrimeric G protein Complex" Wageningen Plant Science Summer School lecture, June 20<sup>th</sup>, 2006

"Heterotrimeric G protein coupled signaling: Do plant cells do it backwards? Univ. MO, Columbia, MO May 8, 2006 **Graduate Student Invitation**

"Novel Signaling via the Heterotrimeric G protein in Arabidopsis" Univ. Nebraska, Lincoln Mar 1, 2006

"How and why do we sense sugars? A lesson from a weed." William and Mary University, Feb 3, 2005

"High Glucose Signaling in Arabidopsis Involves Plasma Membrane to Organelle Communication" NCBC Plant Molecular Biology Retreat Speaker, Wilmington, Sept 30<sup>th</sup>, 2005

"Sugar sensing- A Novel Signal Pathway from Plasma Membrane to Organelles" Florida State University, Sept. 29<sup>th</sup>, 2005

"Sugar Sensing in Plants" Monsanto, St. Louis, August 17, 2005

"Sugar Sensing in Plants from Human, Yeast, and Cyanobacteria Perspectives" Martin-Luther-University of Halle-Wittenberg, March 31, 2005

"Sugar Sensing Via A Novel Regulator of G Signaling (RGS) Protein in Arabidopsis" Univ. California, Davis April 22, 2005 **Graduate Student Invitation**

"Sugar Sensing in Arabidopsis" Keystone Conference, Santa Fe, Feb. 2-5, 2005

"Plastid to Plasma Membrane Signaling in Sugar Sensing Involves the Heterotrimeric G Protein Complex" BASF, RTP, NC Jan 21, 2005

"Heterotrimeric G-Protein-coupled Sugar Sensing in Plants" Iowa State University, Ames, IA, November 11, 2004

" Sugar sensing coupled by Heterotrimeric G protein in Arabidopsis" Virginia Polytechnic Institute, Blacksburg, VA Nov. 5<sup>th</sup>, 2004

"G Protein-Coupled Sugar Sensing in Arabidopsis" University of Florida, Gainesville, FL Oct. 13<sup>th</sup>, 2004

"G-protein coupled Sugar Sensing in Arabidopsis Involving a Novel Plastid Protein", Invited Speaker, Biochemical Society Focused Meeting, Royal Agricultural College, Cirencester, UK, September 25-29, 2004

"Role of a Seven-transmembrane RGS Protein in Sugar Sensing in Arabidopsis", Invited Speaker, ASPB Ann Meeting, Orlando, July 24-29<sup>th</sup>, 2004

"Auxin-binding protein 1" Auxin 2004 Kolympari Crete, May 2004

"G-protein coupled sugar signaling in Arabidopsis" University of Illinois, May 5, 2004

"G-protein coupled signal transduction in Arabidopsis" Dept. Pharmacology, UNC Dec. 2003

"Cell division control in roots: Two separate mechanisms coupled by a heterotrimeric G protein" NC Biotechnology Plant Consortium Retreat, Asheville, Sept. 2003

"G-coupled signaling in Arabidopsis" Dept. Botany, Univ. Tennessee, Mar. 27, 2003.

"University-Industry Relationships and the public good, the bad, and the ugly", Agricultural Biotechnology Workshop held Nov. 19-20, RTP, NC invited panelist

"Role of the beta subunit of Arabidopsis Heterotrimeric G Protein in Controlling Cell Division" Dept. Biology, Penn State Univ. Oct. 15<sup>th</sup>, 2002

"Role of the Mitochondria in Programmed Cell Death During Tracheary Element Differentiation" Am. Phytopathological Society, **Symposium Speaker**, July 28<sup>th</sup>, 2002

"Life in the Fastlane- a Perspective from a Principal Investigator" Burroughs Welcome Fund sponsored Conference on Electronic Grantmaking. Research Triangle Park, June 5-6, 2002

"Multiple Signal Coupling by Arabidopsis Heterotrimeric G protein" Univ. Mass. May 2<sup>nd</sup>, 2002

"Multiple Signal Coupling by Arabidopsis Heterotrimeric G protein" Max Plank Institute, Koln, Mar. 20<sup>th</sup>, 2002

