Curriculum Vita

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EDUCATION

1987	Ph.D., Plant Sciences	University of Western Ontario	Canada
1978	M.Sc., Olericulture	Punjab Agricultural University	India
1975	B.Sc., (Ag.)	Assam Agricultural University	India

PROFESSIONAL EXPERIENCE

2020	Adjunct Professor	Assam Agricultural University, India
2014-present	Professor	Department of Agronomy, ISU
2003-2014	Associate Professor	Department of Agronomy, ISU
2000-2003	Assistant Professor	Department of Agronomy, ISU
1997-2000	Associate Scientist	Noble Foundation
1996-2000	Adjunct Assistant Professor	Oklahoma State University
1991-1996	Assistant Scientist	Noble Foundation
1990-1991	Postdoctoral Fellow	Noble Foundation
1987-1990	Higher Scientific Officer	John Innes Institute
1983-1987	Graduate Assistant	University of Western Ontario
1980-1982	Assistant Professor	Assam Agricultural University
1978-1980	Senior Research Assistant	Assam Agricultural University

AWARDS, HONORS, AND RECOGNITION

- **Invitation to deliver the First G.R. Das Memorial Lecture** - Assam Agricultural University, Jorhat, India, February 29, 2020
- **Adjunct Professorship** Assam Agricultural University under the National Agricultural *Higher* Education Project, Indian Council of Agricultural Research, 2020
- C**hinese Academy Sciences President's International Fellowship Initiative**, 2019
- **Co-chairman** at the valedictory function of the 70th Annual Meeting and National Symposium on "Plant Health Management: Embracing Eco-Sustainable Paradigm," Assam Agricultural University, February 17, 2018
- **Co-chairman** at the valedictory function of the 70th Annual Meeting and National Symposium on "Plant Health Management: Embracing Eco-Sustainable Paradigm," Assam Agricultural University, February 17, 2018
- Iowa State University **PSI Faculty Scholar** 2015-2018
- **Chair** of the Pathogenesis and Disease Resistance session in the VI International Congress on Legume Genetics and Genomics (ICLGG), Hyderabad, India, October 2-7, 2012.
- **Chair** of the Plant Molecular & Cell Biology session of the BIT 1st Annual World Congress of Molecular & Cell Biology, Beijing, China, August 6-8, 2011.
- **Chair and co-chair** of "Gene" sessions at the World Soybean Research Conference, Beijing, China, August 10-15, 2009.

- **Member** of the Sudden Death Syndrome/Plant Health Initiative Website Steering Committee, 2012 - 2014.
- **Ruth Horner Arnold Fellowship** for obtaining the highest rank among the first year graduate student doing research in the field of mycology in the University of Western Ontario, London, Canada, 1983.
- **Canadian Commonwealth Scholarship**, highly competitive scholarship, awarded by Canadian Government to carry out graduate studies in Canada, 1983-1987.
- **International Development Association Fellowship**, highly competitive fellowship, to carry out master's degree in Punjab Agricultural University, India, 1975-1978.
- **University Gold Medal** for obtaining the highest rank among the students who completed B.Sc. (Agriculture) in Assam Agricultural University, India, 1975.
- **ICAR Scholarship**, a competitive national merit scholarship, awarded by Indian Council of Agricultural Research for under graduate study leading to B.Sc. (Agriculture) in Assam Agricultural University, 1971-1975.

TEACHING EXPERIENCE

Bhattacharyya taught Plant Genetics (Agron527) from 2002-2011 and teaches Applied Molecular Genetics & Biotechnology (Agron524) courses to graduate students from 2012 -. Taught undergraduate and graduate students of the Assam Agricultural University on "Recent Advances in Plant Breeding" in February of 2020.

EDITORIAL BOARD MEMBER/ASSOCIATE AND GUEST EDITOR

- Editorial Advisors - BMC Plant Biology, 2017 –
- Review Editor - Crop Biology and Sustainability, Frontiers in Chemistry, 2014 –
- Associate Editor - BMC Genomics, 2010 -
- Associate Editor - BMC Plant Biology, 2009 - 2017
- Editorial Board member - Molecular Biotechnology, 2008 – 2017
- Guest Editor – 2021 "Genetic Basis of Soybean Disease Resistance" in the journal Agronomy (ISSN 2073-4395).

PANEL MEMBER

- Genome Canada - Genomic Applications Partnership Program 2019 - 2020.
- USDA-ARS Plant Genetic Resources, Genomics, and Genetic Improvement National Program. Plant Metabolism and Pathways Panel Member. January 19, 2018.
- NSF Panel Member, Physiological and Structural Systems Cluster, April 30 – May 1, 2015
- Plant Health and Production and Plant Products, USDA-NIFA FY2014 – contacted by panel manager to serve the panel; but declined because of conflict of interest.
- Biol. of Plant Microbe-Assoc. NRICGP-USDA, FY2000
- Plant Genome program NRICGP-USDA, FY1997

PATENT AWARDS AND INVENTIONS

7. **Bhattacharyya, M.K.** (2007) "*Rps1*-k Gene Family, Nucleotide Sequences, and Proteins." U.S. Patent No. 7,256,323 - Issued 8/14/2007.
6. **Bhattacharyya, M.K.** (2010) "*Rps1*-k Nucleotide Sequence and Proteins." Patent number 7,696,410 - Issued 4/13/2010.
5. **Bhattacharyya, M.K.** (2011) "Metacaspase II in Engineering Soybean for Disease Resistance." Patent number 7,943,825 - Issued 5/17/2011.
4. **Bhattacharyya, M.K.**, Li, S. (2012) "Compositions and Methods for Enhancing Disease Resistance in Plants." US Patent 8,173,794 - Issued 5/8/2012.
3. **Bhattacharyya, M.K.**, Sumit, R., Sahu, B.B. (2018) Arabidopsis Nonhost Resistance Gene(S) And Use Thereof to Engineer Disease Resistant Plants. U.S. Patent No. 10,045,499 – Issued 8/14/2018
2. **Bhattacharyya, M.K.**, Singh P., Kambakam S. (2018) Arabidopsis Nonhost Resistance Gene(s) and Use Thereof to Engineer SDS Resistant Plants. U.S. Patent No. 10,087,462– Issued 10/2/2018.
1. **Bhattacharyya, M.K.**, Ngaki, M. (2018) Glycine max Resistance Gene(S) And Use Thereof to Engineer Plants with Broad-Spectrum Resistance to Fungal Pathogens and Pests. U.S. Patent No. 10,087,461 – Issued 10/2/2018

PATENT APPLICATION PENDING

1. **Bhattacharyya, M.K.**, and Wang B. (2016) Identification of Peptides Binding to FvTox1 Involved in SDS Disease Resistance in Soybean. U.S. Appl. No. 62/430,047 – Filled 12/05/2016

GERMPLASM

1. Cianzio, S.R., Lundeen, P., Rivera-Velez, N., Gebhart., G. K., Molen, Van Der and **Bhattacharyya, M.K.** Soybean Germplasm Line AR10SDS (formerly identified as AR03-163008) ISURF #03624.
2. Cianzio, S.R., Gebhart, G., Rivera-Velez, N., Lundeen, P., and **Bhattacharyya**, **M.K.** Soybean Variety IAR3001 Phyto/SCN Experimental Designation A95-684043BC Rps8. ISURF # 03712.
3. Cianzio, S.R., Lundeen, P., Rivera-Velez, N., Gebhart., G. K., Molen, Van Der and **Bhattacharyya, M.K.** Soybean Germplasm Line AR11SDS/SCN ISURF Docket # 03999.

GRANT AWARDS

Total extramural grant award from 2000 to 2021 is $11,184,189 from 68 awards.

CURRENT GRANT AWARDS

2020-2023 **Bhattacharyya M.K.** Identification of high yielding sudden death syndrome and *Phytophthora* resistant soybean lines and molecular markers for improving disease resistance in soybean. United Soybean Board. 2020-2023; $330,000

2018-2021 **Bhattacharyya M.K.** Stacking four plant genes to provide durable and enhanced SCN and SDS resistance in soybean. Iowa Soybean Association. 2018-2021; $277,030

SELECTED PAST GRANT AWARDS

2013-2018 **Bhattacharyya M.K. and 14 co-PIs from five institutions.** Transgenic approaches in managing sudden death syndrome in soybean. USDANIFAAFRI. 2013-2018; $5,358,680

2015-2018 **Bhattacharyya M.K.** Predictive phenomics for developing climate resilient crop plants. Plant Sciences Institute, Iowa State University. 2015-2018; $225,000.

2009-2011 **Bhattacharyya M.K. and two co-PIs.** Sequencing the *Fusarium virguliformae* genome. SRDC & ISA. 2009-2011; $214,050.

2008-2010 **Bhattacharyya M.K.** Isolation and characterization of FvToxin1-interacting soybean proteins. Syngenta. 2008-2010; $168,822.

2007-2012 **Bhattacharyya M.K.** Nonhost resistance for engineering disease resistance. CPBR. 2007-2008; 2009-2012; $182,442.

2001-2003 **Bhattacharyya M.K.** Signal transduction in the expression of disease resistance in soybean. NRICG-USDA. 2001-2003; $160,000.

PUBLICATIONS (Peer reviewed Journal Articles)

Google Scholar Citations 7,761 and h-index 38 on March 30, 2021

https://scholar.google.com/citations?hl=en&user=ZSvP6SsAAAAJ

*Communicating author

97. Li, S., Hanlon, R., Wise, H., Pal, N., Brar, H.K, Liao, C., Gao, H., Perez, E., Zhou, L.C., Tyler, B.M. and **Bhattacharyya, M.K.*** (2021) Interaction of *Phytophthora sojae* effector Avr1b with E3 ubiquitin ligase GmPUB1 is required for recognition by soybeans carrying resistance loci *Rps*1-b and *Rps*1-k. *Frontiers in Plant Science - Plant Pathogen Interaction*, to be submitted.

96. Sahu, B.B., Kambakam, S., Kandel, D.R., Ngaki, M., Singh, P., Sultan, E., Parween, D., Agarwal, M.K. and **Bhattacharyya, M.K.*** (2021) Arabidopsis nonhost resistance *AtBLH2* gene enhances disease resistance in transgenic soybeans. *Plant Physiology*, to be submitted.

95. Ngaki, M., Sahu, B.B., Kambakam, S., Kandel, Parween, D., Agarwal, M.K. and **Bhattacharyya, M.K.*** (2021) An Arabidopsis vesicle-associated membrane protein confers nonhost immunity and enhances disease resistance in soybean. *Plant Physiology*, to be submitted.

94. Sahu, B.B., Kambakam, S., Kandel, D.R., Ngaki, M., Singh, P., Sultan, E., Parween, D., Agarwal, M.K. and **Bhattacharyya, M.K.*** (2021) *PSS21* encoding AtOSA1 confers nonhost immunity against the soybean and rice pathogens and overexpressed *PSS1* enhances disease resistance in soybean. *Plant Physiology*, to be submitted.

93. Liu, M., Li, S., Swaminathan, S., Lundeen, P., Gebhart, G., McCabe, C. E., Sahu, B. B., Leandro, L.F., Cardinal, A.J., **Bhattacharyya, M.K.,** Song, Q., Walker, D.R. and Cianzio, S.R.* (2021) Registration of two soybean germplasm lines, AR15-259039 and AR15-359045, containing a novel rust-resistant gene. *J. Plant Registrations*, to be submitted.

92. Sahoo, D.K., Hegde, C., **Bhattacharyya, M.K.*** (2021) Investigation of Arabidopsis natural variants revealed that cold tolerance is governed by a number of genes including NB-LRR genes encoding receptor proteins. *Plant Cell*, to be submitted.

91 Wang, F., Das, P., Pal, N., Zhang, S. and **Bhattacharyya, M.K.*** (2021) The phosphorylation levels of three type II metacaspases detected in the soybean *root necrotic 1* mutant. *Plant Physiology*, to be submitted.

90. Sahoo, D.K., Das, A., Huang, X. **and Bhattacharyya, M.K.*** (2021) Two tightly linked functional resistance genes provide broad-spectrum *Phytophthora* resistance in soybean. ***Scientific Reports, will be accepted after revision.***

89. Kambakam, S., Sahu, B.B., Ngaki, M.N., Kandel, D.R., Singh, P., Sumit, R., Swaminathan, S., Rajesh, M.K., and **Bhattacharyya, M.K.*** (2021) Arabidopsis nonhost resistance *PSS30* gene encoding a folate transporter enhances disease resistance in soybean. *Plant J.*, under final revision.

88. Zhou, H-K., Tang, K-Q., Li, G., Liu, W-Q., Yang, S-X.*, **Bhattacharyya, M.K.*,** Feng, X-Z.* (2021) A robust and rapid candidate gene mapping pipeline based on M_2 populations. *Frontiers in Plant Science Plant Breeding*, in press.

87. Geiser D. M.*, Al-Hatmi A., Aoki T., Arie T, Balmas V., Barnes I., Bergstrom G.C., **Bhattacharyya M.K.** et al. (2020) Phylogenomic analysis of a 55.1 kb 19-gene dataset resolves a monophyletic Fusarium that includes the Fusarium solani Species Complex. *Phytopathology*. 2020 Nov 17. doi: 10.1094/PHYTO-08-20-0330-LE.

86. Ngaki, M.N., Sahoo, D.K., Wang, B. and **Bhattacharyya, M.K.*** (2020) Overexpression of a plasma membrane protein generated broad-spectrum immunity in soybean. *Plant Biotechnol. J.*, https://doi.org/10.1111/pbi.13479

85. Cianzio, S.R.*, Arelli, P. R., Swaminathan, S., Bhattacharyya, M.K., Gebhart, G., Aboobucker, S. I., Carvalho, J. P. S. (2019). Registration of 'IAR1902 SCN' cultivar resistant to soybean cyst nematode and brown stem rot. *J. Plant. Reg.* 13:334–344. doi:10.3198/jpr2018.11.0077crc

84. Madhusudhan, P., Sinha, P.*, Rajput, L.S., **Bhattacharyya, M.**, Sharma, T., Bhuvaneshwari, V., Gaikwad, K., Krishnan, S.G., and Singh, A.K. (2019) Effect of temperature on Pi54 mediated leaf blast resistance in rice. *World J. Microbiol. Biotechnol.* 35:148. doi:10.1007/s11274-019-2724-8.

83. Swaminathan, S., Das, A., Assefa, T., Knight, J.M., Ferreira Da Silva, A., Hartman, G.L., Huang, X., Cianzio, S. R., **Bhattacharyya, M.K.*** (2019) Genome wide association study identifies novel single nucleotide polymorphic loci and candidate genes involved in soybean sudden death syndrome resistance. *PLoS One* 14(2):e0212071. doi: 10.1371/journal.pone.0212071. eCollection 2019.

82. Swaminathan, S., Abeysekara, N.S., Knight, J.M., Liu, M., Dong, J., Hudson, M.E., **Bhattacharyya, M.K.,** and Cianzio, S.R.* 2018. Mapping of new quantitative trait loci for sudden death syndrome and soybean cyst nematode resistance in two soybean population. Theor. Appl. Genet. 131:1047–1062. https://doi.org/10.1007/s00122-018- 3057-y

81. Wang, B., Sumit, R., Sahu, B.B., Ngaki, M., Srivastava, S.K., Yang, Y., Swaminathan, S., and **Bhattacharyya, M.K.*** 2018. An Arabidopsis glycine-rich plasma membrane protein enhances disease resistance in soybean. *Plant Physiology* 176:865-878. https://doi.org/10.1104/pp.16.01982

80. Heinrich, J., Qiao, X., Baumbach, J., Xie, J., Dong, L.*, **Bhattacharyya, M.K.*** (2017) Microfluidic device enabled quantitative time-lapse microscopic-photography for phenotyping vegetative and reproductive phases in *Fusarium virguliforme*, which is pathogenic to soybean. *Scientific Reports* 7:44365.

79. Sahoo, D., Abeysekara, N., Cianzio, S., and Robertson, A.E., **Bhattacharyya, M.K.*** (2017) A novel *Phytophthora* resistance gene, *Rps12* mapped tightly to the *Rps4*/6 region in soybean. *PLoS One*, 12:e0169950.

78. Sahu, B.B., Baumbach, J., Singh, P., Srivastava, S.K., Yi, X., and **Bhattacharyya, M.K.*** (2017) Investigation of the *Fusarium virguliforme* transcriptomes induced during infection of soybean roots

suggests that enzymes with hydrolytic activities could play a major role in root necrosis. *PLOS One*,12:e0169963.

77. Sandhu, D.*, Baumbach, J., Ghosh, J., Johnson, C., Srivastava, S.K., Baumert, E., Cina, T., Grant, D., Palmer, R., **Bhattacharyya, M.K.*** (2017) The endogenous transposable element *Tgm9* is suitable for generating knockout mutants for functional analyses of soybean genes and genetic improvement in soybean. *PloS One*, 12(8):e0180732.

76. Abdelsamad, N.A., Baumbach, J. and **Bhattacharyya, M.K.,** Leandro, L.F.* (2017) Soybean Sudden Death Syndrome Caused by *Fusarium virguliforme* is Impaired by Prolonged Flooding and Anaerobic Conditions. Plant Disease, 101:712-719.

75. Abeysekara, N., Matthiesen, R.L., Cianzio, S., **Bhattacharyya, M.K.**, and Robertson, A.E.* (2016) Novel sources of partial resistance against *Phytophthora sojae* in PI 399036. *Crop Sci.* 56:1–14.

74. Baumbach, J., Pudake R.N., Johnson, C., Ollhoff, A., Palmer, R.G., **Bhattacharyya, M.K.*** and Sandhu, D.* (2016) Transposon tagging of a male-sterility, female-sterility gene, *St8*, revealed that the meiotic MER3 DNA helicase activity is essential for fertility in soybean. *PLoS One* 11(3): e0150482.

73. Cianzio, S.R.*, Lundeen, P. **Bhattacharyya, M.K.,** Swaminathan, S., Gebhart, G., and Rivera-Velez, N. (2016) Registration of AR11SDS soybean germplasm resistant to sudden death syndrome, soybean cyst nematode and with adequate iron deficiency chlorosis. *Journal of Plant Registrations* 10:177–188.

72. Huang, X.*, Das, A., Sahu, B.B., Srivastava, S.K., Leandro, L.F., O'Donnell, K., and **Bhattacharyya, M.K.** (2016) Identification of highly variable supernumerary chromosome segments in an asexual pathogen. *PLoS One* 11(6): e0158183.

