1. Name : Birinchi Kumar Sarma

2. Designation : Professor

3. Academic Qualifications :

Degree	University	Year
B.Sc.(Ag.)	Assam Agricultural University, Jorhat, India	1995
M.Sc.(Ag)	Banaras Hindu University, Varanasi	1997
Ph.D.	Banaras Hindu University, Varanasi	2002

4. Area of Specification : Molecular Plant-Microbe interaction , Genomics

5. Contact Information :

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6. Projects Undertaken as PI:

- Investigating the potential of root-colonizing microbial population for stress tolerance in chickpea through proteomics (2014-17) ICAR, New Delhi
- Isolation of novel antimicrobial components of cyanobacterial origin for management of plant diseases (2014-17) DST, New Delhi
- Genetic and biochemical analysis of *Pseudomonas-Trichoderma* mediated induction of resistance in pea (2010-13) DST, New Delhi
- Development of microbial consortium for plant growth promotion and biological control in legumes (2009-12) DBT, New Delhi

7. Awards/Recognitions if any :

- 2017 Shastri Indo-Canadian Institute - FTI Award, Calgary, Canada
- 2013 Best Teacher Award (2012-13), Institute of Agricultural Sciences, BHU, Varanasi
- 2011 Associate of National Academy of Agricultural Sciences, New Delhi
- 2010 Young Scientist Associate Award, Bioved Research Society, Allahabad
- 2009 Young Scientist Award (Plant Science) of Society for Plant Research, India
- 2006 BOYSCAST Fellowship, Department of Science and Technology, New Delhi for Conducting Advance Research at University of California, Davis
- 2000 Senior Research Fellowship (SRF), Council of Scientific and Industrial Research, New Delhi, India

- 2000 Travel fellowship to visit China, Council of Scientific and Industrial, Research, New Delhi, India
- 1999 BHU- Research Fellowship
- 1997 Qualified the National Eligibility Test for Assistant Professorship conducted by Agricultural Scientists Recruitment Board, New Delhi, India
- 1997 BHU Medal for Standing First in M.Sc.(Ag.) Mycology and Plant Pathology Final Examination, Banaras Hindu University, Varanasi, India
- 1995 Junior Research Fellowship (Plant Pathology), Indian Council of Agricultural
- Research, New Delhi, India

8. List of selected publications :

- Patel JS, Kharwar RN, Singh HB, Upadhyay RS and Sarma BK. 2017. *Trichoderma asperellum* (T42) and *Pseudomonas fluorescens* (OKC)-enhances resistance of pea against *Erysiphe pisi* through enhanced ROS generation and lignifications. *Frontiers in Microbiology* 8:306
- Yadav SK, Singh S, Singh HB, and Sarma BK. 2017. Compatible Rhizosphere-Competent Microbial Consortium Adds Value to the Nutritional Quality in Edible Parts of Chickpea. *Journal of Agricultural and Food Chemistry*. 65: 6122−6130
- Patel JS, Sarma BK, Singh HB, Upadhyay RS, Kharwar RN and Ahmed M. 2016. *Pseudomonas fluorescens* and *Trichoderma asperellum* enhance expression of Gα subunits of the pea heterotrimeric G-protein during *Erysiphe pisi* infection. *Frontiers in Plant Science* 6: 1206 DOI: 10.3389/fpls.2015.01206
- Penmetsa RV, Carrasquilla-Garcia N, Bergmann EM, Vance L, Castro B, Kassa MT, Sarma BK, Datta S, Farmer AD, Baek J-M, Coyne CJ, Varshney RK, von Wettberg EJB, and Cook DR. 2016. Multiple post-domestication origins of kabuli chickpea through allelic variation in a diversification-associated transcription factor. *New Phytologist* 211: 1440-1451 doi: 10.1111/nph.14010
- Sarma BK, Singh HB, Fernando D, Silva RN, Gupta VK. 2016. Enhancing plant disease resistance without R genes. *Trends in Biotechnology* 34: 523-525. http://dx.doi.org/10.1016/j.tibtech.2016.04.002
- Ray S, Singh V, Singh S, Sarma BK, Singh HB. 2016. Biochemical and histochemical analyses revealing endophytic *Alcaligenes faecalis* mediated suppression of oxidative stress in *Abelmoschus esculentus* challenged with *Sclerotium rolfsii*. *Plant Physiology and Biochemistry* 109: 430-441.
- Singh V, Upadhyay RS, Sarma BK, Singh HB. 2016. *Trichoderma asperellum* spore dose depended modulation of plant growth in vegetable crops. *Microbiological Research* 193: 74-86.
- Patel JS, Singh A, Singh HB, Sarma BK. 2015. Plant genotype, microbial recruitment and nutritional security. *Frontiers in Plant Science* 6: 608 doi: 10.3389/fpls.2015.00608
- Sarma BK, Yadav SK, Singh S, Singh HB. 2015. Microbial consortium-mediated plant defense against phytopathogens: readdressing for enhancing efficacy. *Soil Biology & Biochemistry* 87: 25-33.
- Srivastava S, Patel JS, Singh HB, Sinha A, Sarma BK. 2015. *Streptomyces rochei* SM3 induces stress tolerance in chickpea against *Sclerotinia sclerotiorum* and NaCl. *Journal of Phytopathology* 163: 583-592.