"Dual and competing auxin signal transductions by independent pathways", 2nd Internat'l Conference DFG Schwerpunktprogramm Molecular Analysis of Phytohormone Action. Hamburg, Mar 21, 2002 Keynote Speaker

"Dual auxin signal mechanisms involves G protein coupling in *Arabidopsis*", Cell and Molecular Biology, Univ. Texas- Austin, Jan 29, 2002

"Role of a heterotrimeric G-protein in signal crosstalk in seed germination" **Plenary speaker** for San Diego Center for Molecular Agriculture Symp. "How do plant cells transduce hormonal and environmental signals? Oct 19, 2001

"Crop bioengineering benefits to the Earth" Biomedical Debate Panelist, "Genetically Modified Foods: Issues and Answers" 4<sup>th</sup> Ann. NC Assoc. Biomed Res. A program for general public, HS teachers and students. Oct.10, 2001

"ABP1 is required for coordinated cell elongation and division in arabidopsis embryogenesis", XIV International Congress on Plant Growth Regulators, Brno, Czech Rep., July1-7, 2001 **Plenary speaker**

"Auxin regulation of filling and partitioning space in plant tissues", Western Washington University, May 1<sup>st</sup>, 2001

"A heterotrimeric G protein in plant cell proliferation", University of British Columbia, April 30, 2001

"Dissection of auxin signal transduction in cell elongation and division", Harvard University, April 18<sup>th</sup>, 2001

"Auxin control of plant cell growth and division" Dept. Chemistry, UNC-CH, April 4<sup>th</sup>, 2001

"Signal transduction of plant cell division and expansion", 4 talks given in Japan between March 11-22, at RIKEN, HARL, Univ. Tokyo, and Nara Institute

"Final and Fatal Step of Tracheary Element Differentiation" International Symposium on Tree Biotechnology, Tokyo, Mar. 15-17, 2001

"Auxin control of plant cell growth and division" Biotechnology Center, University of Wisconsin, Feb. 15<sup>th</sup>, 2001

"Signal transduction in Plant Cell growth, division, and differentiation" in Progress in Signaling Research Series, Dept. Pharmacology, UNC, Chapel Hill, Feb 12<sup>th</sup>, 2001

"Signal transduction pathways in plant cell elongation, division and differentiation", Cold Spring Harbor Lab, Banbury Conference, Dec. 4-7, 2000

"Regulation of programmed cell death during tracheary element formation by a novel 'trigger' protease" Univ. Nebraska, Nov. 8, 2000

"A novel protease controlling programmed cell death during tracheary element differentiation", NCBC annual PMB retreat, Boone, NC invited speaker, Set. 16, 2000

"Regulation of Programmed Cell Death During Tracheary Element Differentiation", Invited speaker and session chair, Gordon Conference, July 21, 2000

“Mediation of auxin action through the auxin receptor”, Plenary, ABPI' Plant Growth Regulator Society of America, Kona Hawaii, July 31, 2000  
Plenary speaker

“Auxin signal transduction” Auxin 2000, Ajaccio, Corsica, May 15<sup>th</sup>, 2000 Plenary speaker

“Programmed Cell Death in Plants” Cell Death Society Symp, El Escorial, Spain, May 9, 2000, Invited speaker

“New targets for auxenic herbicides” DowAgro, Indianapolis, April 24, 2000

“Induction and termination: two controlling events of tracheary element formation”, Dept. Forestry, University of Sweden, Uppsala, Jan, 13, 2000

“Dual signalling pathways for auxin-regulated cell division and expansion” Dept. of Forestry, University of Sweden, Umea, Jan 10<sup>th</sup>, 2000

“Regulation of programmed cell death by a secreted protease during terminal differentiation of tracheary elements”  
American Soc. Cell Biology, Washington DC, Dec. 14<sup>th</sup> 1999

“How to become a functional corpse: Lessons from a model cell system” Dept. Biology, The University of North Carolina at Chapel Hill, Nov. 29<sup>th</sup>, 1999

“Regulation of programmed cell death by a secreted protease during terminal differentiation of tracheary elements.”, Cold Spring Harbor, Banbury Conference, Oct. 17-20, 1999

“Programmed cell death during differential differentiation of tracheary elements” Invited speaker to International Botanical Congress, August 5, 1999

“A two-decade journey towards an auxin receptor” Washington State University, Pullman, July 21, 1999