71. Ngaki, N.N., Wang, B., Sahu, B.B., Srivastava, S., Farooqi, M.S., Kambakam, S., Swaminathan S., **Bhattacharyya, M.K.*** (2016) Tanscriptomic Study of the soybean-*Fusarium virguliforme* interaction revealed a novel ankyrin-repeat containing defense gene, expression of whose during infection led to enhanced resistance to the fungal pathogen in transgenic soybean plants. *PloS One*, 11:e0163106.

70. Liu, M., Li S., Swaminathan, S., Sahu, B.B., Leandro, L.F., Cardinal, A.J., **Bhattacharyya, M.K.**, Song, Q., Walker, D.R., Cianzio, S.R.* (2016) Identification of a soybean rust resistance gene in PI 567104B. *Theor Appl Genet.* 129: 863-877.

69. Xu, Z., Jiang, H., Sahu, B.B., Kambakam, S., Singh, P., Wang, X., Wang, Q., **Bhattacharyya, M.K.,** and Dong, L.* (2016) Humidity assay for plant-pathogen interactions in miniature controlled discrete humidity environments with good throughput. *Biomicrofluidics* **10**, 034108.

68. Zhang, B., Wang, B., Morales, A.W., Scudder, J., **Bhattacharyya, M.K.**, and Ye, J.Y.* (2016) Study of the interactions of *Fusarium virguliforme* toxin FvTox1 with synthetic peptides by molecular simulations and a label-free biosensor. *Analytical Chemistry*, 88: 3024–3030

67. Abeysekara, N.S., Swaminathan, S., Desai, N., Guo, L., and **Bhattacharyya, M.K.*** (2015) The Plant immunity inducer pipecolic acid accumulates in the xylem sap and leaves of soybean seedlings following *Fusarium virguliforme* infection. Plant Science 243:105–114.

66. Swaminathan, S., Abeysekara, N.S., Liu, M, Cianzio, C.R. and **Bhattacharyya, M.K.*** (2015) Quantitative trait loci underlying host responses of soybean to *Fusarium virguliforme* toxins that cause foliar sudden death syndrome. *Theor Appl Genet.* 129:495-506.

65. Wang, B., Swaminathan, S., and **Bhattacharyya, M.K.*** (2015) Identification of *Fusarium virguliforme* FvTox1-interacting synthetic peptides for enhancing foliar sudden death syndrome resistance in soybean. *PLoS ONE* 10: e0145156.

64. Hughes, T.J.*, O'Donnel, K., Rooney, A.P., Sink, S., Scandiani, M.M., Luque, A., **Bhattacharyya, M.K.,** and Huang, X. (2014) Genetic architecture and evolution of the mating type locus in fusaria that cause soybean sudden death syndrome and bean root rot. *Mycologia*, 106:686-697.

63. Cianzio, S.R.*, **Bhattacharyya, M.K.**, Swaminathan, S., Westgate, M., Gebhart, G., Rivera-Velez, N., Lundeen, P., Van Der Molen, K. and Pruski, T.I. 2014. Registration of 'AR10SDS' Soybean Germplasm Partially Resistant to Sudden Death Syndrome and Resistant to Soybean Cyst Nematode. *Journal of Plant Registrations*, 8:200-210.

62. Srivastava, S.K., Brar, H.K., Fakhoury, A.M., Bluhm, B.H., Huang, X., and **Bhattacharyya, M.K.*** (2014) The genome sequence of the fungal pathogen *Fusarium virguliforme* that causes sudden death syndrome in soybean. *PLoS* One 9:e81832.

61. Abeysekara, N.S., and **Bhattacharyya, M.K.*** (2014) Analyses of the xylem sap proteomes: identification of candidate *Fusarium virguliforme* toxins and differentially expressed soybean proteins. *PLoS One*. 9:e93667.

60. Ott, A., Yang, Y., **Bhattacharyya, M.K.,** Horner, H.T., Palmer, R.G., and Sandhu, S.* (2013) Molecular mapping of *D1, D2* and *ms5* revealed linkage between the cotyledon color locus *D2* and the male-sterile locus *ms5* in soybean. *Plants 2*:441-454. doi:10.3390/ plants20x000x

59. Luckew A.S., Leandro, L.F., **Bhattacharyya, M.K.,** Nordman, D.J. Lightfoot, D.A., and Cianzio S.R.* (2013) Usefulness of 10 genomic regions in soybean associated with sudden death syndrome resistance. *Theor. Appl. Genet.* 126:2391-403. doi: 10.1007/s00122-013-2143-4.

58. Pudake, R.N., Sahu, B.B., Swaminathan, S., Leandro, L.F., and **Bhattacharyya, M.K.*** (2013) Investigation of the *Fusarium virguliforme fvtox1 mutants* revealed that the FvTox1 toxin is involved in foliar sudden death syndrome development in soybean. *Current Genetics* 59:107-117. DOI 10.1007/s00294-013-0392-z.

57. Geiser, D.M.*, Aoki, T., Bacon, C.W., Baker, S.E., **Bhattacharyya, M.K.** et al. (2013) One fungus, one name: Defining the genus *Fusarium* in a scientifically robust way that preserves longstanding use. *Phytopathology* 103:400-408.

56. Raval, J., Baumbach, J., Ollhoff, A.R., Pudake, R.N., Palmer, R.G., **Bhattacharyya, M.K.**, and Sandhu, D.* (2013) A candidate male-fertility female-fertility gene tagged by the soybean endogenous transposon, *Tgm9*. *Funct. Integr. Genomics* 13:67-73.

55. Baumbach, J., Slattery, R.A., Rogers J.P., Narayanan N.N., Xu, M., Palmer, R.G., **Bhattacharyya, M.K.**, and Sandhu, D.* (2012) Segregation distortion in a region containing a male-sterility, female-sterility locus in soybean. *Plant Science* 195:151-156.

54. Sumit, R., Sahu, B.B., Xu, M., Sandhu, D., and **Bhattacharyya, M.K.*** (2012) Arabidopsis nonhost resistance gene *PSS1* confers immunity against an oomycete and a fungal pathogen but not a bacterial pathogen that cause diseases in soybean. *BMC Plant Biology* 12:62. (**Highly Accessed**)

53. Brar H.K., and **Bhattacharyya, M.K.*** (2012) Expression of a single-chain variable-fragment antibody against a *Fusarium virguliforme* toxin peptide enhances tolerance to sudden death syndrome in transgenic soybean plants. *Mol. Plant-Microbe Interact*. 25:817-824. (**Front** C**over** article)

52. Sahu, B.B., Sumit, R., and **Bhattacharyya, M.K.*** (2012) Sequence based polymorphic (SBP) marker technology for targeted genomic regions: its application in generating a molecular map of the *Arabidopsis thaliana* genome. *BMC Genomics* 13:20 doi:10.1186/1471-2164-13-20. (**Highly Accessed**)

51. Yang, H., Qiao, X., **Bhattacharyya, M.K.,** and Dong, L.* (2011) Microfluidic droplet encapsulation of highly motile single zoospores for phenotypic screening of an antioomycete chemical. *Biomicrofluidics* 5: 044103.

50. Brar H.K., Swaminathan, S., and **Bhattacharyya, M.K.*** (2011) The *Fusarium virguliforme* toxin FvTox1 causes foliar sudden death syndrome-like symptoms in soybean. *Mol. Plant-Microbe Interact.* 24:1179-1188.

49. Mbofung, G.C.Y., Fessehaie, A., **Bhattacharyya, M.K.**, and Leandro, L.F.S.* (2011) A new Taqman real-time PCR assay for quantification of *Fusarium virguliforme* in soil. *Plant Disease* 95:1420-1426.

48. Schmutz, J., Cannon, S.B., Schlueter, J., Ma, J., Hyten, D., Song, Q., Mitros, T., Nelson, W., May, G.D., Gill, N., Peto, M., Goodstein, D., Thelen, J.J., Cheng, J., Sakurai, T., Umezawa, T., Du, J., **Bhattacharyya, M.K.,** Sandhu, D., Grant, D., Joshi, T., Libault, M., Zhang, X-C., Xu, D., Futrell-Griggs, M., Abernathy, B., Hellsten, U., Berry, K., Grimwood, J., Wing, R.A., Cregan, P., Stacey, G., Specht, J., Rokhsar, D. Shoemaker, R.C, and Jackson S.A.* (2010) Genome sequence of the paleopolyploid soybean (*Glycine max* (L.) Merr.). *Nature,* 463:178-183.

47. Xu, M., Brar, H., Grosic, S., Palmer, R., and **Bhattacharyya, M.K.*** (2010) Excision of an active CACTA-like transposable element from *DFR2* led to variegated flowers in soybean. *Genetics* 184:53-63.

46. Sandhu, D., Tasma, M.I., Frasch, R., and **Bhattacharyya, M.K.*** (2009) Systemic acquired resistance in soybean is regulated by two proteins, orthologous to Arabidopsis *NPR1*. *BMC Plant Biol*. 9:105.

45. Narayanan N.N., Grosic, S., Grant, D., Shoemaker, R., and **Bhattacharyya, M.K.*** (2009) Identification of candidate signaling genes including regulators of chromosome condensation 1 protein family differentially expressed in the soybean-*Phytopthora sojae* interaction. *Theor. Appl. Genet.* 118:399-412.

44. Palmer, R.G.*, Sandhu, D., Curran, D.K., and **Bhattacharyya, M.K.** (2008) Molecular mapping of 36 soybean male-sterile, female-sterile mutants. *Theor. Appl. Genet.* 117:711-719.

43. Gao, H., and **Bhattacharyya, M.K.*** (2008) The soybean-*Phytophthora* resistance locus *Rps1*-k encompasses coiled coil-nucleotide binding-leucine rich repeat-like genes and repetitive sequences. *BMC Plant Biol*. 8:29.

42. Tasma, I.M., Brendel, V., Whitham S.A., and **Bhattacharyya, M.K.*** (2008) Expression and evolution of the phosphoinositide-specific phospholipase C gene family in *Arabidopsis thaliana*. *Plant Physiol. Biochem.* 46:627-637.

41. Sandhu, D., Alt, J.L., Scherder, C.W., Fehr, W.F., and **Bhattacharyya, M.K.*** (2007) Enhanced oleic acid content in the soybean mutant M23 is associated with the deletion in the *Fad2-1b* gene encoding a fatty acid desaturase. *J. Am. Oil Chem. Soc*. 84:229-235.

40. Cao, Z., Zhang, J., Li, Y., Xu, X., Liu, G., **Bhattacharyya, M.K.**, Yang, H., and Ren, D.* (2007) Preparation of polyclonal antibody specific for AtPLC4, an Arabidopsis phosphatidylinositol-specific phospholipase C in rabbits. *Pro. Exp. Purif.* 52:306-312.

39. Ji, J., Scott, M.P., and **Bhattacharyya, M.K.*** (2006) Light is essential for degradation of ribulose-1,5-biphosphate carboxylase-oxygenase large subunit during sudden death syndrome development in soybean. *Plant Biology* 8:597-605.

38. Gao, H., Narayanan, N., Ellison, L., and **Bhattacharyya, M.K.***(2005) Two classes of highly similar coiled coil-nucleotide binding-leucine rich repeat genes isolated from the *Rps1*-k locus encode *Phytophthora* resistance in soybean. *Mol. Plant-Microbe Interact.* 18:1035-1045.

37. **Bhattacharyya, M.K.***, Narayanan, N.N., Gao, H., Santra, D.K., Salimath, S.S., Kasuga, T., Liu, Y., Espinosa, B., Ellison, L., Marek, L., Shoemaker, R., Gijzen, M., and Buzzell, R.I. (2005) Identification of a large cluster of coiled coil-nucleotide binding site-leucine rich repeat-type genes from the *Rps1* region containing Phytophthora resistance genes in soybean. *Theor. Appl. Genet.* 111:75-86.

36. Sandhu, D., Schallock K.G., Rivera-Velez, N., Lundeen, P., Cianzio, S., and **Bhattacharyya, M.K.*** (2005) Soybean *Phytophthora* resistance gene *Rps8* maps closely to the *Rps3* region. *J. Heredity* 96:536-541**.**

35. Sandhu, D., Gao, H., Cianzio, S., and **Bhattacharyya, M.K.*** (2004) Deletion of a disease resistance nucleotide-binding-site leucine-rich-repeat-like sequence is associated with the loss of the *Phytophthora* resistance gene *Rps4* in soybean. *Genetics* 168:2157-167.

34. Chou, W-M., Shigaki, T., Dammann, C., Liu, Y-Q., and **Bhattacharyya, M.K.*** (2004) Inhibition of phosphoinositide-specific phospholipase C results in the induction of pathogenesis-related genes in soybean. *Plant Biology* 6:664-672.

33. Xu, X., Cao, Z., Liu, G., **Bhattacharyya, M.K.**, and Ren, D.* (2004) Cloning and expression of *AtPLC6*, a gene encoding a phosphatidylinositol-specific phospholipase C in *Arabidopsis thaliana*. *Chinese Science Bulletin* 49:567-573.

32. Santra, D.K., Sandhu, D., Tai, T., and **Bhattacharyya, M.K.*** (2003) Construction and characterization of a soybean yeast artificial chromosome library and identification of clones for the *Rps6* region. *Funct. Integr. Genomics* 3:153-159.

31. Shigaki, T., and **Bhattacharyya, M.K.*** (2002) Nutrients induce an increase in inositol 1,4,5-trisphosphate in soybean cells: Implication for the involvement of phosphoinositide-specific phospholipase C in DNA synthesis. *Plant Biology* 4:53-61.

30. MacGregor, T, **Bhattacharyya, M.,** Tyler, B., Bhat, R, Schmitthenner, A.F., and Gijzen, M.* (2002) Genetic and physical mapping of *Avr1a* in *Phytophthora sojae*. *Genetics* 160:949-959.

29. Liu, Y., Dammann, C., and **Bhattacharyya, M.K.*** (2001) The matrix metalloproteinase gene *GmMMP2* is activated in response to pathogenic infections in soybean. *Plant Physiol.* 127:1788-1797.

28. Shigaki, T., and **Bhattacharyya, M.K.*** (2000) Phosphate induces rapid H_2O_2 generation in soybean suspension cells. *Plant Biology* 2:149-151.

27. Shigaki, T., and **Bhattacharyya, M.K.*** (2000) Decreased inositol 1,4,5-trisphosphate content in pathogen-challenged soybean cells. *Mol. Plant-Microbe Interact.* 13:563-567.

26. Shigaki, T., and **Bhattacharyya, M.K.*** (1999) Color coding the cell death status of plant suspension cells. *BioTechniques* 26:1060-1062.

25. Salimath, S.S., and **Bhattacharyya, M.K.*** (1999) Generation of a soybean BAC library, and identification of DNA sequences tightly linked to the *Rps1*-k disease resistance gene. *Theor. Appl. Genet.* 98:712-720.

24**. Bhattacharyya, M.K.***, Gonzales, R.A., Kraft, M., and Buzzell R.I. (1997) A copia-like retrotransposon Tgm*r* closely linked to the *Rps1*-k allele that confers race specific resistance of soybean to *Phytophthora sojae*. *Plant Mol. Biol.* 34:255-264.

23. Kasuga, T., Salimath, S.S., Shi, J., Gijzen, M., Buzzell, R., and **Bhattacharyya, M.K.*** (1997) High resolution genetic and physical mapping of molecular markers linked to the *Phytophthora* resistance gene *Rps1*-k in soybean. *Mol. Plant-Microbe Interact.* 10:1035-1044.

22. Korth, K.L., Stermer, B.A., **Bhattacharyya, M.K., and** Dixon, R.A.* (1997) HMG-CoA reductase gene families that differentially accumulate transcripts in potato tubers are developmentally expressed in floral tissues. *Plant Mol. Biol.* 33:545-551.

21. Shi, J., Gonzales, R.A., and **Bhattacharyya, M.K.*** (1996) Identification and characterization of an S-Adenosyl-L-methionine: D^{24}-Sterol-C-methyltransferase cDNA from soybean. *J. Biol. Chem*. 271:9384-9389.

20. Gijzen, M.*, MacGregor, T., **Bhattacharyya, M., and** Buzzell, R. (1996) Temperature induced susceptibility of soybean isolines carrying different *Rps* genes. *Physiol. Mol. Plant Pathol.* 48:209-215.

19. Shi, J., and **Bhattacharyya, M.K.*** (1996) A novel plasma membrane-bound thioredoxin from soybean. *Plant Mol. Biol.* 32:653-662.

18. Shi, J., Dixon, R.A., Gonzales, R.A., Kjellbom, P., and **Bhattacharyya, M.K.*** (1995) Identification of cDNA clones encoding valosin-containing protein and other plant plasma membrane-associated proteins by a general immunoscreening strategy. *Proc. Natl. Acad. Sci. USA* 92:4457-4461.

17. Shi, J., Gonzales, R.A., and **Bhattacharyya, M.K.*** (1995) Characterization of a plasma membrane associated phosphoinositide-specific phospholipase C from soybean. *Plant J*. 8:381-390.

16. **Bhattacharyya, M.K.**, Paiva, N.L., Dixon, R.A., Korth, K.L., and Stermer, B.A.* (1995) Features of the *hmg1* subfamily of genes encoding HMG-CoA reductase in potato. *Plant Mol. Biol.* 28:1-15.

15. Burton, R.A., Bewley, J. D., Smith, A.M., **Bhattacharyya, M.K.**, Tatge, H., Ring, S., Bull, V., Hamilton, W.D.O., and Martin, C.* (1995) Starch branching enzymes belonging to distinct enzyme families are differentially expressed during pea embryo development. *Plant J.* 7:3-15.

14. **Bhattacharyya, M.K.**, Stermer, B.A., and Dixon, R.A.* (1994) Reduced variation in transgene expression from a binary vector with selectable markers at the right and left T-DNA borders. *Plant J.* 6:957-968.

13. **Bhattacharyya, M.K.***, Martin, C., and Smith, A. (1993) The importance of starch biosynthesis in the wrinkled seed shape character of peas studied by Mendel. *Plant Mol. Biol.* 22:525-531.

12. Dry, I., Smith, A.M., Edwards, A., **Bhattacharyya, M.**, Dunn, P., and Martin, C.* (1992) Characterization of cDNAs encoding two isoforms of granule-bound starch synthase which show differential expression in developing storage organs. *Plant J.* 2:193-202.

