University Faculty Details Page on DU Web-site

Title	Dr	First Name	Jagreet	Last Name	Kaur	Photograph
Designation		**Assistant Professor**				
Department		Genetics				
Address		**Room No 254** **New Biotech Building** **South Campus , Delhi University 110021**				
Phone No Office Residence		**+91-11-24157330** **+91-11-24157329**				
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Educational

Subject	Institution	Year	Details
Ph.D.	**CCMB, Hyderabad**	**2004**	Thesis topic:
M. Sc.	**Punjab Agricultural University**	**1997**	Subjects: Genetics
B. Sc.	**Delhi University**	**1994**	Subjects: Botany (H)

Career Profile

Organization / Institution	Designation	Duration	Role
Dept. of Genetics, Univ of Delhi	Assistant Professor	Oct 2007 onwards	Teaching and research
Max Planck Institute for Plant Breeding, Cologne, Germany	Post Doctoral Fellow	2004 - 2007	Research
CCMB, Hyderabad	Post Doc Fellow (Ad Hoc)	Dec 2003 –Oct 2004	Research

Research Interests / Specialization

Plant Pathogen Interaction: Plants are prone to attack by a variety of pathogens which cause a significant loss in agricultural yield. *Alternaria brassicae* and *Sclerotinia sclerotiorum* are the major fungal pathogen that infect *Brassica juncea* and cause Alternaria leaf blight and stem rot, respectively. Our lab is interested in understanding the mechanisms underlying plant resistance/susceptibility to these necrotrophic fungi. We are employing genetic and molecular approaches for identification and functional analysis of novel factors that determine plant susceptibility and/or resistance to *Alternaria* and *Sclerotinia* infection.

Teaching Experience (Subject / Courses Taught) Since 2007-onwards

Introduction to genetic analysis
Recombinant DNA technology
Development Biology (Plant development)
Plant–microbe interaction

Honors & Awards

- Cold Spring Harbor fellowship to attend Arabidopsis Molecular Genetics Course (2000).
- Senior Research Fellowship, Council for Scientific and Industrial Research. Government of India. (2000-2003).
- Junior Research Fellowship, Council for Scientific and Industrial Research. Government of India. (1998-2000).
- Merit Award in M.Sc. Genetic, Department of Basic Sciences and Humanities, Punjab Agricultural University, Ludhiana. (1997).
- University Gold Medal in B.Sc. (Hons) BOTANY, University of Delhi (1994).

RESEARCH GUIDANCE:

Ph.D. Students (ongoing): 3
PhD –Completed- (3)

I. Research papers published in Refereed/Peer Reviewed Journals: (LAST FIVE YEARS)

Year of Publication	Title	Publisher	Co-Author
2018	*Alternaria brassicae* interactions with the model Brassicaceae member*Arabidopsis thaliana* closely resembles those with Mustard (*Brassica juncea*).	Physiol Mol Biol Plants. 2018 Feb;24(1):51-59. doi: 10.1007/s12298-017-0486-z. Epub 2017 Nov 16.	Mandal S, Rajarammohan S, **Kaur J.**
2017	Genome-wide association mapping in Arabidopsis identifies novel genes underlying quantitative disease resistance to Alternaria brassicae.	Mol Plant Pathol. 2017 Dec 22. doi: 10.1111/mpp.12654	Rajarammohan S, Pradhan AK, Pental D, **Kaur J.**
2017	NO dioxygenase- and peroxidase-like activity of Arabidopsis phytoglobin 3 and its role in *Sclerotinia sclerotiorum* defense,	Nitric Oxide http://dx.doi.org/10.1016/j.niox.2017.03.004	Mukhi, , S Kundu and **Kaur J**
2017	Genetic Architecture of Resistance to Alternaria brassicaein Arabidopsis thaliana: QTL Mapping Reveals Two Major Resistance-Conferring Loci.	Front. Plant Sci. 8:260.doi: 10.3389/fpls.2017.00260	Rajarammohan S, Kumar A, Gupta V, Pental D, Pradhan AK and **Kaur J**
2016	Structural and Functional Significance of the N- and C-Terminal Appendages in Arabidopsis Truncated Hemoglobin.	Biochemistry. 2016 Mar 29;55(12):1724-40.	Mukhi N, Dhindwal S, Uppal S, Kapoor A, Arya R, Kumar P, **Kaur J**, Kundu S.
2016	Penta- and hexa-coordinate ferric hemoglobins display distinct pH titration profiles measured by Soret peak shifts.	Anal Biochem. Oct 1;510:120-8. doi: 10.1016/j.ab.2016.07.014. Epub 2016 Jul 20.	Uppal S, Kumar A, Shandilya M, Mukhi N, Singh AK, Kateriya S, **Kaur J**, Kundu S.
2013	X-ray Crystallographic Structural Characteristics of *Arabidopsis* Hemoglobin I and their Functional Implications.	Biochim Biophys Acta. 2013 Feb 25. doi:pii: S1570-9639(13)00087-3. 10.1016/j.bbapap.2013.02.024. [Epub ahead of print]	Mukhi N, Dhindwal S, Uppal S, Kumar P, Kaur J, Kundu S.
2011	Perturbation of *Arabidopsis* amino acid metabolism causes incompatibility with the adapted biotrophic pathogen *Hyaloperonospora arabidopsidis*.	***Plant Cell.*** 23(7):2788-803.	Stuttmann J, Hubberten HM, Rietz S,Kaur, J. Muskett P, Guerois R, Bednarek P, Hoefgen R, Parker JE.
2008	Identification of a root-specific glycosyltransferase from *Arabidopsis* and characterization of its promoter	***J Biosci.*** 33(2):185-93	Vijaybhaskar V. , Subbiah V. Kaur, J. , VijayaKumari P. and Siddiqi, I.
2006	The *Arabidopsis*-mei2-like genes play a role in meiosis and vegetative growth in Arabidopsis	***Plant Cell*** *18(3):545-59*	Kaur, J. Sabestian, J. and Siddiqi I.
2003	The DUET gene is necessary for chromosome morphogenesis and progression during male meiosis in *Arabidopsis thaliana* and potentially encodes a PHD finger domain	***Development:*** *130(24):5975-87*	Reddy, T.V , Kaur.J, Agashe,B.*,Sundaresan,V., and Siddiqi, I**.**