“The role of auxin-binding protein 1 in cell expansion and division” University of Missouri symposium Plant Hormones: Signaling and gene expression. Invited speaker, April 14, 1999

“Auxin-dependent plant cell expansion mediated by overexpressed auxin-binding protein 1” University of Wisconsin, Madison, March 29, 1999

“Reverse genetic approaches to assign function to a novel type of receptor for the plant hormone auxin”, UNC Genetics Program, Nov. 13<sup>th</sup>, 1998

“Molecular genetic evidence that auxin-binding protein 1 is a receptor mediating auxin-regulated cell expansion” Max Plank Institute für Zuchstuchforschung, Köln, Germany, Sept. 2<sup>nd</sup>, 1998

“A serine protease regulates programmed cell death during tracheary element differentiation”, Max Plank Institute für Zuchstuchforschung, Köln, Germany, Sept. 4<sup>th</sup>, 1998

“Developmental programmed cell death during tracheary element formation”, Novartis, RTP, June 21, 1998

“Tracheary element formation: Coordination controls between cell wall formation and its programmed cell death”, Westvaco, Summerville, SC, June 16<sup>th</sup>, 1998

“A serine protease triggers programmed cell death of developing tracheary elements”, DeKalb, Mystic, CT, June 12, 1998

“Controlled overexpression of auxin-binding protein 1 causes auxin-dependent growth”, American Society of Plant Physiologists, Madison WI, June 28<sup>th</sup>, 1998

“A secreted protease coordinates cell wall synthesis with programmed cell death during tracheary element differentiation.” American Society of Plant Physiologists, Madison WI, July 1<sup>st</sup>, 1998

“Controlled overexpression of auxin-binding protein 1 causes auxin-dependent cell expansion”. American Society of Plant Physiologists, Roanoke Virginia, Feb. 21-23, 1998

“Signal transduction by Synecocystis phytochrome.” 11<sup>th</sup> North Carolina Biotechnology Center Plant Molecular Biology Consortium Retreat, Asheville, NC Sept. 1998

“Auxin-binding Protein 1 defines a new growth hormone signal pathway” Duke University, Developmental Cell and Molecular Biology Seminar Series, April 8<sup>th</sup>, 1998

“Tracheary Element Differentiation: Coordination of Programmed Cell Death and Secondary Wall Synthesis” University of Ohio, Dept. Botany, Jan. 30<sup>th</sup>, 1998

“Terminal Differentiation of Tracheary Elements Utilizes a Secreted Protease to Coordinate Programmed Cell Death with Wall Formation” University of California- Berkeley, Department of Plant and Microbial Biology, **Graduate Student Invitation**, Mar. 9<sup>th</sup>, 1998

“Differentiation of Tracheary Elements involves a Coordinated, Catastrophic, Committed Event in its Cell Death Program” Texas A & M University, Department of Horticulture, Oct. 23<sup>rd</sup>, 1997

"Xylogenesis: A Model System to Study Plant Programmed Cell Death", University of Warwick, Department of Biology, July 17<sup>th</sup>, 1997

"Overexpression of ABPI in Maize causes excessive deposition of Cell Wall" University of Warwick, Department of Biology, July 18<sup>th</sup>, 1997

"ABPI and Cell Wall Growth" University of Freiburg, Institut fur Biologie II, June 25<sup>th</sup>, 1997

"Programmed Cell Death During Tracheary Element Formation Involves a Novel Suicide Event Which May Be Triggered By a Wall Derived Signal" Max Plank Institut fur Molekulare Pflanzenphysiologie Golm, May 27<sup>th</sup>, 1997

"The possible function of the auxin receptor." Keystone Symposium, Signal Transduction in Plants, Hilton Head, SC, May, 1995.

"Transfer Cells." Keystone Symposium Workshop, Glycochaperones, Tamarron, CO, March, 1996.

"Programmed cell death in plants." Integrative Biology, **Graduate student invitation**, Virginia Tech University, March, 1996.

"Auxin receptors and their mode of action." Friedrich Miescher Institute, Basel, Switzerland. June, 1994.

"Phytochrome-regulated growth." Centre National de la Recherche Scientifique, Gif-sur-Yvette, France. June 1994.