11. **Bhattacharyya, M.K.***, Smith, A.M., Noel Ellis, T.H., Hedley, C., and Martin, C. (1990) The wrinkled-seed character of pea described by Mendel is caused by a transposon-like insertion in a gene encoding starch-branching enzyme. *Cell* 6:115-122.

10. Ward, E.W.B.*, Cahill, D.M., and **Bhattacharyya, M.K.** (1989) Early cytological differences between compatible and incompatible interactions of soybeans with *Phytophthora megasperma* f. sp. *glycinea*. *Physiol. Mol. Plant Pathol*. 34:267-283.

9. Ward, E.W.B., Cahill, D.M., and **Bhattacharyya, M.K.** (1989) Abscisic acid suppression of phenylalanine ammonia-lyase activity and mRNA and resistance of soybeans to *Phytophthora megasperma* f. sp. *glycinea*. *Plant Physiol*. 91:23-27.

8. **Bhattacharyya, M.K.,** and Ward, E.W.B.* (1988) Phenylalanine ammonia-lyase activity in soybean hypocotyls and leaves following infection with *Phytophthora megasperma* f. sp. *glycinea*. *Can. J. Bot*. 66:18-23.

7. **Bhattacharyya, M.K.,** and Ward, E.W.B.* (1987) Biosynthesis and metabolism of glyceollin I in soybean hypocotyls following wounding or inoculation with *Phytophthora megasperma* f. sp. *glycinea. Physiol. Mol. Plant Pathol*. 31:387-405.

6. **Bhattacharyya, M.K.,** and Ward, E.W.B.* (1987) Temperature-induced susceptibility of soybeans to *Phytophthora megasperma* f. sp. *glycinea*: phenylalanine ammonia-lyase and glyceollin in the host; growth and glyceollin I sensitivity of the pathogen. *Physiol. Mol. Plant Pathol*. 31:407-419.

5. **Bhattacharyya, M.K.,** and Ward, E.W.B.* (1986) Expression of gene-specific and age-related resistance and the accumulation of glyceollin in soybean leaves infected with *Phytophthora megasperma* f. sp. *glycinea*. *Physiol. Mol. Plant Pathol*. 29:105-113.

4. **Bhattacharyya, M.K.,** and Ward, E.W.B.* (1986) Resistance, susceptibility and accumulation of glyceollin I-III in soybeans inoculated with *Phytophthora megasperma* f. sp. *glycinea*. *Physiol. Mol. Plant Pathol.* 29:227-237.

3. **Bhattacharyya, M.K.,** and Ward, E.W.B.* (1985) Differential sensitivity of *Phytophthora megasperma* f. sp. *glycinea* isolates to glyceollin isomers. *Physiol. Plant Pathol.* 27:299-310.

2. **Bhattacharyya, M.K.***, Surjan, S., and Nandpuri, K.S. (1981) Path-coefficient and discriminant function in tomato. *JASS* 2 & 3:7-10.

1. Saikia, A.K., Phukan, P.N.*, and **Bhattacharyya, M.K.** (1980) Reaction of tomato cultivars to root knot nematode. *J. Res. Assam Agril. Univ.* 1:217-218.

BOOK EDITING

1. Nguyen, H.T. and Bhattacharyya, M.K. (2017) The Soybean Genome. Springer, pp. 211

BOOK CHAPTERS

6. Sandhu, D. and **Bhattacharyya, M.K.** (2017) Transposon Based Functional Characterization of Soybean Genes. The Soybean Genome. Ed. H.T. Nguyen and M.K. Bhattacharyya. Springer, pp. 183-192

5. **Bhattacharyya, M.K.** (2010) Map based cloning in soybean. In "Genetics, Genomics and Breeding of Soybean." Eds. K. Bilyeu, M. Ratnaparkhe, and C. Kole. Science Publishers and CRC Press. (100%)

4. Lübberstedt, T. and **Bhattacharyya, M.K.** (2010) Applications of genomics researches in plant breeding. In "Principles and Practices of Plant Genomics," Volume 3: Advanced Genomics, Eds. C. Kole and A.G. Abbott. Science Publishers and CRC Press. (40%)

3. **Bhattacharyya, M.K.** (2001) Construction of cDNA libraries. In: "Essential Molecular Biology: A Practical Approach," Ed. T.A. Brown. Oxford University Press, Oxford. (100%)

2. **Bhattacharyya, M.K.,** Espinosa, B.G., Kasuga, T., Liu, Y., Salimath, S.S., Gijzen, M., Poisa, V., and Buzzell, R.I. (2001) Towards understanding the recognition and signal transduction processes in the soybean-*Phytophthora sojae* interaction. Symposium on Plant Signal Transduction, ICGEB, New Delhi, October 4-6, 1999. In "Signal Transduction in Plants: Current Advances," Eds. S.K. Sopory, R. Oelmuller and S.C. Maheshwari. Kluwer Academic/Plenum Publishers. (50%)

1. Dixon, R.A., Paiva, N.L., and **Bhattacharyya, M.K.** (1995) Engineering disease resistance in plants: an overview. In "Molecular Methods in Plant Pathology," Eds. R.P. Singh and U.S. Singh, CRC Press, Boca Raton. (30%)

NON-PEER REVIEWD ARTICLES, POPULAR PUBLICATIONS, AND MEETING REPORTS

8. Moe, P., Rekoske, M., Miller, J., Schumann, M., and **Bhattacharyya, M.K.** (2021) Breeding for Sugar Beet Root Maggot Resistance. American Society of Sugar Beet Technologist (ASSBT) 41st Biennial Virtual Meeting, March 1-4, 2021

7. Gresshoff P.M., Stiller, J., Men, A., Radutoiu, S., Pillai, S., Landau-Ellis, D., Chian, R.-J. Ghassemi, F., **Bhattacharyya, M.,** Hussain, A., Lohar, D., and Jiang, Q. (1999) Functional genomics of legumes:map-based cloning and gene trapping advances in soybean and Lotus japonicus. In "Highlights of Nitrogen Fixation Research." Eds. E. Martinez and G. Hernadez, Kluwer Academic Plenum publ. New York.

6. **Bhattacharyya, M.,** Bonas, U., Gelvin, S., Harrison, M., Huguet, E., Kanyuka, K., Kijne, J., Mas, J., Opperman, C., and Walton, J. (1997) IS-MPMI meeting report: The Eighth International Congress of Molecular Plant-Microbe Interactions, Knoxville, TN, July 14-19. *Mol. Plant-Microbe Interact.* 10:6-12.

5. Dixon, R.A., **Bhattacharyya, M.K.,** Harrison, M.J., Lamb, C.J., Loake, G.J., Oommen, A., Stermer, B.A., and Yu, L.M. (1993) Transcriptional regulation of phytoalexin biosynthetic genes. In "Advances in Molecular Genetics of Plant-Microbe Interactions", Vol. 2, Eds. E.W. Nester and D.P.S. Verma, Kluwer Academic Publishers, Dordrecht, The Netherlands.

4. Martin, C., **Bhattacharyya, M.,** Dry, I., Hedley, C., Ellis, N., Wang, T., and Smith, A. (1992) Towards an understanding of starch biosynthesis and its relationship to protein synthesis in plant storage organs. In "Biotechnology and Nutrition: Proceedings of the Third International Symposium," Eds. Butterworth-Heinemann, Boston.

3. Hedley, C.L., Jones, D.A., Wang, T.L., Ambrose, M.J., Smith, A.M., Ellis, T.H.N., Turner, L., Matthews, P., **Bhattacharyya, M.K.**, Harwood, W., Bedford, I.D., and Green, F.N. (1990) Evidence for a new *rugosus* locus. *Pea News Letter* 2:26-28.

2. **Bhattacharyya, M.K.,** Nandpuri, K.S., and Singh, S. (1979) Genetic divergence in tomato. *Acta Horticulture* 93:289-300.

1. **Bhattacharyya, M.K.,** Nandpuri, K.S., and Singh, S. (1979) Screening of tomato germplasms for quality and yield. *Acta Horticulture* 93:301-303.

INVITED LECTURES (Total 147)

Invited International Lectures

67. **Bhattacharyya M.K.,** Nagaki, M.N., Wang, F., and Srivastava, S. (2020) "Genetic modification of a soybean gene for enhancing broad-spectrum disease and pest resistance in soybean." The International Conference on "Evolving Materials and Nanotechnology for Sustainable Development" (EMNSD-2020) in online mode on 16 December, 2020. ***Keynote Lecture*** **Virtual**

66. **Bhattacharyya M.K.** (2020) "Application of a transcriptomic approach in enhancing broad-spectrum disease and pest resistance in soybean." International Conference "Omics of Plant-Pathogen Interaction with their implication" November 16, 2020 ***Inaugural Keynote Lecture*** **Virtual**

65. **Bhattacharyya M.K.** (2020) "Can Plant Breeding Meet the Needs of the 21st Century?" International Conference on Agricultural Newness: Multidisciplinary Innovations to Health, Environment, Biotechnology, and Sustainable Development. SAGE University, Indore, India. August 28, 2020. ***Keynote Lecture*** **Virtual**

64. **Bhattacharyya M.K.** (2020) "Plant Breeding to Meet the Needs of the 21st Century." ***First G.R. Das Memorial Lecture***, Assam Agricultural University, Jorhat, India, February 29, 2020.

63. **Bhattacharyya M.K.** (2019) "Arabidopsis Nonhost Resistance Genes for Enhancing Disease Resistance in Soybean." Presented at the "Academic Seminar on Mining, Research and Utilization of Characteristic Plant Resources in Jilin Province and the Second Annual Meeting of Jilin Province Young Scientists annual meeting" June 22, 2019.

62. **Bhattacharyya M.K.** (2019) "Transgenic Approaches in Enhancing Disease and Pest Resistance In Soybean." Presented in the Key Laboratory of Soybean Molecular Design Breeding, Northeast Institute of Geography and Agroecology, Chinese Academy of Sciences, Changchun, China on June 20, 2019.

61. **Bhattacharyya M.K.** (2019) "Arabidopsis Nonhost Resistance Genes for Enhancing Disease Resistance in Soybean." Presented in the Soybean Key Laboratory of Northeast Agricultural University, Harbin on June 8, 2019.

60. **Bhattacharyya M.K.** (2019) "Phosphoproteomics of the Root Necrotic Mutant *rn1* in Soybean." Presented at the Proteomics Workshop of the Plant & Animal Genome XXVII Conference on January 15, 2019.

59. **Bhattacharyya M.K.** (2019) "Digital phenotyping for understanding the cold-stress tolerance mechanisms in Arabidopsis." Presented at the Functional Genomics Workshop of the Plant & Animal Genome XXVII Conference on January 13, 2019.

58. **Bhattacharyya, M.K.** (2018) What have we learned about the plant adaptation to cold-stress by studying the model plant Arabidopsis thaliana? International Conference on "Climate Change, Biodiversity and Sustainable Agriculture (ICCBSA-2018). Assam Agricultural University, Jorhat-13, Assam, India. December 13-16, 2018.

57. **Bhattacharyya, M.K.** (2018) The endogenous transposable element *Tgm9* is suitable for generating knockout mutants for functional analyses of soybean genes. Conference on Molecular Breeding and Green Agriculture in 21 Century. Changchun, China. July 23, 2018.

56. **Bhattacharyya, M.K.** (2018) Engineering soybean for enhanced broad-spectrum disease and pest resistances. Conference on Molecular Breeding and Green Agriculture in 21 Century. Changchun, China. July 22, 2018.

55. **Bhattacharyya, M.K.** (2018) Arabidopsis Nonhost Resistance Genes for Enhancing Disease Resistance in Soybean. State Key Laboratory of Plant Physiology and Biochemistry, College of Biological Sciences, China Agricultural University, Beijing, China. July 20, 2018.

54. **Bhattacharyya, M.K.** (2018) Isolation and Utilization of Arabidopsis Nonhost Resistance Genes in Enhancing Disease Resistance in Soybean. 70th Annual Meeting, Indian Phytopathological Society and National symposium on 'Plant Health Management**:** Embracing Eco-Sustainable Paradigm' (Feb. 15-17, 2018) Assam Agricultural University, Jorhat-13, Assam, India. ***Keynote Lecture***

53. **Bhattacharyya, M.K.** (2017) Arabidopsis nonhost resistance genes for enhancing disease resistance in soybean. Horticultural Research Station, Assam Agricultural University, Kahikuchi, Guwahati, Assam, India, December 8, 2017.

52. **Bhattacharyya, M.K.** (2017) Arabidopsis nonhost resistance genes for enhancing disease resistance in soybean. ISMPP International Conference on "Plant Health for Human Welfare" Department of Botany, University of Rajasthan, Jaipur, Rajasthan, November 1-4, 2017.

51. **Bhattacharyya, M.K.** (2017) Arabidopsis nonhost resistance genes for enhancing disease resistance in soybean 2017 World Soybean Research Conference 10. University of Georgia, Savannah, September 9-15, 2017. Meeting was cancelled due to a hurricane.

50. **Bhattacharyya, M.K.** (2017) Folate in Plant Immunity. The society TASARD, India-2017 was organized at A P Shinde Auditorium, NASC complex, New Delhi during February 20-22, 2017, on the topic "Advancement for Sustainable Agriculture and Rural Development (TASARD-India-2017)"

49. **Bhattacharyya, M.K.** (2017) Overexpression of a plasma membrane protein enhances resistance to multiple pathogen and pests in soybean. National Symposium on Molecular Insect Science, Assam Agricultural University, Jorhat, India, February 6-8, 2017. ***Keynote Lecture***

48. **Bhattacharyya, M.K.** (2016) Identification and application of Arabidopsis nonhost immunity genes in enhancing disease resistance in soybean. International Symposium, Central Plantation Crops Research Institute, Kerela, December 10-12, 2016.

47. **Bhattacharyya, M.K.** (2016) Towards identification of adaptation genes for generating climate resilient crop plants. International Conference on Climate Change Adaptation and Biodiversity: Ecological Sustainability and Resource Management for Livelihood Security, Andaman Science Association, Port Blair, Andaman & Nicobar Islands, India, 8-10, December, 2016.

46. **Bhattacharyya, M.K.** (2016) Folic acid in plant health. College of Veterinary, Assam Agricultural University, Khanapara, Assam, India, December 6, 2016.

45. **Bhattacharyya, M.K.** (2016) Folic acid in plant health. ICAR-NRC Plant Biotechnology, New Delhi, India, December 2, 2016.

44. **Bhattacharyya, M.K.** (2016) The *Tgm9*-Induced Indexed Insertional Mutant Collection to Conduct Community-Based Reverse Genetic Studies in Soybean. Transposable Elements Workshop. Plant & Animal Genome XXIII, Town & Country Convention Center, San Diego, CA, January 8-13, 2016.

43. **Bhattacharyya, M.K.** (2016) Identification of Defense-related Proteins in the Root Necrotic Mutant *rn1* in Soybean. Proteomics Workshop. Plant & Animal Genome XXIII, Town & Country Convention Center, San Diego, CA, January 8-13, 2016.

42. **Bhattacharyya, M.K.** (2015) Transgenic approaches in managing diseases in soybean. Agri-Biotechnology Summit, Hyderabad, India, October 19-21, 2015.

41. Kambakam, S., Sumit, R., Sahu, B., Singh, P., Wang, B., Yang, Y., Ngaki, M., and **Bhattacharyya, M.K.** (2015) Identification and application of nonhost immunity mechanisms for creating broad-spectrum disease resistance in crop plants. International Conference on Innate Immunity during at Barcelona, Spain, July 20-21, 2015.

40. **Bhattacharyya, M.K.** (2015) Transgenic approaches in managing diseases in soybean. 2nd International Conference on Frontiers in Biological Sciences (InCoFIBS-2015), 22-24 January, 2015, Rourkela, Odisha, India.

39. **Bhattacharyya, M.K.** (2015) "Arabidopsis nonhost resistance for enhancing disease resistance in soybean." Plant Interactions with Pests and Pathogens Workshop. Plant & Animal Genome XXIII, Town & Country Convention Center, San Diego, CA, January 10-14, 2015.

38. **Bhattacharyya, M.K.** (2014) Novel management approaches: managing diseases in soybean. SOYCON-2014 International Soybean Research Conference. Indore, India, 22-24 February, 2014.

37. **Bhattacharyya, M.K.** (2014) Novel management approaches: managing diseases in soybean. IIT, Guwahati, February 17, 2014.

36. **Bhattacharyya, M.K.** (2014) Molecular characterization of a mutant soybean population induced by an endogenous transposable element, *Tgm9.* The International Plant & Animal Genome XVII Conference, Town & Country Convention Center, San Diego, CA**,** January 11, 2014**.**

35. **Bhattacharyya, M.K.** (2013) "Fvtox1 is a major virulence factor that causes foliar sudden death syndrome in soybean." BIT's 3rd Annual World Congress of Agriculture-2013. Hangzhou, China, September 23-25, 2013.

34. **Bhattacharyya, M.K.** (2013) "Arabidopsis nonhost disease resistance for improving disease resistance in soybean." Lilongwe University, Lilongwe, Malawi, Africa, July 1, 2013.

33. **Bhattacharyya, M.K.** (2013) "The role of a proteinacious toxin in developing the sudden death syndrome disease in soybean." Chitedze Research Station, Lilongwe, Malawi, Africa, June 28, 2013.

32. **Bhattacharyya, M.K.** (2013) "The *Arabidopsis thaliana PSS1* gene confers nonhost resistance against two soybean pathogens, *Phytophthora sojae* and *Fusarium viguliforme*." The First International American Moroccan Agricultural Sciences Conference. Rabat, Morocco, Africa, March 18-19, 2013.

31. **Bhattacharyya, M.K.** (2012) "Genomics analyses of the soybean SDS pathogen, *Fusarium virguliforme*." The 7th International Conference on Genomics (ICG-7) & Bio-IT APAC. The Kowloon Shangri-La Hotel, Hong Kong, November 28 - December 1, 2012.

30. **Bhattacharyya, M.K.** (2012) "Expression of a single chain variable fragment antibody against the *Fusarium virguliforme* toxin FvTox1 resulted in enhanced foliar sudden death syndrome resistance in soybean." 2nd Annual International Symposia of Mycology (ISM-2012), Guangzhou, China, July 30-August 1, 2012 (was invited; but declined).

29. **Bhattacharyya, M.K.** (2012) "One possible mechanism involved in foliar sudden death syndrome development in soybean." Biometrics Division, IASRI, New Delhi, India, October 1, 2012.