- Sarma BK and Singh HB. 2014. Harnessing transgenerational plant immunity. *Current Science* 107(12): 1941-1942.
- Singh A, Jain A, Sarma BK, Upadhyay RS, Singh HB. 2014. Beneficial compatible microbes enhances antioxidants in chickpea edible parts through synergistic interactions. *LWT-Food Science and Technology* 56:390-397.
- Keswani C, Mishra S, Sarma BK, Singh SP, Singh HB. 2014. Unraveling the efficient applications of secondary metabolites of various *Trichoderma* spp. *Applied Microbiology and Biotechnology* 98:533–544
- Singh A, Jain A, Sarma BK, Upadhyay RS, Singh HB. 2013. Rhizosphere microbes facilitate redox homeostasis in *Cicer arietinum* against biotic stress. *Annals of Applied Biology* 163: 33–46.
- Singh A, Jain A, Sarma BK, Abhilash PC, Singh HB. 2013. Solid waste management of temple floral offerings by vermicomposting using *Eisenia fetida*. *Waste Management* 33: 1113–1118.
- Singh A, Sarma BK, Upadhyay RS, Singh HB. 2013. Compatible rhizosphere microbes mediated alleviation of biotic stress in chickpea through enhanced antioxidant and phenylpropanoid activities. *Microbiological Research* 168: 33– 40.
- Kassa MT, Penmetsa RV, Carrasquilla-Garcia N, Sarma BK, Datta S, Upadhyaya HD, Varshney RK, von Wettberg EJB, and Cook DR. 2012. Genetic patterns of domestication in pigeonpea (*Cajanus cajan* (L.) Millsp.) and wild *Cajanus* relatives. *PLoS ONE* 7(6): e39563. doi:10.1371/journal.pone.0039563.
- Saxena RK, Penmetsa RV, Upadhyaya HD, Kumar A, Carrasquilla-Garcia N, Schlueter JA, Farmer A, Whaley AM, Sarma BK, May GD, Cook DR, and Varshney RK. 2012. Large-Scale Development of Cost-Effective Single-Nucleotide Polymorphism Marker Assays for Genetic Mapping in Pigeonpea and Comparative Mapping in Legumes. *DNA Research* doi:10.1093/dnares/dss025
- Jain, A., Singh, S., Sarma, B.K., Singh, H.B. 2012. Microbial consortium mediated reprogramming of defense network in pea to enhance tolerance against *Sclerotinia sclerotiorum*. *Journal of Applied Microbiology* 112: 537-550.
- Pandey PK, Yadav SK, Singh A, Sarma BK, Mishra A, Singh HB. 2012. Cross-species alleviation of biotic and abiotic stresses by the endophyte *Pseudomonas aeruginosa* PW09. *Journal of Phytopathology* 160:532–539.
- Riely, B.K., He, H., Venkateshwaran, M., Sarma, B.K., Schraiber, J., Ané, JM., and Cook, D.R. 2011. Identification of legume RopGEF gene families and characterization of a *Medicago truncatula* RopGEF mediating polar growth of root hairs. *The Plant Journal* 65(2):230-243.
- Singhai, P.K., Sarma, B.K. and Srivastava, J.S. 2011. Biological management of common scab of potato through *Pseudomonas* species and vermicompost. *Biological Control* 57: 150-157.

9. Additional Information/Achievements :

International Collaborations:

- Collaborating partner: Feed the Future Innovation Lab for Climate Resilient Chickpea of Professor Douglas Cook, University of California, Davis, USA.
- Collaborating partner: Exploring potentiality of the macro alga *Ascophyllum nodosum* in sustainable agriculture with Dr. B. Prithiviraj, Department of Plant, Food, and Environmental Sciences, Dalhousie University, Nova Scotia, Canada