"Auxin receptors and their mode of action" Department of Biology, Cornell University, Ithaca, NY. September, 1994.

"Auxin receptors." Department of Biology, Pennsylvania State University, University Park, PA. April, 1995.

"Subcellular localization of ABPI", Cytonet Retreat, Breckenridge, CO, May, 1993.

"Multiple receptors in auxin action", Congress on Cell and Tissue Cultures, San Diego, CA, June, 1993. Plenary

"Phytochrome-regulated growth: the role of auxin and auxin receptors", Department of Veg. Crops, University of California, Davis, CA, June, 1993.

"Possible role of auxin receptors in plant signal transduction." Steenbock Symposium, University of Wisconsin, Madison, WI. May, 1992. Invited speaker

"Light-regulated growth." Department of Botany and Plant Pathology, Oregon State University, Corvallis, OR. May, 1992.

"Structure and function of key molecules in light-regulated growth." Department of Botany, University of Washington, Seattle, WA. May, 1992.

"Signal transduction in plants." Cold Spring Harbor Laboratory, Cold Spring Harbor, NY. July, 1992.

"Light-regulated growth in plants." Department of Biology, UNC, Greensboro, NC. February, 1993.

"Multiple receptors in auxin action." Juan March Foundation Workshop on Hormone Action in Plants, Madrid, Spain. March, 1993. Invited speaker

"Subcellular localization of ABPI." Cytonet Retreat, Breckenridge, CO. May, 1993. Invited speaker

"Signal transduction in plants." Cold Spring Harbor Laboratory, Cold Spring Harbor, NY. July, 1991.

"Phytochrome polypeptide structure." Internat'l Soc. for Plant Molecular Biology, Tucson, Aug, 1991. Invited

"Auxin-binding proteins and their putative roles in cell elongation." International Society for Plant Molecular Biology, Tucson, AZ. August. 1991. Invited speaker, same conference

"Localization of the dimerization region in phytochrome polypeptide." International Symposium on Photomorphogenesis, Beltsville, MD. October, 1991. Invited speaker

"Mechanism of phytochrome-regulated growth." Department of Biology, Wake Forest University, Raleigh, NC. December, 1991.

"Mechanism of phytochrome-regulated growth." Department of Biology, Yale Univ, New Haven, CT. Feb 1992.

"Auxin receptors." NIEHS, RTP, NC. March, 1992.

"Auxin-regulated growth." Department of Genetics, NCSU. March, 1992.

"Light-regulation of growth: the structure and function of key molecules." Department of Biology, University of Illinois, Chicago. April, 1992.

"Maize auxin receptor." Gordon Conference, June, 1990. Invited speaker.

"Phytochrome-regulated growth." University of Missouri, Columbia, October, 1990.

"Role of auxin and an auxin receptor in light-regulated growth." Duke University, November, 1990.

"Phytochrome-regulated growth in maize-role of auxin and an auxin receptor." Washington University, St. Louis, MO, January, 1991.

"Localization of auxin-transporting cells in maize mesocotyl." Jacque Monod Conference, Roscoff, France, September, 1989. Invited speaker

"Identification and partial purification of a red algal phytochrome." American Society of Plant Physiology, Toronto, Canada, August, 1989, with M. Edgerton. Invited speaker.

"Light-regulation of maize mesocotyl growth: The role of auxin and a putative auxin receptor." Michigan State University, January, 1990.

"Photoaffinity Labeling of Auxin-binding Proteins in Maize." International Congress of Plant Growth Substances, Calgary, Alberta, Canada, July, 1988. Invited speaker.

"Effect of Red Light on NAA-induced Growth Capacity and NAA Binding." International Congress of Plant Growth Substances, Calgary, Alberta, Canada, July, 1988. Invited speaker, same conference.

"Phytochrome-regulated Growth." CIBA GEIGY, Research Triangle Park, North Carolina, June, 1988.

"Structural/Functional Analysis of *Avena* Phytochrome", XIV, International Botanical Congress, Berlin, July 25, 1987. Invited speaker.

"A Structural/Functional Analysis of the Phytochrome Polypeptide", Eidgenossische Technische Hochschule (ETH), Zurich, August 10, 1987.

"Phytochrome-regulated Growth in Maize", Department of Botany, NCSU, January 13, 1988.