28. **Bhattacharyya, M.K.** (2012) "One possible mechanism involved in foliar sudden death syndrome development in soybean." Assam Agricultural University, India, September 21, 2012.

27. **Bhattacharyya, M.K.** (2012) "Xylem sap of *Fusarium virguliforme*-infected soybean plants contains candidate toxins involved in sudden death syndrome development." Proteomics Workshop, Plant & Animal Genome Conference, San Diego, CA, January 17, 2012.

26. **Bhattacharyya, M.K.** (2011) "Nonhost resistance for improving disease resistance in crop plants." BIT 1st Annual World Congress of Molecular & Cell Biology (CMCB-2011). Beijing, China, August 6-8, 2011.

25. **Bhattacharyya, M.K.** (2011) "Expression of a single-chain variable fragment antibody against the *Fusarium virguliforme* toxin, FvTox1, resulted in reduced foliar sudden death syndrome symptom development in stable transgenic soybean plants." Plant Transgene GeneticsWorkshop. Plant & Animal Genome XVII Conference; Town & Country Convention Center, San Diego, CA, January 15-19, 2011.

24. **Bhattacharyya, M.K.** (2011) "The proteinacious toxin, FvTox1 is a major pathogenicity factor involved in foliar sudden death syndrome development in soybean." Plant Interactions with Pests and Pathogens Workshop, Plant & Animal Genome XVII Conference; Town & Country Convention Center, San Diego, CA, January 15-19, 2011.

23. **Bhattacharyya, M.K.** (2011) "Sequencing and analyses of the *Fusarium viguliforme* genome." Lucigen Workshop. Plant & Animal Genome XVII Conference; Town & Country Convention Center, San Diego, CA, January 15-19, 2011.

22. **Bhattacharyya, M.K.** (2010) "Expression of a single-chain variable fragment antibody against a fungal toxin reduced the incidence of a disease in stable transgenic soybean plants." Shanghai Institute of Plant Physiology and Ecology, Shanghai, China, December 1, 2010.

21. **Bhattacharyya, M.K.** (2010) "Expression of a single-chain variable fragment antibody against a fungal toxin reduced the incidence of a disease in stable transgenic soybean plants." Sun Yat-sen University, Guangzhou, China, December 3, 2010.

20. **Bhattacharyya, M.K.** (2010) "Transposon *Tgm9* in soybean." Sun Yat-sen University, Guangzhou, China, December 5, 2010.

19. **Bhattacharyya, M.K.** (2010) "Functional characterization of a phytotoxin that initiates foliar sudden death syndrome, an emerging serious disease in soybean." Functional Genomics: Methodologies Workshop, The International Plant & Animal Genome XVII Conference, Town & Country Convention Center, San Diego, CA, January 9-13, 2010.

18. **Bhattacharyya, M.K.** (2009) "Identification and characterization of the first active endogenous transposable element in soybean." Transposable Elements Workshop**,** The International Plant & Animal Genome XVII Conference, Town & Country Convention Center, San Diego, CA, January 10-14, 2009.

17. **Bhattacharyya, M.K.** (2009) "Functional genomics of the soybean-*Phytophthora sojae* interaction." Soybean Genomics Workshop, The International Plant & Animal Genome XVII Conference, Town & Country Convention Center, San Diego, CA, January 10-14, 2009.

16. **Bhattacharyya, M.K.** (2007) "*Phytophthora* resistance in soybean." Legumes Workshop, The International Plant & Animal Genome XV Conference; Town & Country Hotel, San Diego, CA, January 13-17, 2007.

15. **Bhattacharyya, M.K.** (2007) "Pyrosequencing in microfabricated high-density picolitre reactors for investigating the transcriptomes of the the soybean-*Phytophthora sojae* interaction." Functional Genomics: Methodologies Workshop, The International Plant & Animal Genome XV Conference; Town & Country Hotel, San Diego, CA, January 13-17, 2007.

14. **Bhattacharyya, M.K.** (2007) "Quantitative phosphoproteomics of the soybean-*Phytophthora sojae* interaction." Proteomics Workshop, The International Plant & Animal Genome XV Conference; Town & Country Hotel, San Diego, CA, January 13-17, 2007.

13. **Bhattacharyya, M.K.** (2006) "Toward understanding the molecular basis of the soybean-*Phytophthora sojae* interaction." Third International Conference on Legume Genomics & Genetics, Brisbane, Australia, April 9-13, 2006.

12. **Bhattacharyya, M.K.** (2006) "Phosphoproteomic approaches: In studying the soybean-*Phytophthora sojae* interaction." The International Plant & Animal Genome XIV Conference. Town & Country Hotel, San Diego, CA, January 15-19, 2006.

11. **Bhattacharyya, M.K.**, Sandhu, D., Gao, H., Narayanan, N. N., Ji, J., and Tasma, M. I. (2003) "Recognition and signal transduction in disease resistance: mechanisms and application." UMS Biotechnology. Symposium II. Universiti Malaysia Sabah, Kota Kinabalu, Malaysia. December 3-5, 2003. ***Keynote Speaker.***

10. **Bhattacharyya, M.K.** (2003) "Towards understanding resistance and susceptibility in soybean." Southern Crop Protection and Food Research Centre, 1391 Sandford St., London, ON N5V 4T3, Canada. July 22, 2003.

9. **Bhattacharyya, M.K.** (2003) "Application of a cloned *Phytophthora* resistance gene *Rps1*-k for discovering candidate genes for the expression of defense responses in soybean." Functional Genomics: Methodologies Workshop, The International Plant & Animal Genome XI Conference. Town & Country Hotel, San Diego, CA, January 11-15, 2003.

8. **Bhattacharyya, M.K.** (1999) "Phosphoinositide-specific phospholipase C is induced by nutrients MS and down-regulated by infection in soybean cell suspensions." School of Life Sciences, JNU, India, 1999.

7. **Bhattacharyya, M.K.**, Espinosa, B.G., Kasuga, T., Liu, Y., Salimath, S.S., Gijzen, M., Poisa, V., and Buzzell, R.I. (1999) "Towards understanding the recognition and signal transduction processes in the soybean-*Phytophthora sojae* interaction." Symposium on Plant Signal Transduction, ICGEB, New Delhi, October 4-6, 1999.

6. **Bhattacharyya, M.K.** (1997) "High resolution and high density genetic mapping of AFLP markers that co-segregates with the *Rps1*-k." Department of Plant Molecular Biology, Delhi University South Campus, New Delhi, 1997.

5. **Bhattacharyya, M.K.** (1996) "Progress towards positional cloning of the *Phytophthora* resistance gene *Rps1*-k." Department of Plant Sciences, UWO, London, Canada, 1996.

4. **Bhattacharyya, M.K.** (1996) "High resolution genetic and physical mapping of the *Rps1*-k locus in soybean." Agriculture Canada, Harrow, Canada, 1996.

3. **Bhattacharyya, M.K.** (1996) "Toward cloning of the *Phytophthora* resistance gene *Rps1*-k." Department of Botany, Univ. of Toronto, Canada, 1996.

2. **Bhattacharyya, M.K.** (1993) "Identification of markers linked to the *Rps1*-k gene." London Research Centre, Agriculture Canada, London, Canada, 1993.

1. **Bhattacharyya, M.K.**, Paiva, N.L. Stermer, B.A., and Dixon, R.A. (1991) "HMG-CoA reductase of potato is encoded by a multigene family." Third International Congress of Plant Molecular Biology, Tucson, AZ, October 6-11, 1991.

Invited National Lectures

80. Bhattacharyya M.K. (2021) "Towards understanding the genetic mechanisms used by the overexpressed *GmDR1* gene in generating broad spectrum disease and pest resistance in transgenic soybean." ISU Fusarium Working Group Meeting, February 12, 2021. **Virtual**

79. Bhattacharyya M.K. (2021) "Stacking four plant genes to provide durable and enhanced SCN and SDS resistance in soybean." Iowa Soybean Association; January 25, 2021. **Virtual**

78. **Bhattacharyya M.K.** (2020) "Towards developing a CRISPR-Cas9 gene-editing system for *Camelina sativa."* Presented at the CBC annual meeting on December 9, 2020. **Virtual**

77. **Bhattacharyya, M.K.** (2020) "Generation of Broad-spectrum Disease and Pest Resistance In Soybean" in the IPB 2020 Fall Seminar Series (PLBIO 696). October 28, 2020 **Virtual**

76. **Bhattacharyya M.K.** (2019) "Developing a digital phenotyping system for *Camelina sativa."* Presented at the CBC annual meeting on December 6, 2019.

75. **Bhattacharyya M.K.** (2019) "Nonhost Immunity in Enhancing Disease Resistance in Soybean." Presented in the Department of Agronomy, Iowa State University, Ames, Iowa on February 20, 2019.

74. **Bhattacharyya, M.K.** (2018) "Isolation and Utilization of Arabidopsis Nonhost Resistance Genes in Enhancing Disease Resistance in Soybean" in the IPB 2018 spring seminar series (PLBIO 696).

73. Bhattacharyya, M.K. (2017) "Transgenic approaches in managing sudden death syndrome in soybean." USDA/NIFA AFRI Plant-Associated Microbes and Plant-Microbe Interactions, Fungal Pathosystems Integrated Programs, and Ecology and Evolution of Infectious Disease Project Directors Meeting Washington, DC, December 11 – December 12, 2017

72. **Bhattacharyya, M.K.** (2017) Overexpression of a plasma membrane protein enhances resistance to multiple pathogen and pests in soybean. Department of Agronomy, Iowa State University, Ames, IA 50011, February 6, 2017

71. **Bhattacharyya, M.K. (2016)** Expression of a receptor-like protein enhances resistance of soybean to multiple pathogen and pests including soybean cyst nematodes**.** APS organized 2016 Soybean Cyst Nematode Conference. December 13-15, 2016, Coral Gables, Florida.

70. Bhattacharyya, M.K. (2017) "Transgenic approaches in managing sudden death syndrome in soybean." USDA/NIFA AFRI Plant-Associated Microbes and Plant-Microbe Interactions, Fungal Pathosystems Integrated Programs, and Ecology and Evolution of Infectious Disease Project Directors Meeting Washington, DC, June 30 to July 1, 2016.

69. **Bhattacharyya, M.K.** (2016) Novel transgenic approaches in enhancing SDS resistance in soybean. Plant Pathology & Microbiology Department, Iowa State University, March 1, 2016.

68. **Bhattacharyya, M.K.** (2016) Novel biotech. approaches in fighting sudden death syndrome in soybean. 2016 Soybean Breeders' & Pathologists' Workshop. St. Louis, MO, 22-24 February 2016.

67. **Bhattacharyya, M.K.** (2015) "Transgenic approaches in managing sudden death syndrome in soybean." USDA/NIFA Agriculture and Food Research Initiative Microbial Programs Awardee Meeting, Washington, DC NIFA Project Director Meeting, AFRI Plant-Associated Microbes and Plant-Microbe Interactions & Fungal Pathosystems Integrated Programs, July 23-24, 2015

65. **Bhattacharyya, M.K.** (2014) Nonhost Resistance for Engineering Disease Resistance. Monsanto, March 20, 2014.

64. **Bhattacharyya, M.K.** (2013) "Transgenic approaches in managing sudden death syndrome in soybean." USDA/NIFA Agriculture and Food Research Initiative Microbial Programs Awardee Meeting, Washington, DC, August 7-8, 2013.

63. **Bhattacharyya, M.K.** (2013) "Transgenic approaches in fighting sudden death syndrome in soybean." Plant Genomics & Biotechnology Workshop for 7th - 12th grade teachers and high school students, Tuskegee University, Tuskegee, AL, July 29, 2013.

62. **Bhattacharyya, M.K.** (2013) "Nonhost resistance for engineering disease resistance." CPBR Symposium, Washington, DC, March 5-6, 2013.

61. **Bhattacharyya, M.K.** (2012) "USDA SDS project." North Central Soybean Research Program and the United Soybean Board SDS Fall Meeting, Kansas City, MO, November 15-16, 2012.

60. **Bhattacharyya, M.K.** (2012) "Genetic analyses suggest that the FvTox1 toxin produced by *Fusarium virguliforme* is involved in foliar SDS development in soybean." 14th Biennial Conference on the Molecular and Cellular Biology of the Soybean, Des Moines, IA, August 12-15, 2012.

59. Abeysekara, N., Matthiesen, R., Cianzio, S., **Bhattacharyya, M.** and Robertson, A. (2012) "Mapping quantitative trait loci encoding partial resistance to *Phytophthora sojae* in soybean." 14th Biennial Molecular & Cellular Biology of the Soybean Conference, Des Moines, IA, August 12-15, 2012.

58. **Bhattacharyya, M.K.** (2011) "The SDS pathogen—what have we learned." The NCSRP SDS Fall Meeting, St. Paul, MN, November 17-18, 2011.

57. Cianzio, S., Leandro, L. and **Bhattacharyya, M.K.** (2011) "Coping with sudden death syndrome (SDS) in Iowa soybeans - integrated research approach and solutions to protect yield." Integrated Crop Management Conference, Iowa State University, Ames, IA, November 30-December 1, 2011.

56. **Bhattacharyya, M.K.** (2011) "Nonhost resistance for engineering disease resistance." Monsanto, Inc., St. Louis. MO, July 11, 2011.

55. **Bhattacharyya, M.K.** (2011) "How does the *Fusarium virguliforme* toxin, FvTox1, generate foliar sudden death syndrome (SDS) in soybean?" CPRES Seminar Series, Iowa State University, Ames, IA, December 16, 2011.

54. **Bhattacharyya, M.K.** (2011) "Expression of an antibody against a *Fusarium virguliforme* toxin enhances SDS resistance in stable transgenic soybean plants." Department of Plant Pathology, Iowa State University, Ames, IA, February 15, 2011.

53. **Bhattacharyya, M.K.** (2010) "Sequencing the SDS pathogen." North Central Soybean Research Program and the United Soybean Board Sudden Death Syndrome Fall Meeting University of Arkansas - Cosmopolitan Hotel, Fayetteville, AR, November 18-19, 2010.

52. **Bhattacharyya, M.K.** (2010) "What we now know about the way *Fusarium virguliforme* causes foliar symptoms of sudden death syndrome in soybean." Syngenta, Inc., Research Triangle Park, NC, August 12, 2010.

51. **Bhattacharyya, M.K.** (2010) "Towards understanding the mechanism of foliar sudden death syndrome development in soybean." The 13th Biennial Molecular & Cellular Biology of the Soybean Conference, Durham, NC, August 8-11, 2010.

50. **Bhattacharyya, M.K.** (2010) "What do we now know about the mechanism of foliar SDS development in soybean?" Workshop Organized by Syngeta, Inc., Minnetonka, MN, July 15, 2010.

49. **Bhattacharyya, M.K.** (2010) "What we now know how foliar SDS developed in soybean." Syngenta, Inc., Huxley, IA, June 16, 2010.

48. **Bhattacharyya, M.K.** (2010) "Towards creating durable and broad-spectrum disease resistance in soybean." Pioneer, Inc., Johnston, IA, March 23, 2010.

47. **Bhattacharyya, M.K.** (2010) "Genome sequence of the SDS pathogen, *Fusarium virguliforme*." The Soybean Breeder's Meeting, St. Louis, MO, February 22-24, 2010.

46. **Bhattacharyya, M.K.** (2009) "Sequencing the *Fusarium virguliforme* genome." SDS meeting organized by NCSRP, SIU, Carbondale, IL, November 19-20, 2009.

45. **Bhattacharyya, M.K.** (2009) "Arabidopsis nonhost resistance for creating novel soybean germplasms with durable and broad-spectrum *Phytophthora* resistance." CPBR, February, 2009.

44. **Bhattacharyya, M.K.** (2008) "Toxin research." SDS meeting organized by NCSRP, ISU, Ames, IA, November 20-21, 2008.

43. Brar, H., and **Bhattacharyya, M.K.** (2008) "Purification of a phytotoxin that causes sudden death syndrome in soybean." CPRES Seminar Series, Iowa State University, Ames, IA, October 24 (Ms. Brar, graduate student, from my lab presented the talk).

42. **Bhattacharyya, M.K.** (2007) "A novel *Fusarium virguliforme* protein is involved in the development of foliar sudden death syndrome in soybean." CPRES Seminar Series, Iowa State University, Ames, IA, November 30, 2007.

41. **Bhattacharyya, M.K.** (2007) "*Fusarium* toxin research in soybean" SDS meeting organized by NCSRP, University of Illinois, Urbana-Champaign, IL, November 15-16, 2007.

40. **Bhattacharyya, M.K.** (2006) "Pyrosequencing in microfabricated highdensity picolitre reactors: The method and its possible applications." IPPM Fall Seminar Series, Iowa State University, Ames, IA, October 25, 2006.

39. Brar, H., and **Bhattacharyya, M.K.** (2006) "Purification of a phytotoxin that causes sudden death syndrome in soybean." CPRES Seminar Series, Iowa State University, Ames, IA, October 13, 2006 (Presented by graduate student of my lab, Ms. Brar).

38. **Bhattacharyya, M.K.** (2006) "Characterization of Rps1-k-2-interactors." 11th Biennial Cellular and Molecular Biology of the Soybean Conference, Lincoln, NE, August 8-11, 2006.

37. **Bhattacharyya, M.K.** (2006) "Toward generating SDS resistant transgenic soybean lines" SDS meeting organized by NCSRP, Souther Illininois University, Carbodale, IL, November 15-16, 2006.

36. **Bhattacharyya, M.K.** (2006) "Cloning and characterization of a type II metacaspase gene, *GmMcII*." Mendel Biotechnology, Inc., Hayward, CA, June 19, 2006.

35. **Bhattacharyya, M.K.** (2005) "*Phytophthora* resistance in soybean." Department of Plant Pathology, Kansas State University, KS, May 12, 2005.

34. **Bhattacharyya, M.K.** (2005) "Proteomics approach for SDS." USB-Biotechnology to control SDS. Chicago, IL, April 18-19, 2005.

33. **Bhattacharyya, M.K.** (2005) "Immunity, resistance and susceptibility." CPRES Seminar Series, Iowa State University, Ames, IA, October 13, 2005.

32. Sandhu, D., and **Bhattacharyya, M.K.** (2004) "Deletion of a disease resistance NBS-LRR-like sequence is associated with the loss of the *Phytophthora* resistance gene *Rps4* in soybean." CPRES Seminar Series, Iowa State University, Ames, IA, 2004 (Presented by assistant scientist of my lab, Dr. Sandhu).

31. **Bhattacharyya, M.K.** (2004) "Towards understanding the mechanism of *Phytophthora* resistance in soybean." 10th Biennial Cellular and Molecular Biology of the Soybean Conference, Columbia, MO, August 8-11, 2004.

30. **Bhattacharyya, M.K.** (2003) "Proteomics approach for SDS." USB-Biotechnology to Control SDS. Chicago, IL, August 25, 2003.

29. **Bhattacharyya, M.K.** (2003) "Proteomics approach for SDS." USB-Biotechnology to Control SDS. St. Louis, MO, February 19, 2003.

28. Ji, J., and **Bhattacharyya, M.K.** (2003) "Proteomics approach in studying sudden death syndrome in soybean." CPRES Seminar Series, Iowa State University, Ames, IA, 2003 (Presented by the graduate student from lab, Ms. Junli Ji).

27. **Bhattacharyya, M.K.** (2003) "Characterization of the phosphoinositide signal pathway." IG Retreat, Iowa State University, Ames, IA, September 20, 2003.

26. **Bhattacharyya, M.K.** (2003) "Towards understanding the functions of the phosphoinositide signal pathway." IPPM Retreat, Iowa State University, Ames, IA, August 20, 2003.

25. **Bhattacharyya, M.K.** (2002) "Cloning of the *Rps1*-k gene family." CPRES Seminar Series, Iowa State University, Ames, IA, 2002.

24. **Bhattacharyya, M.K.** (2002) "Application of *Rps1*-k in developing possible broad-spectrum resistance in soybean." The *Phytophthora sojae* meeting. Wooster, OH, September 26-27, 2002.

23. **Bhattacharyya, M.K.** (2002) "Cloning of the *Rps1*-k gene family." Interdepartmental Plant Physiology Major Retreat, Iowa State University, Ames, IA, August 24, 2002.

22. **Bhattacharyya, M.K.**, Narayanan N. N., Gao H., Santra D. Ellison L, Kasuga, T., Salimath S.S., Liu Y., Espinosa B., Marek L.F., Shoemaker R.C., Gijzen M., and Buzzell R.I. (2002) "The *Rps1*-k locus carries multiple functional *Phytophthora* disease resistance genes in soybean." 9th Biennial

Conference of the Cellular and Molecular Biology of the Soybean, Urbana-Champaign, IL, August 11-14, 2002.

21. **Bhattacharyya, M.K.** (2002) "*Rps1*-k is comprised of multiple functional *Phytophthora* resistance genes." *Phytophthora* Molecular Genetics Workshop, Milwaukee, WI, August 1-2, 2002.

20. **Bhattacharyya, M.K.** (2002) "Progress toward isolation of *Rps1*-k." Iowa Soybean Promotion Board, Des Moines, IA, March 2, 2002.

19. **Bhattacharyya, M.K.** (2001) "Molecular approaches towards improving disease resistance in soybeans." Agronomy Department, Iowa State University, Ames, IA, September 20, 2001.

18. **Bhattacharyya, M.K.** (2001) "Towards molecular cloning of *Phytophthora* resistance genes in soybean." BCB 691 Faculty Seminar, Iowa State University, Ames, IA, 2001.

17. **Bhattacharyya, M.K.** (2000) "Towards understanding the molecular-basis of the soybean-*Phytophthora sojae* interaction." Department of Plant Pathology, Iowa State University, Ames, IA, October 24, 2000.

16. **Bhattacharyya, M.K.** (2000) "Towards molecular characterization of the *Phytophthora* disease resistance genes at the *Rps1*-k region in soybean." IG Faculty Seminar, Iowa State University, Ames, IA, 2000.

15. **Bhattacharyya, M.K.** (1999) "Progress towards cloning the soybean disease resistance gene *Rps1*-k." Department of Botany, Oklahoma State University, Stillwater, OK, 1999.

14. Shigaki T., Dammann, C., and **Bhattacharyya, M.K.** (1999) "Toward understanding the possible role of phosphoinositide-specific phospholipase C in plants." The 88th Annual Technical Meeting of OAS, Oklahoma City University, Oklahoma City, OK, November 13, 1999.

13. Dammann C., and **Bhattacharyya, M.K.** (1999) "A new gene from soybean with similarity to G-protein coupled receptors." 75th annual ASPP meeting, July 24-28, Baltimore, MD, 1999 (Dr. Dammann, postdoc, from my lab offered the talk).

12. **Bhattacharyya, M.K.** (1999) "Towards positional cloning of the *Phytophthora* resistance gene *Rps1*-k in soybean." The 1999 OARDC Annual Conference, OSU, Columbus, OH, 1999. ***Keynote Speaker***

11. **Bhattacharyya, M.K.** (1999) "Possible role of phosphoinositide-specific phospholipase C in DNA replication in soybean." Department of Botany and Microbiology, University of Oklahoma, Norman, OK, 1999.

10. **Bhattacharyya, M.K.** (1998) "Towards cloning the soybean disease resistance gene *Rps1*-k." Noble Foundation Plant Biology 10-year Symposium, Noble Foundation, Ardmore, Oklahoma, October 7-10, 1998.

9. **Bhattacharyya, M.K.**, Salimath, S.S., Espinosa, B.G., Kasuga, T., Liu, Y., Marek, L., Shoemaker, R.C., Gijzen, M., and Buzzell, R. I. (1998) "Soybean-*Phytophthora sojae*, a model plant-fungal interaction: Progress towards map-based cloning of the disease resistance gene *Rps1*-k." 7th Biennial Conference on Molecular and Cellular Biology of the Soybean and 8th Gatlinburg Symposium, Knoxville, TN, July 26-29, 1998.

8. **Bhattacharyya, M.K.** (1997) "Towards cloning *Rps1*-k." Application of Biotechnology For The Control Of Soybean Diseases, St. Louis, MO, September 13-14, 1997.

7. **Bhattacharyya, M.K.** (1996) "Progress towards cloning *Rps1*-k." Application Of Biotechnology For The Control Of Soybean Diseases, Agronomy Department, Iowa State University, Ames, IA, October 5-6, 1996.

6. **Bhattacharyya, M.K.** (1996) "Progress towards map-based cloning the *Phytophthora* resistance gene *Rps1*-k." USDA-ARS, Beltsville, MD, 1996.

5. **Bhattacharyya, M.K.** (1996) "Towards map-based cloning of *Rps1*-k that confers resistance to *Phytophthora sojae* in soybean." Hawaiian Sugar Plantation Association, Honolulu, HI, 1996.

4. **Bhattacharyya, M.K.** (1996) "Characterization of soybean PI-PLC1." Department of Plant Molecular Physiology, University of Hawaii, Honolulu, HI, 1996.

3. **Bhattacharyya, M.K.** (1996) "Cloning and characterization of soybean PI-PLC1." Department of Botany, Oklahoma State University, Stillwater, OK, 1995.

2. **Bhattacharyya, M.K.** (1995) "Isolation of RAPD and AFLP markers that are linked to *Rps1*-k." 'Workshop on Soybean Pathology,' Iowa State University, Ames, IA, April 22, 1995.

1. **Bhattacharyya, M.K.** (1994) "Reduced variation in transgene expression from a binary vector with selectable markers at the right and left T-DNA borders." Monsanto, St. Louis, MO, 1994.

CONFERENCE POSTER PRESENTATIONS

155. Akintayo, O.F. and **Bhattacharyya, M.K.** (2020) The Arabidopsis plasma membrane PSS1 protein conferring nonhost immunity contributes to defense through autophagy following infection. Plant Biology 2020, Worldwide Summit, July 27-31, 2020. **Virtual**

154. Ngaki, M. N., Sahoo, D. K., Wang, B. and **Bhattacharyya, M.K.** (2020) Overexpression of a plasma membrane protein generated broad-spectrum immunity in soybean. Plant Biology 2020, Worldwide Summit, July 27-31, 2020. **Virtual**

153. Sahoo, D.K., Hegde, C. and **Bhattacharyya, M.K.** (2018). Identification of Arabidopsis candidate genes for cold stress response using a high throughput phenotyping system. 2018 Annual Meeting, Midwestern Section, American Society of Plant Biologists, Iowa State University, Ames, IA, Poster No. P84, March 3-4, 2018.

152. **Bhattacharyya, M.K.** (2018) Genetic Improvement of Soybean for Disease and Pest Resistance. Meeting organized by Iowa Soybean Association, February 1, 2018.

151. Baumbach, J. and **Bhattacharyya, M.K.** (2017) Transcriptomic investigation into the role of a fungal polyamine oxidase in causing plant disease. Plant Biology 2017. Honolulu, Hawaii, June 24-28, 2017.

150. Sahoo, D., Hegde, C., and **Bhattacharyya, M.K.** (2017) A high throughput plant phenotyping system. Predictive Crop Design: Genome to Phenome. UNL, Lincoln. April 6-7, 2017.

149. Kambakam, S., Sahu BB, ., Sumit, R ., Singh, P., Ngaki, M., and **Bhattacharyya M.K.** (2016) Folate is involved in conferring nonhost immunity of Arabidopsis against the soybean pathogens. Plant Biology 2016, July 9-13, 2016.

148. Ngaki, M., Sahoo, D., Wang, B. Swaminathan, S, and **Bhattacharyya, M.K.** (2016) A receptor-like protein provides broad-spectrum resistance in soybean. Plant Biology 2016, July 9-13, 2016.

147. Sahoo, D., Abeysekara, N.S., Cianzio, S.R., Robertson,A.E., **Bhattacharyya,M.K.** (2016) A novel soybean *Phytophthora* resistance *Rps12* gene mapped to the *Rps4*/6 region in soybean. Plant Biology 2016, July 9-13, 2016.

146. **Bhattacharyya M.K.**, Kambakam, S., Ngaki, M., Sahu BB, Singh, P., Sumit R. (2015) Folic Acid Plays a Critical Role in Nonhost Resistance. Plant & Animal Genome Conference, January 12, 2015.

145. Zhang, B., Wang, B., Morales, A.W., Scudder, J., **Bhattacharyya, M.K.,** and Ye, J.Y. (2014) Study Interactions of FvTox1 with Synthetic Peptides Using a Label-Free Biosensor and Molecular Simulations. BMES Annual Meeting. October 22-25, 2014.

144. Sandhu, D., Johnson, C.J., Ollhoff , A., Palmer, R., **Bhattacharyya, M.K.** (2014) Tagging soybean genes with an endogenous transposable element for their functional analyses. SOY 2014: Molecular and Cellular Biology of the Soybean,15th Biennial Conference. University of Minnesota, August 3-6, 2014.

143. **Bhattacharyya M.K.**, Singh P, Sahu BB, Sumit R, Xu M, and Sandhu D. (2014) Positional cloning of Arabidopsis nonhost resistance genes conferring immunity to two soybean pathogens, *Phytophthora sojae* and *Fusarium virguliforme*, revealed novel disease resistance mechanisms. The International Congress on Molecular Plant-Microbe Interactions, organized by the Agricultural University of Athens, Rhodes, Greece July 6-10, 2014.

142. **Bhattacharyya MK**, Singh P, Yang Y, Kambakam, Sahu BB, Sumit R, Xu M, and Sandhu D. (2014) Identification of two Arabidopsis nonhost resistance genes that confer immunity to soybean pathogens, *Phytophthora sojae* and *Fusarium virguliforme*. Oomycete Molecular Genetics Network Meeting, Norwich, UK, July 2-4, 2014

141. Brown, K.H., Baumbach, J., and **Bhattacharyya, M.K.** (2014) Investigation of the Possible Host-Induced Silencing in *Fusarium virguliforme* that Causes Sudden Death Syndrome in Soybean. Plant & Animal Genome Conference January 13, 2014.

140. Baumbach, J. Brooke, C.D., and **Bhattacharyya, M.K.** (2014) Polyamine Oxidase and Its Possible Role in the Soybean-*Fusarium virguliforme* Interaction. Plant & Animal Genome Conference. January 13, 2014.

139. Sumit, R., Sahu, B.B., and **Bhattacharyya, M.K.** (2014) A Novel Arabidopsis thaliana Nonhost Resistance Gene Confers Resistance Against an Oomycete and a Fungal Pathogen in Soybean. Plant & Animal Genome Conference January 13, 2014.

138. **Bhattacharyya, M.K.** (2013) Non-host Resistance for Engineering Disease Resistance. CPBR, March 11, 2013.

137. Davis, J., Swaminathan, S., and **Bhattacharyya, M.K.** (2013) Identifying sudden death syndrome resistant soybean plant introduction lines. George Washington Carver Interns Symposium; Ensminger Hall, Iowa State University, August 1, 2013.

136. Brazelton, V. A. Jr., Singh, P., Sahu, B. B., and **Bhattacharyya, M.K.** (2013) Mapping of Arabidopsis non-host resistance gene *Pss6* conferring immunity against the soybean pathogen *Phytophthora sojae*. George Washington Carver Interns Symposium; Ensminger Hall, Iowa State University, August 1, 2013.

135. Tisdale, E., Singh, P., Sahu, B. B., and **Bhattacharyya, M.K.** (2013) Mapping of the nonhost resistance Arabidopsis *Pss25* gene conferring immunity against the soybean pathogen *Phytophthora sojae*. George Washington Carver Interns Symposium; Ensminger Hall, Iowa State University, August 1, 2013.

134. Page, J., Sahu, B. B., Singh, P., and **Bhattacharyya, M.K.** (2013) Mapping of the Arabidopsis *Pss21* gene conferring immunity against the soybean pathogen *Phytophthora sojae*. George Washington Carver Interns Symposium; Ensminger Hall, Iowa State University, August 1, 2013.

133. Blair, N., Sahu, B. B., Sumit, R., Singh, P., and **Bhattacharyya, M.K.** (2013) Identification of *pss* mutants that are susceptible to the SDS fungal pathogen *Fusarium virguliforme*. George Washington Carver Interns Symposium; Ensminger Hall, Iowa State University, August 1, 2013.

132. Washington J., Baumbach, and **Bhattacharyya, M.K.** (2013) **"**Double stranded RNA induced gene silencing in the fungal pathogen *Fusarium virguliforme*." Molecular Biology Building, Iowa State University, Ames, IA, July 26, 2013

131. Harrison, C.A., Ngaki, M.N., and **Bhattacharyya, M.K.** (2013) Functional characterization of a pathogen infection-inducible promoter in soybean. Molecular Biology Building, Iowa State University, Ames, IA, July 26, 2013

130. Baumbach, J. Pudake, R., Swaminathan, S., and **Bhattacharyya, M.K.** (2013) Is carbonic anhydrase the target of FvTox1 which initiates foliar SDS? The World Soybean Research Conference, Durban, South Africa, February 17-22, 2013.

129. Sumit, R., Sahu, B., Xu, M., Sandhu, D., and **Bhattacharyya, M.K.** (2013) The *Arabidopsis thaliana PSS1* gene confers nonhost resistance against two soybean pathogens, *Phytophthora sojae* and *Fusarium virguliforme*. The World Soybean Research Conference, Durban, South Africa, February 17-22, 2013.

128. Sumit, R., Sahu, B., Xu, M., Sandhu, D., and **Bhattacharyya, M.K.** (2013) The *Arabidopsis thaliana PSS1* gene confers nonhost resistance against two soybean pathogens, *Phytophthora sojae* and *Fusarium virguliforme*. Plant & Animal Genome XIX Conference; Town & Country Hotel, San Diego, CA, January 12-16, 2013.

127. Baumbach, J., Johnson, C.J., Ollhoff, A., Raval, J., Pudake, R.N., Palmer, R, **Bhattacharyya, M.K.**, Sandhu, D. (2013) Identification of a candidate male-fertility female-fertility gene tagged by an endogenous transposon in soybean. Plant & Animal Genome XIX Conference; Town & Country Hotel, San Diego, CA, January 12-16, 2013.

126. Johnson, C.J., Ollhoff, A., Palmer, R, **Bhattacharyya, M.K.,** Sandhu, D. (2013) Transposition of an endogenous transposable element in soybean. Plant & Animal Genome XIX Conference; Town & Country Hotel, San Diego, CA, January 12-16, 2013.

125. Brar, H. K., Pudake, R.N., Swaminathan, S., Baumbach, Sahu, B., Brooke, C., and **Bhattacharyya, M.K.** (2012) *Fusarium virguliforme* FvTox1 toxin causes foliar sudden death syndrome presumably through interaction with a carbonic anhydrase in soybean (*Glycine max* L. Merr.). VI International Congress on Legume Genetics and Genomics (ICLGG), Hyderabad, India, Oct 2-7, 2012.

124. Brar, H. K., Pudake, R.N., Swaminathan, S., Sahu, B., and **Bhattacharyya, M.K.** (2012) A single chain variable fragment antibody against a *Fusarium virguliforme* toxin for enhancing tolerance of soybean to sudden death syndrome. XV International Congress on Molecular Plant-Microbe Interactions, Kyoto, Japan, July 29-August 2, 2012.

123. Abeysekara, N., Matthiesen, R., Cianzio, S., **Bhattacharyya, M.,** and Robertson, A. (2012) Identification of quantitative trait loci for partial resistance to *Phytophthora sojae* in soybean. APS Annual Meeting, Providence, RI, August 4-8, 2012.

122. Abeysekara, N., Matthiesen, R., Cianzio, S., **Bhattacharyya, M.,** and Robertson, A. (2012) Mapping quantitative trait loci encoding partial resistance to *Phytophthora sojae* in Soybean. 14th Biennial Molecular & Cellular Biology of the Soybean Conference, Des Moines, IA, August 12-15, 2012.

121. Abeysekara, N., and **Bhattacharyya, M.** (2012) Analysis of the xylem sap proteomes for identifying candidate *Fusarium virguliforme* toxins involved in sudden death syndrome development in soybean. 14th Biennial Molecular & Cellular Biology of the Soybean Conference, Des Moines, IA, August 12-15, 2012.

120. Sahu, B.B., Baumbach, J., Srivastava, S.K., and **Bhattacharyya, M.K.** (2012) The transcriptome of *Fusarium virguliforme* in infected soybean roots. 14th Biennial Molecular & Cellular Biology of the Soybean Conference, Des Moines, IA, August 12-15, 2012.

119. Swaminathan, S. Abeysekara, N., **Bhattacharyya, M.K.,** and Cianzio, S. (2012) QTL Mapping of resistance to *Fusarium virguliforme* that causes sudden death syndrome (SDS) in soybean. 14th Biennial Molecular & Cellular Biology of the Soybean Conference, Des Moines, IA, August 12-15, 2012.