"Phytochrome-regulated Growth", Department of Botany, Duke University, February 5, 1988.

"Phytochrome-regulated Growth", Department of Horticulture, Virginia Polytechnic Institute, Blacksburg, VA, January 14, 1988.

Okazaki, Japan, Yamada Conference for Phytochrome and Plant Morphogenesis, 1986, "Localization of a 16-kilodalton Domain on the Phytochrome Polypeptide involved in Stable Protein-Chromophore Interactions".

NC Biotechnology Center. Plenary speaker, October 1986, "A Structural/Functional Analysis of Phytochrome".

## SERVICE

### *International*

2005 Conference organizer, Keystone Meeting, "Plant Signal Transduction: In vivo and -omics Approaches"

2000 Session organizer, Plant Senescence Gordon Conference

1999 Co-organizer for the first meeting devoted to programmed cell death in plants, Banbury Conference, Cold Spring Harbor Laboratory

1999 Co-organizer of session on Programmed Cell Death, International Botanical Congress

1999 Instructor for Advance Course in Programmed Cell Death, July 4-9, Porto, Portugal

1999 Chief organizer of the first international meeting on Auxin Year 2000, in Corsica

1998 Scientific delegation from UNC General Administration to Baden-Wuerttemberg Germany to establish a Scientist Exchange program between the two states.

### *National*

2010 Organizer of an NSF-funded workshop to solve the evolution of the G protein signaling pathway

2008 Meeting Organizer Banbury Conference Cold Spring Harbor

2007-2010 Executive Committee, Amer. Soc. Plant Biologists

2006 Program Review, Division of Cell Biology, University of Maryland

2005 Organizer of a Keystone Symposium

2003 DOE Biological Science grant panel

2002 Panelist for a workshop on University-Industry Relationships

2002- NIH Small Business Innovative Research Study section, regular member

2002- NSF Signal transduction (Cell Biology) regular panel member

2001 Panel Manager, USDA NRICGO, Plant Growth and Development  
1999 Reviewed text book 'Introduction to Plant Physiology' for Am. Soc. Biology.  
1999 Panel member, NIH, CDF-1  
1999 Instructor for ASPP-sponsored Plant Biochemistry Course  
2001-2006 American Society of Plant Biologist program committee  
2002-2006 American Society of Plant Physiologist Constitutional By-Laws Committee  
1998-2001 American Society of Plant Physiologist Constitutional By-Laws Committee  
1993-1996 NSF funded Network of Cell Biologist Advisory Committee  
1991-1998 Editor, *Plant Physiology*  
1996 BARD Chairman, USDA-Israel Funding Agency  
1995 BARD Program CoChairman,  
1991-1996 Editor, *J. Plant Growth Regulation*  
1991- 1993 Panel Member USDA National Research Initiative Competitive Grants Office  
1991, 1992 Instructor, Cold Spring Harbor Course on Signal Transduction in Plants

### *State and Community*

2010 SciNCE Festival, "Ask a scientist booth" Sept, 2010, sponsored by Sigma Xi  
2008 Jones Lab representative, DNA Day - Southern Lee High School  
2007 Jones Lab representative, DNA Day - Southern Lee High School  
2007 Jones Lab representative, NC State Science Fair Judge - Meredith College - Junior  
Biological Sciences Division  
2006-2009 NCBC PMB Seminar committee  
2005- Internal BioSafety Committee for BASF, RTP, NC  
2001 Biomedical Debate Panelist, "Genetically Modified Foods: Issues and Answers" 4<sup>th</sup> Ann.  
NC Assoc. Biomed Res. A program for general public, HS teachers and students  
1999 Preceptor for NC teacher, UNC Math and Science Education Network  
1999 Co-founder of NC chapter of Alexander von Humboldt Society of America, on-going  
effort  
1999- North Carolina Academy of Sciences  
1986- Plant Molecular Biology Consortium, NC Biotechnology Center, served on either the  
Seminar or Steering Committee every year since 1986, except sabbatical year  
1986-1989 Weekly mentor to students from the School in Math and Sciences