118. Sumit, R., Sahu, B., Xu, M., Sandhu, D., and **Bhattacharyya, M.K.** (2012) Identification of the Arabidopsis *PSS1* gene that confers nonhost resistance against two soybean pathogens, *Phytophthora sojae* and *Fusarium virguliforme.* 14th Biennial Molecular & Cellular Biology of the Soybean Conference, Des Moines, IA, August 12-15, 2012.

117. Pudake, R.N., Swaminathan, S., Sahu, B., Leandro, L., and **Bhattacharyya, M.K.** (2012) Knockout of the *Fusarium virguliforme FvTox1* gene by homologous recombination revealed that the toxin gene is essential for foliar sudden death syndrome development in soybean. 14th Biennial Molecular & Cellular Biology of the Soybean Conference, Des Moines, IA, August 12-15, 2012.

116. Liao, C., Li, Shan, and **Bhattacharyya, M.K.** (2012) Investigation of the possible triplet interactions of *Phytophthora sojae* effector proteins Avr1b and Avr1k with the soybean resistance protein Rps1-k and soybean E3 ligase GmPUB1. 14th Biennial Molecular & Cellular Biology of the Soybean Conference, Des Moines, IA, August 12-15, 2012.

115. Baumbach, J., Pudake, R., Swaminathan, S., and **Bhattacharyya, M.K.** (2012) Is carbonic anhydrase the target of FvTox1 which initiates foliar SDS? 14th Biennial Molecular & Cellular Biology of the Soybean Conference, Des Moines, IA, August 12-15, 2012.

114. Baumbach, J., Dillman, S., Raval, J., Pudake, R.N., Palmer, R, **Bhattacharyya, M.K.**, and Sandhu, D. (2012) Candidate gene identification for a transposon-tagged male sterile female sterile mutant in soybean. 14th Biennial Molecular & Cellular Biology of the Soybean Conference, Des Moines, IA, August 12-15, 2012.

113. Brooke, C.D., Baumbach, J., Sahu, B.B., Pudake, R.N., and **Bhattacharyya, M.K.** (2012) Functional analyses of the candidate *Fusarium virguliforme* genes up-regulated following infection of soybean roots. 14th Biennial Molecular & Cellular Biology of the Soybean Conference, Des Moines, IA, August 12-15, 2012.

112. Abeysekara, N., Matthiesen, R., Cianzio, S., **Bhattacharyya, M.,** and Robertson, A. (2012) Novel quantitative trait loci for partial resistance to *Phytophthora sojae* mapped in two recombinant inbred soybean populations. Oomycete Molecular Genetics Network Workshop. Asilomar, CA, March 9-11, 2012.

111. Srivastava, S.K., Huang, X., and **Bhattacharyya, M.K.** (2011) Genome analyses of *Fusarium virguliforme* that causes sudden death syndrome in soybean. Plant & Animal Genome XIX Conference; Town & Country Hotel, San Diego, CA, January 15-19, 2011.

110. Pandey, S., Parashar, A., Sumit, R., and **Bhattacharyya, M.K.** (2011) A microfluidic platform for long-term, real-time monitoring of *Arabidopsis thaliana* root growth patterns. Plant & Animal Genome XIX Conference; Town & Country Hotel, San Diego, CA, January 15-19, 2011.

109. Sumit, R., Sandhu, D., Xu, M., and **Bhattacharyya, M.K.** (2011) Arabidopsis nonhost resistance gene, *pss1* confers immunity against oomycte and fungal but not bacterial pathogens of soybean. Plant & Animal Genome XIX Conference; Town & Country Hotel, San Diego, CA, January 15-19, 2011.

108. Wu, C-C, **Bhattacharyya, M.K.,** Ye, R., Wagner, M., Jasinovica, S , Brar, H., Hermersmann, N., Huang, H., Sugar, D.R., Mead, D.A. (2011) A random shear BAC resource and whole genome BAC end sequencing of *Fusarium virguliforme*. Plant & Animal Genome XIX Conference; Town & Country Hotel, San Diego, CA, January 15-19, 2011.

107. **Bhattacharyya, M.K.**, Swaminathan, S., and Brar, H. (2010) Identification of a phytotoxin from *Fusarium virguliforme* that causes sudden death syndrome in soybean. The 13th Biennial Molecular & Cellular Biology of the Soybean Conference, Durham, North Carolina, August 8-11, 2010.

106. **Bhattacharyya, M.K.,** Sumit, R., Sandhu, D., Xu, M., and Sahu, B.B. (2010) A single arabidopsis nonhost resistance gene confers immunity against two soybean pathogens, *Phytophthora sojae* and *Fusarium virguliforme*. The 13th Biennial Molecular & Cellular Biology of the Soybean Conference, Durham, North Carolina, August 8-11, 2010.

105. **Bhattacharyya, M.K.**, and Brar, H. (2010) Plant antibody for reducing sudden death syndrome in soybean. The 13th Biennial Molecular & Cellular Biology of the Soybean Conference, Durham, North Carolina, August 8-11, 2010.

104. Brar, H., Swaminathan, S. and **Bhattacharyya, M.K.** (2010) Functional characterization of a phytotoxin that initiates foliar sudden death syndrome, an emerging serious diesase in soybean. The International Plant & Animal Genome XVII Conference, Town & Country Convention Center, San Diego, CA, January 9-13, 2010.

103. Sumit, R., Sandhu, D., Xu, M., and **Bhattacharyya, M.K.** (2010) *Pss1* confers nonhost resistance of *Arabidopsis thaliana* against two soybean pathogens, *Phytophthora sojae* and *Fusarium virguliforme*. Plant & Animal Genome XVII Conference; Town & Country Hotel, San Diego, CA, January 10-14, 2010.

102. Sumit, R., and **Bhattacharyya, M.K.** (2009) The *Arabidopsis thaliana Pss1* gene confers nonhost resistance against two soybean pathogens, *Phytophthora sojae* and *Fusarium virguliforme*. 9th IPMB Congress, St. Louis, MI, October 25-30, 2009.

101. Brar, H., and **Bhattacharyya, M.K.** (2009) A proteinaceous phytotoxin causes sudden death syndrome in soybean. World Soybean Research Conference VIII, Beijing, China, August 10-15, 2009.

100. Xu, M., Brar, H., Grosic, S., Palmer, R.G., and **Bhattacharyya, M.K.** (2009) Characterization of an active endogenous transposable element in soybean. World Soybean Research Conference VIII, Beijing, China, August 10-15, 2009.

99. Sumit, R., Sandhu, D., Xu, M., and **Bhattacharyya, M.K.** (2009) Towards cloning the first Arabidopsis nonhost resistance gene that confers immunity against the soybean pathogen, *Phytophthora sojae.* World Soybean Research Conference VIII, Beijing, China, August 10-15, 2009.

98. Li, S., Swaminathan, S., Brar, H., Dou, D., Kale, S.D., Tyler, B., and **Bhattacharyya, M.K.** (2009) Soybean U box protein GmPUB1, homologous to AtPUB22/23/24, interacts with the *Phytophthora sojae* effector protein, Avr1b. World Soybean Research Conference VIII, Beijing, China, August 10-15, 2009.

97. Cannon, S., Sandhu, D. and **Bhattacharyya, M.K.** (2009) Identification of candidate soybean genes for Phytophthora resistance through transcriptomic and proteomic studies. World Soybean Research Conference VIII, Beijing, China, August 10-15, 2009.

96. Baskett, J., Gao, H., Swaminathan, S., and **Bhattacharyya, M.K.** (2009) Identification of a type II soybean metacaspase that interacts with the CC domain of the Phytophthora resistance protein Rps1-k-2. World Soybean Research Conference VIII, Beijing, China, August 10-15, 2009.

95. Sumit, R., and **Bhattacharyya, M.K.** (2009) Towards cloning the first Arabidopsis nonhost resistance gene that confers immunity against the soybean pathogen, *Phytophthora sojae*. XIV International Congress on Molecular Plant-Microbe Interactions, Quebec, Canada, July 19-23, 2009.

94. Brar, H., and **Bhattacharyya, M.K.** (2009) Progress towards generation of plant anti-FvTox1 antibodies against a *Fusarium virguliforme* toxin that induces sudden death syndrome in soybean. APS North Central Division Meeting, Iowa State University, Ames, IA, June 21-23, 2009.

93. Xu, M., Brar, H., Grosic, S., Palmer, R. G., and **Bhattacharyya, M.K.** (2009) Identification and characterization of the first an active endogenous transposable element in soybean. Plant & Animal Genome XVII Conference; Town & Country Hotel, San Diego, CA, January 10-14, 2009.

92. **Bhattacharyya, M.K.,** Sandhu, D., Cannon, S., and RamuSubramanian, S. (2009) Functional genomics of the soybean-*Phytophthora sojae* interaction. Plant & Animal Genome XVII Conference; Town & Country Hotel, San Diego, CA, January 10-14, 2009.

91. Brar, H., and **Bhattacharyya, M.K.** (2008) Proteinaceous phytotoxin causes sudden death syndrome in soybean: Purification, anti-toxin antibody production and cDNA cloning. Plant & Animal Genome XVI Conference; Town & Country Hotel, San Diego, CA, January 12-16, 2008.

90. Brar, H., and **Bhattacharyya, M.K.** (2007) Proteinaceous phytotoxin causes sudden death syndrome in soybean: Purification, anti-toxin antibody production and cDNA cloning. Plant & Animal Genome XV Conference; Town & Country Hotel, San Diego, CA, January 13-17, 2007.

89. **Bhattacharyya, M.K.**, and RamuSubramanian, S. (2007) Phosphoproteomics of the soybean-*Phytophthora sojae* interaction. Plant & Animal Genome XV Conference; Town & Country Hotel, San Diego, CA, January 13-17, 2007.

88. **Bhattacharyya, M.K.** (2007) Phytophthora resistance in soybean. Plant & Animal Genome XV Conference; Town & Country Hotel, San Diego, CA, January 13-17, 2007.

87. Xu, M., Palmer, R.G., and **Bhattacharyya, M.K.** (2007) The *W4-M* allele in soybean [*Glycine Max* (L.) Merr.] harbors an active transposable element. Plant & Animal Genome XV Conference, Town & Country Hotel, San Diego, CA, January 13-17, 2007.

86. **Bhattacharyya, M.K.,** Sandhu, D., Gao, H., MacMill, S., Wiley, G., Roe, B., and Cannon, S. (2007) Application of 454 technology (Pyrosequencing) in transcript analyses of the soybean-*Phytophthora sojae* interaction. Plant & Animal Genome XV Conference; Town & Country Hotel, San Diego, CA, January 13-17, 2007.

85. **Bhattacharyya, M.K.** (2007) Phytophthora resistance in soybean. Plant & Animal Genome XV Conference; Town & Country Hotel, San Diego, CA, January 13-17, 2007.

84. **Bhattacharyya, M.K.,** and RamuSubramanian, S. (2007) Phosphoproteomics of the soybean-*Phytophthora sojae* Interaction. Plant & Animal Genome XV Conference; Town & Country Hotel, San Diego, CA, January 13-17, 2007.

83. RamuSubramanian, S., and **Bhattacharyya, M.K.** (2006) Phosphoproteomic approaches for studying the soybean-*Phytophthora sojae* interaction. Plant & Animal Genome XIV Conference; Town & Country Hotel, San Diego, CA, January 14-18, 2006.

82. Brar, H., and **Bhattacharyya, M.K.** (2006) A proteinaceous phytotoxin causes sudden death syndrome in soybean. 11th Biennial Cellular and Molecular Biology of the Soybean Conference, Lincoln, NE, August 8-11, 2006.

81. **Bhattacharyya, M.K.**, and Gao, H. (2006) Identification of proteins that interact with the Phytophthora resistance soybean protein, Rps1-k-2. 11th Biennial Cellular and Molecular Biology of the Soybean Conference, Lincoln, NE, August 8-11, 2006.

80. **Bhattacharyya, M.K.,** Xu, M., and Sandhu, D. (2006) Putative *Arabidopsis* mutants showing loss of nonhost resistance against the soybean pathogen, *Phytophthora sojae*. 11th Biennial Cellular and Molecular Biology of the Soybean Conference, Lincoln, NE, August 8-11, 2006.

79. **Bhattacharyya, M.K.,** and RamuSubramanian, S. (2006) Phosphoproteomics approaches for investigating the soybean-*Phytophthora sojae* interaction. 11th Biennial Cellular and Molecular Biology of the Soybean Conference, Lincoln, NE, August 8-11, 2006.

78. Gao, H., and **Bhattacharyya, M.K.** (2006) Identification of proteins that interact with the Phytophthora resistance soybean protein, Rps1-k-2. Plant Receptor Signaling. 9th Annual Plant Sciences Institute Symposium, Ames, IA, May 31-June 3, 2006.

77. Brar, H., and **Bhattacharyya, M.K.** (2006) A proteinaceous phytotoxin causes sudden death syndrome in soybean. Plant Receptor Signaling. 9th Annual Plant Sciences Institute Symposium, Ames, IA, May 31-June 3, 2006.

76. Xu, M., Sandhu, D., and **Bhattacharyya, M.K.** (2006) Putative *Arabidopsis* mutants showing loss of nonhost resistance against the soybean pathogen, *Phytophthora sojae*. Plant Receptor Signaling. 9th Annual Plant Sciences Institute Symposium, Ames, IA, May 31-June 3, 2006.

75. RamuSubramanian, S., and **Bhattacharyya, M.K.** (2006) Phosphoproteomic approaches for isolating phosphoproteins. Plant Receptor Signaling. 9th Annual Plant Sciences Institute Symposium, Ames, IA, May 31-June 3, 2006.

74. Gao, H., Narayanan, N.N., Santra, D., Ellison, L., and **Bhattacharyya, M.K.** (2005) Two classes of highly similar CC:NB:LRR genes from the *Rps1*-k locus encode Phytophthora resistance in soybean. Plant & Animal Genome XIII Conference; Town & Country Hotel, San Diego, CA, January 15-19, 2005.

73. Narayanan, N.N., Gao, H., Ramusubramanian, S., Sandhu, D., and **Bhattacharyya, M.K.** (2005) NB and ARC motifs of Rps1-k-2 are essential for initiating cell death pathway in soybean. Plant & Animal Genome XIII Conference; Town & Country Hotel, San Diego, CA, January 15-19, 2005.

72. Sandhu, D., Gao, H., Cianzio, S., and **Bhattacharyya, M.K.** (2004) Loss of the gene *Phytophthora* resistance gene *Rps4* is associated with the deletion of an NBS-LRR-Like sequence in soybean. Plant & Animal Genome XIII Conference; Town & Country Hotel, San Diego, CA, January 15-19, 2005.

71. Tasma, I.M., and **Bhattacharyya, M.K.** (2004) Systemic acquired resistance pathway is conserved in soybean. Plant & Animal Genome XII Conference; Town & Country Hotel, San Diego, CA, January 10-14, 2004.

70. Tasma, I.M., Brendel, V., and **Bhattacharyya, M.K.** (2004) Characterization of the *Arabidopsis thaliana* phosphoinositide-specific phospholipase C gene family. Plant & Animal Genome XII Conference; Town & Country Hotel, San Diego, CA, January 10-14, 2004.

69. Ji, J., and **Bhattacharyya, M.K.** (2004) Free radicals: potential candidates for development of the sudden death syndrome in soybean. Plant & Animal Genome XII Conference; Town & Country Hotel, San Diego, CA, January 10-14, 2004.

68. Narayanan, N.N., Tasma, M.I., Grant, D., Shoemaker, R., and **Bhattacharyya, M.K.** (2004) Early gene expression in soybean hypocotyls following infection with *Phytophthora sojae.* Plant & Animal Genome XII Conference; Town & Country Hotel, San Diego, CA, January 10-14, 2004.

67. **Bhattacharyya, M.K.** (2004) Towards understanding the mechanism of *Phytophthora* resistance in soybean. 10th Biennial Cellular and Molecular Biology of the Soybean Conference, Columbia, MO, August 8-11, 2004.

66. Tasma, I.M., and **Bhattacharyya, M.K.** (2004) Evidence suggesting the conservation of the systemic acquired resistance pathway in soybean. 10th Biennial Cellular and Molecular Biology of the Soybean Conference, Columbia, MO, August 8-11, 2004.

65. Narayanan, N.N., Tasma, M.I., Grant, D., Shoemaker, R., and **Bhattacharyya, M.K.** (2004) Isolation of defense signaling genes that are induced in the soybean-*Phytopthora sojae* interaction. 10th Biennial Cellular and Molecular Biology of the Soybean Conference, Columbia, MO, August 8-11, 2004.

64. Ji, J., and **Bhattacharyya, M.K.** (2004) Free radicals: Potential candidates for development of soybean sudden death syndrome caused by *Fusarium solani* f. sp. *glycines.* 10th Biennial Cellular and Molecular Biology of the Soybean Conference, Columbia, MO, August 8-11, 2004.

63. Sandhu, D., Gao, H., Cianzio, S., and **Bhattacharyya, M.K.** (2004) Deletion of a disease resistance NBS-LRR-like sequence is associated with the loss of the *Phytophthora* resistance gene *Rps4* in soybean. 10th Biennial Cellular and Molecular Biology of the Soybean Conference, Columbia, MO, August 8-11, 2004.

62. Ji, Junli, and **Bhattacharyya, M.K.** (2003) Understanding the molecular basis of sudden death syndrome (SDS) disease development in soybean. APS Annual Meeting, Charlotte, NC, August 9-13, 2003.

61. Sandhu D., Gao H., Cianzio S., and, **Bhattacharyya, M.** (2003) High-resolution genetic and physical mapping of the *Rps4* region in soybean. Plant & Animal Genome XI Conference, January 11-15, 2003.

60. **Bhattacharyya, M.K.**, Gao H., and Narayanan N.N. (2003) Isolation of functional Phytophthora resistance genes from the soybean *Rps1*-k locus. Plant & Animal Genome XI Conference, January 11 - 15, 2003.

59. Gao H., Sandhu D., Santra D., Tasma I. M., Cianzio S., and **Bhattacharyya, M.K.** (2002) Identification of highly unstable disease resistance gene like sequences that co-segregate with the *Phytophthora* resistance gene, *Rps4*. Plant, Animal & Microbe Genomes X Conference. San Diego, CA, January 12-16, 2002.

58. Ji, J., Santra, D., and **Bhattacharyya, M.K.** (2002) Effect of *Fusarium solani* f. sp. *glycines*-cell free culture filtrates on the protein profiles of soybean cell suspensions. 9th Biennial Conference of the Cellular and Molecular Biology of the Soybean, Urbana-Champaign, IL, August 11-14, 2002.

57. Gao H., Narayanan N.N., Ellison L., Santra, D., and **Bhattacharyya, M.K.** (2002) Analysis of paralogous *Rps*1-k sequences in soybean. 9th Biennial Conference of the Cellular and Molecular Biology of the Soybean, Urbana-Champaign, IL, August 11-14, 2002.

56. **Bhattacharyya, M.K.,** Narayanan N.N., Gao H., Santra D. Ellison L, Kasuga, T., Salimath S.S., Liu Y., Espinosa B., Marek L.F., Shoemaker R.C., Gijzen M., and Buzzell R.I. (2002) The *Rps1*-k locus carries multiple functional *Phytophthora* disease resistance genes in soybean. 9th Biennial Conference of the Cellular and Molecular Biology of the Soybean, Urbana-Champaign, IL, August 11-14, 2002.

55. Tasma, M.I., Gao, H., and **Bhattacharyya, M.K.** (2002) Isolation of two soybean sequences with similarities to the *Arabidopsis NPR1* gene. 9th Biennial Conference of the Cellular and Molecular Biology of the Soybean, Urbana-Champaign, IL, August 11-14, 2002.

54. Santra D.K., Tai T., and **Bhattacharyya, M.K.** (2002) A yeast artificial chromosome library of soybean. 9th Biennial Conference of the Cellular and Molecular Biology of the Soybean, Urbana-Champaign, IL, August 11-14, 2002.

53. **Bhattacharyya, M.K.,** Ellison L, Gao H., Espinosa B., Kasuga, T., Liu Y., Salimath S.S., Marek L.F., Shoemaker R.C., Gijzen M., and Buzzell R.I. (2002) Identification of coiled coil-NBS-LRR-like sequences at the *Rps1*-k region. Plant, Animal & Microbe Genomes X Conference. San Diego, CA, January 12-16, 2002.

52. Santra D.K., Tai T., and **Bhattacharyya, M.K.** (2002) Construction of yeast artificial chromosome library of soybean (*Glycine max*, L.). Plant, Animal & Microbe Genomes X Conference, San Diego, CA, January 12-16, 2002.

51. **Bhattacharyya, M.K.**, Kasuga, T., Salimath, S.S., Liu, Y, Marek, L.F., Shoemaker, R.C., Buzzell, R.I., and Anderson, T. (2000) Identification of multiple *Phytophthora* resistance genes and NBS-LRR-like sequences at the *Rps1*-k region. 8th Biennial Conference of the Cellular and Molecular Biology of the Soybean, Lexington, KY, August 13-16, 2000.

50. Chou, W-M., Dammann, C., Shigaki, T., Liu, Y., and **Bhattacharyya, M.K** (2000) A molecular approach in studying the role of phosphoinositide-specific phospholipase C in plants. 6th International Congress of Plant Molecular Biology, Quebec, Canada, June 18-24, 2000. Plant Molecular Biology Reporter 18:159.

49. Liu, Y., Salimath, S.S., Espinosa, B.G., Kasuga, T., Shi, J., Marek, L.F., Shoemaker, R.C., Gijzen, M. Buzzell, R.I., and **Bhattacharyya, M.K.** (1999) Progress towards map-based cloning of the disease resistance gene *Rps1*-k in soybean. Plant and Animal Genome VII, January 17-21, 1999.

48. Dammann C., and **Bhattacharyya, M.K.** (1999) Isolation of a PI-PLC associated protein from soybean. 26th Meeting of the Federation of European Societies, France, June 19-24, 1999.

47. **Bhattacharyya, M.K.**, Espinosa, B.G., Kasuga, T., Liu, Y., Salimath, S.S., Gijzen, M., Poisa V., and Buzzell, R. (1999) Progress towards understanding the recognition and signal transduction processes in the soybean-*Phytophthora sojae* interaction. Ninth International Congress of Molecular Plant-Microbe Interactions, The Netherlands, July 25–30, 1999.

46. **Bhattacharyya, M.K.**, Espinosa B.G., and Poysa V. (1999) Identification of soybean mutants that showed loss of *Rps7* and *Rps1*-k-specific resistance against *Phytophthora sojae***.** World Soybean Research Conference VI, Chicago, IL, August 4-7, 1999.

45. Shigaki, T., and **Bhattacharyya, M.K.** (1999) Changes in the phosphoinositide-specific phospholipase C activities following nutrient treatments and infection of soybean cell suspensions. Symposium on Plant Signal Transduction, ICGEB, New Delhi, October 4-6, 1999.

44. Dammann C., and **Bhattacharyya, M.K.** (1999) Isolation of a soybean gene that encodes a PI-PLC-associated protein with similarity to G-protein coupled receptors. Symposium on Plant Signal Transduction, ICGEB, New Delhi, October 4-6, 1999.

43. Shigaki, T., and **Bhattacharyya, M.K.** (1998) Soybean phosphoinositide-specific phospholipase C is activated by nutrients. Annual Meeting of the American Society for Biochemistry and Molecular Biology, Washington, DC, May 16-20, 1998.

42. Shigaki, T., and **Bhattacharyya, M.K.** (1998) Soybean phosphoinositide-specific phospholipase C is activated by the replenishment of inorganic and organic nutrients. FASEB Summer Research Conferences, Saxtons River, VT, July 25-30, 1998.

41. Zhang, J., Espinosa, B., and **Bhattacharyya, M.K.**, (1998) Application of jelly fish green fluorescence protein (GFP) in the development of an *in situ* complementation system. 7th Biennial Conference on Molecular and Cellular Biology of the Soybean and 8th Gatlinburg Symposium. Knoxville, TN, July 26-29, 1998.

40. Zhang, J., and **Bhattacharyya, M.K.** (1998) Efficient plant regeneration from cotyledonous nodes of soybean (*Glycine max* L.) using thidiazuron or coconut water. 7th Biennial Conference on Molecular and Cellular Biology of the Soybean and 8th Gatlinburg Symposium. Knoxville, TN, July 26-29, 1998.

39. Espinosa, B. G., and **Bhattacharyya, M.K.**, (1998) Identification and recovery of soybean mutants susceptible to *Phytophthora sojae*. Annual meeting of APS, Las Vegas, NV, November 8-12, 1998.

38. Zhang, J., and **Bhattacharyya, M.K.** (1997) Development of *Agrobacterium*-mediated transformation of soybean cotyledonous nodes: Use of a binary vector with selectable markers at the right and left T-DNA border. 5th International Congress of Plant Molecular Biology, Singapore, September 21-27, 1997.

37. Salimath, S.S., and **Bhattacharyya, M.K.** (1997) Generation of a BAC library of soybean and identification of clones tightly linked to the *Rps1*-k disease resistance gene by an RFLP-based screening method. 5th International Congress of Plant Molecular Biology, Singapore, September 21-27, 1997.

36. Kasuga, T., Salimath, S.S., Espinosa, B.G., Shi J. Gijzen, M., Buzzell, R. I., and **Bhattacharyya, M.K.** (1997) High resolution genetic and physical mapping of molecular markers linked to the *Rps1*-k gene that confers resistance of soybean to the fungal pathogen *Phytophthora sojae*. 5th International Congress of Plant Molecular Biology, Singapore, September 21-27, 1997.

35. Shigaki, T., and **Bhattacharyya, M.K.** (1997) Phosphoinositide-specific phospholipase C activity in soybean cell suspensions following infection with *Pseudomonas syringae* pv. *glycinea.* 17th International Congress of Biochemistry and Molecular Biology, San Francisco, CA, August 24-29, 1997.

34. Kasuga, T., Gijzen, M., Buzzell, R. I., and **Bhattacharyya, M.K.** (1996) Isolation and mapping of amplified fragment length polymorphism (AFLP) DNA markers that are linked to the *Rps1* locus of soybean. Plant Genome IV, the International Conference on the Status of Plant Genome Research. San Diego, CA, January 14-18, 1996.

33. Kasuga, T., Gijzen, M., Buzzell, R. I., and **Bhattacharyya, M.K.** (1996) Identification and mapping of AFLP-markers linked to the disease resistance gene *Rps1* of soybean. Eighth International Congress of Molecular Plant-Microbe Interactions, Knoxville, TN, July 14-19, 1996.

32. MacGregor T., Bhat R., Schmitthenner, F., **Bhattacharyya, M**., and Gijzen, M. (1996) Genetic mapping of the *Avr1*-a locus in *Phytophthora sojae*. Eighth International Congress of Molecular Plant-Microbe Interactions, Knoxville, TN, July 14-19, 1996.

31. **Bhattacharyya, M.K,** Kasuga T., Salimath, S., Shi, J., Kraft, M., Gijzen, M., and Buzzell, R.I. (1996) Progress towards map-based cloning of the *Rps1*-k gene from soybean. Sixth Biennial Soybean Conference, UMC, Columbia, MO, Aug 12-14, 1996.

30. Shi, J., Gonzales, R.A., and **Bhattacharyya, M.K.** (1995) Cloning and characterization of an inositol phospholipid-specific phospholipase C from soybean. J. Cellular Biochem. Supplement 21A, 505.

29. Shi, J., Gonzales, R.A., and **Bhattacharyya, M.K.** (1995) Isolation and characterization of soybean cDNAs that encode isoforms of phosphatidylinositol-specific phospholipase C. Tenth International Workshop on Plant Membrane Biology. Regenburg, Germany, August 6-11, 1995.

28. Shi, J., Kjellbom, P., Dixon, R.A., and **Bhattacharyya, M.K.** (1994) Isolation and partial sequencing of random cDNA clones encoding putative plasma membrane proteins of soybean. Fourth International Congress of Plant Molecular Biology, Amsterdam, The Netherlands, June 19-24, 1994.

27. Burton, R., **Bhattacharyya, M.,** Bewley, D., Smith, A.M., and Martin, C. (1994) Two families of starch-branching enzymes from higher plants. Fourth International Congress of Plant Molecular Biology, Amsterdam, The Netherlands, June 19-24, 1994.

26. **Bhattacharyya, M.K.,** Shi, J., Kraft, M., Buzzell, R.I., and Dixon, R.A. (1994) Approaches towards cloning the *Rps1* locus of soybean. Fifth Biennial Conference of Molecular and Cellular Biology of the Soybean, Athens, GA, 1994.

25. **Bhattacharyya, M.K.**, Shi, J., Kraft, M., Gijzen, M., Buzzell, R.I., and Dixon, R.A. (1994) Isolation and mapping of molecular markers linked to the *Rps1* disease resistance locus of soybean. Seventh International Symposium on Molecular Plant-Microbe Interactions. Edinburgh, Scotland, 1994.

24. Gijzen, M., MacGregor, T., **Bhattacharyya, M**., and Buzzell, R. (1994) Temperature-induced susceptibility of soybean isolines carrying different *Rps* genes to *Phytophthora sojae*. Seventh International Symposium on Molecular Plant-Microbe Interactions. Edinburgh, Scotland, 1994.

23. **Bhattacharyya, M.K.**, Shi, J., Kraft, M.L., Buzzell, R.I., and Dixon, R.A. (1993) A retrotransposon-like element is linked to the *Rps1*-k gene of soybean. Seventh International Congress of Genetics, Birmingham, England, 1993.

22. **Bhattacharyya, M.K.**, Shi, J., Kraft, M.L., Buzzell, R.I., and Dixon, R.A. (1993) Mapping of the *Rps1* locus of soybean (*Glycine max*). Sixth International Congress of Plant Pathology, Montreal, Quebec, 1993.

21. Korth, K.L., **Bhattacharyya, M.K.**, Dixon, R.A., and Stermer, B.A. (1993) Transcriptional regulation of genes encoding HMG-CoA reductase in potato. American Society of Plant Physiologists, Minneapolis, MN, 1993. Plant Physiology 102:71.

20. Stermer, B., **Bhattacharyya, M.**, Bianchini, G., Korth, K., and Dixon, R.A. (1993) Transcriptional and post-transcriptional regulation of HMG CoA reductase, an enzyme involved in the synthesis of phytoalexin in potato. Sixth International Congress of Plant Pathology, Montreal, Quebec, 1993.

19. **Bhattacharyya, M.K.**, Paiva, N.L., Dixon, R.A., and Stermer, B. (1992) Sequences downstream of transcription initiation are important for high expression of a HMGR gene in potato. Sixth International Symposium on Molecular Plant-Microbe Interactions, Seattle, WA, July 1992.

18. Dixon, R.A., **Bhattacharyya, M.K.,** Harrison, M.J., Lamb, C.J., Loake, G.J., Oommen, A., Stermer, B.A., and Yu, L.M. (1992) Transcriptional regulation of phytoalexin biosynthetic genes. Sixth International Symposium on Molecular Plant-Microbe Interactions, Seattle, WA, July, 1992.

17. Dixon, R.A., **Bhattacharyya, M.K.,** Harrison, M.J., Lamb, C.J., Loake, G.J., Maxwell, C.A., Oommen, A., Paiva, N.L., Stermer, B.A., and Yu, L.M. (1992) Expression and manipulation of defense response genes in legumes. 14th Annual Lorne Genome Conference, Lorne, Victoria, Australia, 1992.

16. Stermer, B.A., **Bhattacharyya, M.K.,** and Dixon, R.A. (1992) Expression of HMG CoA reductase promoter-GUS reporter gene fusions in transgenic plants. American Phytopathological Society, Portland, OR, June 19-21, 1992.

15. **Bhattacharyya, M.K.,** Stermer, B.A., and Dixon, R.A. (1992) Reduced variation among the transgenic tobacco plants obtained with a new binary vector. Sixth International Symposium on Molecular Plant-Microbe Interactions, Seattle, WA, 1992.

14. **Bhattacharyya, M.K.**, Kraft, M.L., Dixon, R.A., and Buzzell, R.I. (1992) RFLP analysis of near isogenic lines differing at the *Rps1* locus. Fourth Biennial Conference on Molecular and Cellular Biology of the Soybean, Iowa State University, Ames, Iowa, July 27-29, 1992.

13. Stermer, B.A., **Bhattacharyya, M.K.**, Edwards, L., Paiva, N.L., and Dixon, R.A. (1991) Characterization of potato HMGR gene structure and expression. Second International Potato Molecular Biology Symposium, St. Andrews, Scotland, August 11-15, 1991.

12. **Bhattacharyya, M.K.**, Paiva, N.L. Stermer, B.A., and Dixon, R.A. (1991) HMG-CoA reductase of potato is encoded by a multigene family. Third International Congress of Plant Molecular Biology, Tucson, AZ, 6–11 October, 1991.

11. **Bhattacharyya, M.K.,** Stermer, B.A., and Dixon, R.A. (1991) Construction of a binary vector to reduce the transcriptional interference from endogenous promoters. International Society of Plant Molecular Biology, Tucson, AZ, 6–11 October, 1991.

10. Martin, C., **Bhattacharyya, M.K.**, Dry, I., Hedley, C., Ellis, N., Wang, T., and Smith, A. (1990) Towards an understanding of starch biosynthesis and its relationship to protein synthesis in plant storage organs. Proceedings of the USDA Conference on Biotechnology and Nutrition, Maryland, 1990.

9. **Bhattacharyya, M.K.,** Martin C., and Smith, A. (1988) Cloning of a gene for starch branching enzyme and its association with *r* locus in peas (*Pisum sativum*). XVth International Congress of Genetics, Toronto, Canada, 1988.

8. Martin, C., Vrijlandt, E., Bartlett, N.J.R., Mackay, S., Hedley, C., **Bhattacharyya, M.K.,** and Smith, A.M. (1988) Isolation of genes for plant breeding by selective production and use of mutant material. International Congress: Genetic Manipulation In Plant Breeding-Biotechnology For The Breeder, Copenhagen, Denmark, 1988.

7. **Bhattacharyya, M.K.**, Martin, C., and Smith, A.M. (1990) Cloning of a gene for starch branching enzyme from developing pea embryos. Second International Congress of Plant Molecular Biology, Jerusalem, Israel, 1988.

6. **Bhattacharyya, M.K.,** and Ward, E.W.B. (1987) Phenylalanina ammonia-lyase activity in the soybean-*Phytophthora megasperma* f. sp. *glyceinea* interaction. Cell Biochem., Supplement 11B:31, 1987.

5. **Bhattacharyya, M.K.,** and Ward, E.W.B. (1987) Correlation of temperature effects on resistance of soybeans to Phytophthora rot with changes in phenylalanine ammonia-lyase (PAL) activity, glyceollin production and glyceollin I sensitivity. Canadian Phytopathology Society Annual Meeting, Ottawa, Canada, 1987.

4. **Bhattacharyya, M.K.,** and Ward, E.W.B. (1987) Inheritance of variation in asexual generations of *Phytophthora megasperma* f. sp. *glyceinea* (*Pmg*). Canadian Phytopathological Society Annual Meeting, Ottawa, Canada, 1987.

3. **Bhattacharyya, M.K.,** and Ward, E.W.B. (1986) Biosynthesis and metabolism of phytoalexins in soybean following wounding or infection. M.K. Bhattacharyya and E.W.B. Ward. J. Cell Biochem. Joint Meeting of the American Phytopathological Society and Canadian Phytopathological Society, Guelph, Ontario, Canada, August 12-16,1984.

2. **Bhattacharyya, M.K.,** and Ward, E.W.B. (1985) Biosynthesis of glyceollin I in relation to wounding and infection of soybeans. In NATO Advanced Research Workshop on Biology and Molecular Biology of Plant-Pathogen Interaction, Bristol, England, 1985.

1. **Bhattacharyya, M.K.,** and Ward, E.W.B. (1984) Differential accumulation of glyceollin isomers in the soybean-*Phytophthora megasperma* f. sp. *glycinea* interaction. Joint Meeting of the

American Phytopathological Society and Canadian Phytopathological Society, Guelph, Ontario, Canada, August 12-16,1984.

TEACHING ASSIGNMENT

I am expected to participate in graduate and postdoctoral education in plant molecular genetics. I am expected to provide effective learning experience to students of AGRON 527 (Plant Genetics), a course offered primarily to the graduate students of Agronomy, Plant Biology and Interdepartmental Genetics major programs. I spent over 12.5% of my time in teaching. Starting 2012, I have been teaching AGRON 524 (Applied Molecular Genetics and Biotechnology) to the online students of the distance education program in Plant Breeding. Teaching accomplishments are summarized below.