### *University*

2010- Alpha Epsilon Delta, Premed Honors club, Faculty Advisor  
2009 Boka W. Hadzija Award Selection Committee (UNC award for character and service)  
2007- Member, Administrative Board, School of Dentistry  
2006- 2012 Genomics Building Greenhouse Planning Committee  
2000-2002 Admissions Committee, UNC School of Dentistry  
2000- NSF Major Research Instrumentation internal review committee  
1999- Science Advisory Committee to the Senior AssociateDean, Interdisciplinary with Schools  
of Arts and Science and Medicine  
1999 Industrial Liaisons in Functional Genomics/Bioinformatics, Advisory Committee to the  
Provost Office  
1998/9 University Teaching Award Selection Committee  
1998 Steering committee, Carolina Environmental Program

1998/9 Model Systems Building, planning committee  
1999 UNC- Planned Glaxo Training Program in Bioinformatics, Cofounder  
1998 UNC- Planned Novartis Training Program in Model Systems, Cofounder  
1993-96 Administrative Library Steering Committee  
1990-present Summer Undergraduate Research Experience Program  
1989-1993 Mason Farm Biological Reserve Advisory Committee

### *Department*

2005-present Faculty Development Committee  
2003-present Greenhouse Committee Chairman  
2003-present Microscopy Facility Committee Chairman (implimented policy and rate changes)  
2002-present Promotion and Tenure Committees (Research Evaluation)  
2003 Fixed-term Faculty Promotion Committee Chairman (implemented first policy outlining requirements for promotion)  
2002-2003 MCDB Review committee  
1989, '92, '99, '00, '01 Faculty Search Committees (hired 9 faculty)  
1998-2003 Chair, Seminar committee, served also 1991 and 1989 as member  
1987-1999, 2002- present Graduate Admissions Committee (1999, Chair)  
1997-present Electron Microscope Committee  
1995- '97 Space and Facilities Committee  
1993 Honors Committee  
1987- present Greenhouse Committee  
1987-1996 Coker Hall Equipment Committee  
1986- present Undergraduate Research Advisor (23 students)  
1987- present Graduate Advisor (5 PhD and MS)  
1987- present Graduate Student comittees (numerous)  
1987- present Undergraduate Advisor

### **TEACHING EXPERIENCE** (1986-present)

*Cellular and Developmental Biology.* Yearly from 1987- 1994, 1998-present This is a course with an enrollment between 100- 200 junior and senior undergraduate students. It is an information rich course covering both cell and developmental biology. I also emphasized how knowledge in these fields is obtained. A recitation accompanies this course where the techniques are introduced and problem solving is practiced. The course text is Essentials of Cell Biology by Alberts, et al. Yearly student evaluation ~4.5 (out of 5 max)

*Advanced Cell Biology.* I taught this first in the Fall, 1997. Because the prerequisite for this is Cellular and Developmental Biology (above), it is possible to go into the interesting details of cell biology. The course focuses both on information and on the analytical thinking. Besides discussing the experiments used to advance our understanding of cell biology, the students read and discuss several published papers.

*Laboratory in Cell Biology.* Taught every other year since 1989. This is an intense hands on technique course in cell biology. I teach two to three sections of a maximum of 12 students in each section. The course covers a broad spectrum of techniques used in cell biology. It is divided into 4 parts: 1. organism (plant and animal cell transformations, animal and plant tissue culture, isolation of living explants); 2. cell (brightfield and fluorescent microscopies,

microinjection of oocytes); subcellular (organelle isolation, fluorescent in situ hybridization of DNA probes to human chromosomes, chromosome painting); and macromolecular (SDS PAGE, western blotting, chromatographies). I designed the course manual. It has been requested by three other colleges.

*Plant Growth and Development.* Taught twice since 1986. This is a graduate level course with a small enrollment. It meets a need special of UNC CH. Since Chapel Hill is the medical center (apart from the Agriculture School located in Raleigh), our graduate students and postdocs often come to us with little background in plant biology although they are experienced molecular biologists. They have little time to take full semester courses in each of the basic areas of botany such as anatomy and physiology. One third of the course is in depth plant anatomy, one third is regulation of growth, and one third is plant development. We use several anatomy texts plus Plant Development by Steeves and Sussex in addition to original research papers.