- Engaged with GENET 699, MCDB 699, and P PHY 699 courses for my graduate students.
- Guest lecturer for BOT 545 in 2000.
- Since 2001, I have been contributing to AGRON 522, a summer one-credit course co-taught by Plant Breeding and Genetics faculty.
- I have been teaching one 3-credit course, AGRON 527 (Plant Genetics), once a year since spring 2002.
- In fall 2004, I taught MCDB 698, a graduate student seminar course of the Molecular Cellular and Developmental Biology (MCDB) program.
- In 2010, initiated writing the course AGRON 524 (Applied Molecular Genetics and Biotechnology) in a collaborative effort of four faculty members. I chaired the committee engaged in writing this course and wrote six of the 13 lessons for this course.
- Starting 2012, I have been teaching AGRON 524 once a year in fall term to the online M.S. students of the distance education program as well as resident graduate M.S. and Ph.D. students in Plant Breeding and also plant biology and genetics students of the interdisciplinary programs.

ADVISING ACTIVITIES

Teaching continues out-side of the classrooms. Learning takes place in both formal and informal settings. Informal teaching includes hands-on-experiences received by students and scientists in a laboratory, knowledge gained from discussion in a weekly group or lab meeting, etc. I advise graduate students, summer research interns, undergraduate students, postdoctoral researchers, scientists, visiting scientists and fellows in performing original research in the area of molecular host-pathogen interactions and plant molecular genetics. During my career of nearly 30 years that started in the November of 1990 at the Plant Biology Division, Noble Foundation (NF), I have mentored:

- Forty-seven scientists including graduate students, postdocs and assistant scientists mentored by Bhattacharyya (Table 1);
- Nineteen international visiting fellows and scientists from seven counties (Table 2);
- Thirty summer interns including 16 black minority undergraduate students and high school teachers (Table 3);
- Thirty-four undergraduate students (Table 4).

Table 1. Forty-seven scientists including graduate students, postdocs and assistant scientists mentored by Bhattacharyya.

Name	Place	Status	Time	Position
Junli Ji	ISU	M.S.	2001-2004	Research Scientist, Corteva Agriscience
Rishi Sumit	ISU	M.S.	2006-2013	Busin. Sys. Analyst, Cutcher & Neale, Australia
Shan Li	ISU	M.S.	2007-2010	Sr. Pricing Analyst, OfficeMax
James Baskett	ISU	M.S.	2008-2012	Scientist, Poet, Inc., Emmetsburg, IA
Jill Heinrich	ISU	M.S.	2013-2016	Sonac North America
Jasmine Lopez	ISU	M.S.	2013-2014	Lipman Family Farms.
Hongyu Gao	ISU	Ph.D.	2000-2006	Faculty, Indiana University
Hargeet Brar	ISU	Ph.D.	2005- 2010	Manager, Mol. Biology, ACGT, Inc.
Jordan L. Baumbach	ISU	Ph.D.	2011-2018	Faculty, MSSU, MO
Rusty Rueckert	ISU	M.S.	2014-2015	Bayer Monsanto, Hawaii
Oluwatoyosi F. Akintayo	ISU	Ph.D.	2017-	
Paloma Moe	ISU	M.S.	2018-2020	KWS Seed LLC, MN
Tiffani Hull	ISU	M.S.	2018-2019	Research Scientist, Corteva, Hawaii, HI
Dane Anderson	ISU	M.S.	2020-	
Jinrui Shi	NF	Postdoc	1992-1996	Scientist, Corteva, Johnston, IA
G. Subramanian	NF	Postdoc	1995-1996	Bioinformatician, Ceres Inc., Malibu, CA
Takao Kasuga	NF	Postdoc	1995-1997	Molecular Geneticist, USDA ARS, UC Davis
Sanmukhaswami Salimath	NF	Postdoc	1995-1999	University of North Texas, Denton
Jian Zhang	NF	Postdoc	1996-1998	General Manager, Huazhi Rice Bio-Tech., China
Toshiro Shigaki	NF	Postdoc	1996-1999	Faculty, University of Tokyo
Christian Dammann	NF	Postdoc	1997-2001	Scientist, BASF Plant Science
Yongqing Liu	NF	Postdoc	1998-2000	Faculty, University of Louisville
Gua-Qing Tang	NF	Postdoc	1999-2000	Scientist, BASF Plant Science
Dongtao Ren	NF	Postdoc	1999-2000	Professor, China Agricultural University, China
Wing-Ming Chou	NF	Postdoc	1999-2001	Faculty, National Formosa University, Taiwan
Dipak Santra	ISU	Postdoc	2000-2002	Faculty, UNL, Scottsbluff, NE
Narayanan N. Narayanan	ISU	Postdoc	2001-2004	Sen. Res Scientist, Danforth Plant Sci. Center
Made I. Tasma	ISU	Postdoc	2001-2004	Research Scientist, ICABIOGRD, Indonesia
Min Xu	ISU	Postdoc	2005-2007	Professor, Northwest University, China
Ramesh Pudake	ISU	Postdoc	2009-2011	Assistant Prof., Amity University, India
Subodh Srivastava	ISU	Postdoc	2010-2011	Scientist, USDA-APHIS-PPQ, Beltsville, MD
Xiaoping Yi	ISU	Postdoc	2010	Faculty, Southern University, Baton Rouge, LA
Nilwala Abeysekar	ISU	Postdoc	2011-2012	Lab Manager, NORS-DUC, San Rafael, CA.
Michelline Ngaki	ISU	Postdoc	2012-2017	Assist Sci., ISU, IA
Jayadri Ghosh	ISU	Postdoc	2013-2014	Postdoc, UNL, NE
Bing Wang	ISU	Postdoc	2013-2016	Postdoc, UC-Berkley, CA
Nainder Pal	ISU	Postdoc	2014-2015	Ag. Res. Tech., USDA ARS
Prashant Singh	ISU	Postdoc	2013	Assist Prof. Banaras Hindu Univ., India
Manash Tripathy	ISU	Postdoc	2017	Scientist, Inst. of Life Sci., Bhubaneswar, India
Binod Bihari Sahu	ISU	Postdoc	2009-2014	Assist Prof., NIT Rourkela, Odisha, India

Devi Kandel	ISU	Postdoc	2017-2018	Postdoc, Texas A&M- Agri. Life Res Extn. Cent.
Shivendra Kumar	ISU	Postdoc	2021-	
Devinder Sandhu	ISU	Asst. Sci.	2001- 2006	Research Geneticist (Plants) USDA-ARS
Saravanan Ramusubramanium	ISU	Asst. Sci.	2004-2006	Michigan State University
Sivakumar Swaminathan	ISU	Asst. Sci.	2009-2020	Iowa State University
Prashant Singh	ISU	Asst. Sci.	2013-2014	Assistant Prof., Banaras Hindu University, India
Michelline Ngaki	ISU	Asst. Sci.	2017-	

Table 2. Nineteen international visiting fellows and scientists from seven countries mentored by Bhattacharyya.

Name	**Location**	**Visiting Scientist/Fellow**	**Year**	**Country**
Terry MacGregor	NF	Visiting Fellow	1994-1995	Canada
Artem E. Men	NF	Visiting Scientist	1998	Australia
Thiyagarajan Kalaimagal	ISU	Visiting Scientist	2008-2009	India
Xiangwen Pan	ISU	Visiting Scientist	2010	China
R.K. Mathur	ISU	Visiting Scientist	2011	India
V. Niral	ISU	Visiting Scientist	2011	India
M.K. Rajesh	ISU	Visiting Scientist	2011	India
R. Senthil Kumar	ISU	Visiting Scientist	2011	India
Xiangwen Pan	ISU	Visiting Scientist	2011-2012	China
Amrit Paul	ISU	Visiting Scientist	2012	India
Grace Kaudzu	ISU	Borlaug Fellow	2012	Malwai
Sanjeev Kumar	ISU	Visiting Scientist	2013	India
Berna Bas	ISU	Visiting Scientist	2013-2014	Turkey
Eric Vieira-Silva	ISU	Visiting Fellow	2014-2015	Brazil
Priyanka Das	ISU	Visiting Scientist	2014	India
Scheila Guilherme	ISU	Visiting Fellow	2017	Brazil
Igor Oliveri Soares	ISU	Visiting Fellow	2017	Brazil
Shweta Meshram	ISU	Visiting Fellow	2019-20	India
Feifei Wang	ISU	Visiting Scientist	2020-2021	China

Table 3. Thirty summer interns including black minority participants conducted research in Bhattacharyya

Name	**Sex**	**Race**	**Undergrad/Teacher**	**Year**
Nia Blair	Female	Black	Undergrad	2013
Jamilah Page	Female	Black	Undergrad	2013
Ellen Tisdale	Female	Black	Undergrad	2013
Joi Davis	Female	Black	Undergrad	2013
Vincent Brazelton Jr	Female	Black	Undergrad	2013
Carol Harrison	Female	Black	H.S. Teacher	2013

JaToria Ellis	Female	Black	H.S. Teacher	2013
Imena Ezell	Female	Black	Undergrad	2014
Aneshwawa Senior	Female	Black	Undergrad	2014
Megan Washburn	Female	White	H.S. Teacher	2014
Gwendoyln Jefferson	Female	Black	H.S. Teacher	2014
Kristen Turner	Female	White	H.S. Teacher	2014
Kayla Braurer	Female	White	H.S. Teacher	2014
Hope Brown	Female	White	H.S. Teacher	2014
Christin Blount	Female	Black	Undergrad	2015
Arien Ragsdale	Male	Black	Undergrad	2015
Melissa Green	Female	White	H.S. Teacher	2015
Kevin Schnieder	Male	White	H.S. Teacher	2015
Shannon Lumley	Female	White	H.S. Teacher	2015
Brent Chambers	Male	White	H.S. Teacher	2015
Mary Anne Rabb	Female	Black	Undergrad	2016
Kara Wilson	Female	Black	Undergrad	2016
Jordan Bell	Female	Black	Undergrad	2016
Darian Turner	Female	Black	Undergrad	2016
Kristen Turner	Female	White	H.S. Teacher	2016
Emily Van Egmond	Female	White	H.S. Teacher	2016
Ashley Harlacher	Female	White	H.S. Teacher	2017
Anthony Jahr	Male	White	H.S. Teacher	2017
William Swanson	Male	White	H.S. Teacher	2017
Samantha Fezza	Female	White	H.S. Teacher	2017

Table 4. Thirty-four undergraduate students received research experience in Bhattacharyya Lab.

Name	**Location**	**Year**
Kirby D. Childs	NF	1994-1996
R. Peter Hunsinger	ISU	2001–2002
Katie G. Schallock	ISU	2004-2005
Erin Lyon	ISU	2005-2006
Seila Hadzic	ISU	2005-2009
Maggie Amdahl	ISU	2006-
Katelynn Elizabeth Davis	ISU	2010-2012
Tyler Andrew Aves	ISU	2010-2012
Austin Wonderlich	ISU	2012-2014
Katy Moore	ISU	2013-
Ryan Sherzan	ISU	2013-2014
Austin Quick	ISU	2015-

Genevieve Schrader	ISU	2015-
Anna Baldwin	ISU	2016-
Jacqueline Klindt	ISU	2016-
Michael Rhoda	ISU	2016-
Pablo Fernandez-Castro	ISU	2016-
Raissa Mafuta	ISU	2016-2017
Austin Beck	ISU	2017-
Candide Mafuta	ISU	2017-
Jaclyn Appelhans	ISU	2017-
Samuel D. Kenkel	ISU	2017, 2019
Jacob Melichar	ISU	2017, 2019
Jacqueline Klindt	ISU	2017-
Melanie Bennett	ISU	2017-
Eshpa Mollel	ISU	2018-
Hannah Duckson	ISU	2018-
Jack Pincus	ISU	2018-
Isaac Linn	ISU	2018-2019
Leandra Lyon	ISU	2018-2019
Madison Huynh	ISU	2018-2021
Bryan Clements	ISU	2019-
Madison Huynh	ISU	2019-
Julia Rhoades	ISU	2021-

INTERNATIONAL SERVICE

Apart from attending and presenting research in international conferences, I have contributed significantly to the students of international institutions in 2019 and 2020.

In 2019, I was awarded a fellowship under the Chinese Academy Sciences President's International Fellowship Initiative to visit China and interacted with scientists and graduate students of the Key Laboratory of Soybean Molecular Design Breeding, Northeast Institute of Geography and Agroecology, Chinese Academy of Sciences, Changchun, China. During the month of June, 2019, I interacted with eight graduate students and one postdoc and reviewed their research projects and also the manuscripts. During that time, I visited the Soybean Key Laboratory of Northeast Agricultural University, Harbin on June 8, 2019 and presented a seminar. I also presented our work at the "Academic Seminar on Mining, Research and Utilization of Characteristic Plant Resources in Jilin Province and the Second Annual Meeting of Jilin Province Young Scientists annual meeting" on June 22, 2019. I also presented our research at the Northeast Institute of Geography and Agroecology, Chinese Academy of Sciences, Changchun, China on June 20, 2019.

In February of 2020, I visited Assam Agricultural University as an Adjunct Professorship for a month and engaged teaching undergraduate and graduate students of the three Colleges of Agriculture, Assam Agricultural University (AAU), located in Jorhat, Dhubri and Bishwanath Sriali, Assam, India. AAU invited me under the National Agricultural *Higher* Education Project, Indian Council of Agricultural Research. I prepared lectures on recent advances plant breeding

and biotechnology as well as on plant and molecular genetics for a total contact period of 12 hours. I also visited students out the class room and visted the research programs in AAU. I was invited to deliver the First G.R. Das Memorial in AAU on February 29, 2020.

SERVICE IN PROFESSIONAL SOCIETIES, ORGANIZATIONS, AND EVENTS

- I have been organizing Proteomic Workshop in the annual International Plant & Animal Genome Conference since 2004. International Plant & Animal Genome (PAG) Conference is an annual international meeting for presenting progress reports in the area of plant and animal genetics and genomics research. Until 2003, there was no workshop focusing on proteomics research. I discussed the issue with Prof. Barry Rolf (Australian National University) and initiated a dialogue with the PAG organizer for beginning a proteomics workshop in the PAG conference. As a result of this initiative, I was able to organize the first Proteomic Workshop in the XIIth International Plant & Animal Genome Conference, 2004. Since then, Prof. Barry Rolfe and I co-organized the workshop until 2007. Since 2008, I have been co-organizing the workshop (http://www.intl-pag.org/19/19-proteomics.html) with Dr. Michael Djordjevic (Australian National University).
- I chaired the "Pathogenesis and Disease Resistance" section in the VI International Congress on Legume Genetics and Genomics (ICLGG), Hyderabad held from October 2-7, 2012.
- I chaired the "Plant Molecular & Cell Biology" session of the BIT 1st Annual World Congress of Molecular & Cell Biology, Beijing, China, August 6-8, 2011.
- I chaired one session and co-chaired "Gene" sessions at the World Soybean Research Conference VIII, Beijing, China, August 10-15, 2009.
- I was *ad hoc* peer reviewer of The Georgian National Science Foundation, Georgia and ANR, French Gov.
- I have reviewed three Ph.D. theses: two from the University of Queensland, Australia, and one each from the Guwahati University and Tezpur University, India.
- I have been serving on the Soybean Sudden Death Syndrome/Plant Health Initiative Website Committee as a member since 2012.
- I have spoken at the annual soybean breeders' meeting as well as at the annual meetings of the North Central Soybean Research Program that are attended by soybean producers, seed industry personnel, field agronomist, etc. I have presented our work on December 1, 2011 in the Integrated Crop Management Conference held in Iowa State University. The meeting was attended by nearly 100 attendees including growers, extension specialists, and was organized by ISU Extension.

PROFESSIONAL PRACTICE

Editorial Board Member

- Editorial Advisors - BMC Plant Biology, 2017 –
- Review Editor - Crop Biology and Sustainability, Frontiers in Chemistry, 2014 –
- Associate Editor - BMC Genomics, 2010 -
- Associate Editor - BMC Plant Biology, 2009 - 2017

- Editorial Board member - Molecular Biotechnology, 2008 – 2017
- Guest Editor – 2021 "Genetic Basis of Soybean Disease Resistance" in the journal Agronomy (ISSN 2073-4395, http://www.mdpi.com/journal/agronomy).

Grant Panel Service

1. Genome Canada - Genomic Applications Partnership Program 2019 - 2020.
2. USDA-ARS Plant Genetic Resources, Genomics, and Genetic Improvement National Program. Plant Metabolism and Pathways Panel Member. January 19, 2018.
3. NSF Panel Member, Physiological and Structural Systems Cluster, April 30 – May 1, 2015
4. Plant Health and Production and Plant Products, USDA-NIFA FY2014 – contacted by panel manager to serve the panel; but declined because of conflict of interest.
5. Biol. of Plant Microbe-Assoc. NRICGP-USDA, FY2000
6. Plant Genome program NRICGP-USDA, FY1997

Referee for Journals and Grants

Manuscript reviews (over 200) for 33 peer-reviewed journals including Nature Biotechnology, Plant Biotechnology J., New Phytologist, BMC Plant Biology, Canadian J. Plant Sci., Crop Science, Crop Science - Plant Genome, Current Genetics, FEBS Letters, Functional Plant Biology, Genetics, Genetics and Molecular Biology, Genome, J. Experimental Botany, Journal of Heredity, Journal of Plant Physiology, J. Proteomics Research, Microbial Pathogenesis, Molecular Biotechnology, Molecular Genetics and Genomics, Molecular Plant-Microbe Interactions, PLoS One, Phytopathology, Physiological & Molecular Plant Pathology. Plant Cell, Planta, Plant Biology, Plant Breeding, Plant and Cell Physiology, Plant Journal, Plant Molecular Biology, Plant Physiology, Plant Physiology and Biochemistry, Seed Technology, Theoretical and Applied Genetics, and Transgenic Research

I have been an *ad hoc* reviewer for federal granting (USDA, NSF, CPBR, BARD, FEAR) as well as international granting (Genome Canada, Agriculture and Agri-Food Canada (AAFC), Ontario Agri-Food Innovation Alliance Research Program, Georgia NSF; ANR, French; FWF, Austria) agencies. I have also reviewed grant applications for N.C. Biotechnology Centre. I have reviewed 121 grant applications including 69 from one NSF and two USDA grant panels.

Professional and Honorary Society Memberships

1. International Society for Molecular Plant-Microbe Interaction
2. American Association for the Advancement of Science
3. American Society of Plant Biology