*Structure and Function in Plants.* Taught three times since 1988. This course is designed for the senior undergraduate. The focus is on how plant structures (cells to organs) are formed and how this is regulated. It incorporates several approaches toward understanding plant development. In 1996, I cotaught with Ralph Quatrano and we included an arabidopsis mutant screen for the students. The students working in teams first had to develop a selection or educated screen for mutagenized arabidopsis. The screens were discussed in length before they began and most groups successfully obtained interesting potential mutants within a semester.

*Seminars in Plant Cellular and Molecular Biology.* Taught about 15 times. This is a weekly journal club for the plant biology graduate students and postdocs. About 35 participate including 7 faculty. I have experimented with different formats.

*Programmed cell death in plants.* July 1999. I was invited by the Institute in Cell and Molecular Biology of the University of Porto to give five 1.5 hour lectures and a full-day lab. There were 30 students from various graduate schools and agricultural institutes throughout Portugal.

*Signal Transduction Workshop,* June 2006, Wageningen, Netherlands 3 day course for 30 international students

**Prebachelareate Researchers (typically 2-year projects but some are Summer Fellows)**

Robert Bayne	2011		
Adam Buckholz	2010		
William Bradford	2010	Abby Michenfelder	2008
Ben Jepson (East Chapel Hill HS)	2010	Judy Staub	2008
Abigail Liu (East Chapel Hill HS)	2010	Thomas Allen	2008
Kailin Williamson	2010	*Shannon Booker	2008
Ben Darnell	2010	Nathan Hedrick	2008
*Steve Seta	2010	Mathew Grosso	2008
*Arwen Frick-Chen	2009	Andrew Stergio	2007
Denny Scaria	2009	Jeffery Duffy	2007
*Mathew Tan	2009	#Ameer Hamden	2007
Marieke Fenton	2008	#Mekdam Tesfae	2006

Christopher Reed	2006	Cecilia Marchesini	1997
Hyun Kim	2006	David Turnquist	1997
#Tavia Clemendor	2006	Jennifer Wild	1997
Kathryn Gouzales	2005	*Andrew Heidel	1996
Hala Al-Borno	2005	#Cecilia Scott	1995
William Hannah	2005	*Daniel Harnden	1994
#Monica Gonzales	2005	Stephanie Councilman	1994
Jing-ping (Robbie) Zhou	2004	*Justin Brown	1994
Casey Kolb	2004	Christine Skaer	1994
J. Ashley Marsh	2004	Mary Lee	1993
*Matthew Pulley	2003	Marcin Pazkowski	1993
Rodney Grubb	2003	#*Mike Santos	1992
*Nathan Laborde	2002	Jeff Moyer	1991
#Joy Barnes	2001	Kara Hiller	1991
#LeRon Jackson	2001	Tammy Allison	1991
*Brian Jones	2000	Jay Sivasothy	1991
Jennifer Orning	2000	Diane Allen	1990
*Matthew Thomas	1999	Carolyn Taylor	1988
Christy Clemmons	1999	Jill Gilbert	1988
Tracey O'Connor	1999	Allysa Gelman	1987
James Hubbard	1999		
Cynthia McCarty	1998	*co-authored one or more peer-reviewed papers/abstracts, # under-represented student	
*Amy Pattishal	1998		
Danielle Dong	1998		

### Graduate Students

**Erin Friedman**, 2005- current, anticipated PhD in 2010

**Hemayet Ullah**, Ph.D. 1998- 2002 “Auxin signal transduction via Heterotrimeric G proteins”, currently Asst. Prof at Howard University

**Andrew Groover**, Ph.D. 1993-1997 “Programmed Cell Death of Tracheary Element Differentiation”, Associate Prof. Univ. California, Davis, and Division Chief, Forest Genetics Lab, United States Department of the Interior

**Mike Edgerton**, Ph.D. 1987-1992 “Subunit Interactions in the Carboxy-terminal domain of Phytochrome”, currently Director of Genetics, Monsanto, St. Louis

**Patrick Lamerson**, M.S. 1987-1989

**Greg DeWitt**, M.S. 1996-1997 Practicing Law, Carrboro NC

### Postdoctoral Fellows, time, current position:

**Dr. Daisuke Urano**, 2010- current

**Dr. Kun Jiang**, 2009- current

**Dr. Nyugen Phan**, 2008- current

**Dr. Tyrell Carr**, 2007- current

**Dr. Chenggang Liu**, 2007- 2009

**Dr. Jeff Grigston**, 2006-2007 AEI Head science editor

**Dr. Ravisha Weerasinghe**, 2006- 2008

**Dr. Jan Jones** 2005- current  
**Dr. Yashmanti Mudgil** 2005- 2010  
**Dr. Phil Taylor** 2004-2006, Regulatory Division, Monsanto St. Louis  
**Dr. Pat Morgan** 2004-2006 Head of Research and Development, LiCor Instruments  
**Dr. Zhongyin Chen** 2004-2007 scientist, Syngenta  
**Dr. Helen Wang** 2003-2006 Head, International Green Solutions Corp  
**Dr. KwangChul Oh** 2003- 2004, Korean Academics  
**Dr. Satomi Kawasaki**, 2003 Japan Science Writer  
**Dr. Christopher Breen** 2002-2003 Senior Scientist, Novartis  
**Dr. Jirong Huang** 2002-2004 Faculty, Shanghai Inst. Plant Physiology  
**Dr. Jin-Gui Chen**, 1998-2004, Tenure-track faculty, Univ. British Columbia  
**Dr. Ming-Jing Wu** 1991-1993, Vice President of Inst. Marine and Ag Research Inc.  
**Dr. Ani Chatterjee** 2001-2002, Group leader, Glaxo Smith Kline  
**Dr. Hemayet Ullah** 2002-2003, Tenure-track faculty, Howard University  
**Dr. Kim Sampson** 2001-2002, Lab manager, NIEHS  
**Dr. Xiaohong Yu** 1999-2001, Division Manager, Stonybrook Research Labs  
**Dr. Kyung Im** 1996-1999, Tenure-track faculty, InCheon University, Korea  
**Dr. Parachuri Prasad**, 1991-1994, Tenure-track faculty, Uniformed Services University

**GRANT SUPPORT** (only awards over \$10,000 shown)

Phytochrome-regulated growth, USDA NRICGO, 1986-1993, **\$460,000**

Antibodies to auxin-binding protein, NC Biotechnology Center, 1986-1987, **\$40,000**

Structure and function of auxin-binding protein 1, NSF, 1989-1996, **\$650,000**

Expression of auxin-binding protein 1 in tomato fruit, CIBA- Geigy, 1991-1992, **\$90,000**

Programmed cell death during tracheary element differentiation, Inst. Marine and Agricultural Research, 1996-1997, **\$20,000**

Structure and function of auxin-binding protein 1, USDA NRICGO, 1996-1999, **\$135,000**

Mechanism of action of auxin-binding protein 1, NSF Integrative Biology, 1998-2001, **\$321,362**

Tracheary element differentiation, NSF Developmental Mechanisms, 1998-2000, **\$198,912**

Inducible Gene Silencing, NCBC, 1999-2000, **\$40,000**

Tissue-specific Gene Silencing, Kenan Foundation, 1999-2001, **\$110,000**

Auxin 2000, Research Conference, USDA/NSF/DOE/Industry, 2000, approx **\$30,000**

Function of Auxin-binding Protein 1, USDA NRICGO, 2000-2002, **\$130,000**

Heterotrimeric G Protein in Arabidopsis, NIH, 2002-2008, **\$1,050,000** (direct costs only)

In Vivo Genomics: Visualizing G protein Interactions in Arabidopsis, NSF **\$909,232** direct

Sugar Sensing via Arabidopsis RGS1, DOE, 2005-2008, **\$360,000.00** total

The Heterotrimeric G protein Interactome, NSF 2007-2010, **\$1,400,000** total

From Plasma Membrane to Organelle: Novel Sugar Signaling through the Arabidopsis Heterotrimeric G Protein Complex, NSF, 2007-2010, **\$670,000** total

Novel Regulation of the Activation State of G $\alpha$ , NIH 2008-2012, \$1,000,000 (direct costs)

Rapid imaging- Confocal microscope. NSF Major equipment grant, 2008, \$750,000 (including cost share dollars)

CCD platform for genetic screens based on luciferase and GFP. NCBC Institutional Development Grant, 2011, \$145,000

G-protein-coupled sugar sensing in Arabidopsis. DOE 2009-2012, \$495,000