II. Other than refereed /Peer Reviewed Journal

Book Chapter:

- **Kaur, J.** and Siddiqi I (2004) *Female Gametogenesis*. *In* Encyclopedia of Plant and Crop Sciences. ed. R.M. Goodman. Marcel Dekker, Inc.

- Siddiqi, I., G. Ganesh, **J. Kaur**, V. Subbiah, and P. VijayaKumari, 2004. Information and tools from Arabidopsis for biotechnology of crop plants. In Sorghum Tissue Culture and Transformation eds. N. Seetharama and I.D. Godwin, Oxford and IBH Publishing Co., New Delhi. pp. 19-23.

- Sivasubramanian R., Mukhi N., and Kaur J. (2015) Arabidopsis thaliana : A model for plant research in *Plant Biology and Biotechnology: Volume II: Plant Genomics and Biotechnology*, Bir Bahadur et al. (eds.) DOI 10.1007/978-81-322-2283-5_1, © Springer India 2015 Eds

Conference Presentations

Jagreet Kaur (2009) Molecular genetic analysis of plant –necrotroph interaction using *Arabidopsis-Alternaria brassicae* phyto- pathosystem. Poster No 21. Young Investigator meet 24- 28th Feb 2009

Jagreet Kaur 2009 *Arabidopsis – Alternaria brassicae* a model phyto-patho system to dissect the plant – necrotroph interactions. *33rd All India Cell Biology Conference-Dec 10-13, 2009 at University of Hyderabad. Abstract page no 120.*

Nitika Mukhi, Suman Kundu , and **Jagreet Kaur** (2011) Deciphering the role of non-symbiotic Globins in biotic stress. 35th All India Cell Biology conference *and symposium on Membrane dynamics and disease*- (December 16-18, 2011), at NISER, Bhubaneswar.

Sayanti Mandal , Parvathy Krishnan, Sivasubramanian R, Amarendra Kumar, Diwakar Nandan, Rashmi Verma, Akshy Pradhan, Vibha Gupta, Deepak Pental, and Jagreet kaur.Unraveling the molecular genetics of resistance against Alternaria brassicae in Arabidopsis thaliana. National Science Day Symposium, 27th and 28th February 2012, University of Delhi South Campus, New Delhi, India.

Nitika Mukhi, Sonali Dhindwal, Sheetal Uppal, Pravindra Kumar, Suman Kundu and **Jagreet Kaur** (2013) Structural features of Class I plant hemoglobins and their functional implications. 3rd National Science Day Symposium, 27th and 28th February 2013, University of Delhi South Campus, New Delhi, India.

Nitika Mukhi, Sonali Dhindwal, Sheetal Uppal, Pravindra Kumar, Suman Kundu and **Jagreet Kaur** (2014) "Diverse globin fold architecture of novel plant hemoglobin : gaining new insights into structure-function studies", 4th National Science Day Symposium, 27th and 28th February 2014, University of Delhi South Campus, New Delhi, India.

Rashi Verma and **Jagreet Kaur** (2014) Identifying Sclerotinia sclerotiorum responsive genes of Arabidopsis thaliana using enhancer trap lines. 4th National Science Day Symposium, 27th and 28th February 2014, University of Delhi South Campus, New Delhi, India.

Nitika Mukhi, Sonali Dhindwal, Sheetal Uppal, Pravindra Kumar, Suman Kundu and **Jagreet Kaur** (2014) "Crystallographic Structures of *Arabidopsis* plant hemoglobins reveal novel features", XVIII International Conference on Oxygen-Binding and Sensing Proteins, 6th-10th July,2014, University of Sheffield, Sheffield, UK. **"Won best poster award"**

Nitika Mukhi, Sonali Dhindwal, Sheetal Uppal, Pravindra Kumar, Suman Kundu and **Jagreet Kaur** (2014) " New Insights into the function of *Arabidopsis* plant hemoglobins from their Crystallographic Structures", Indo-US Conference and Workshop on " Recent Advances in Structural Biology and Drug Discovery", 9th-11th October,2014, Indian Institute of Technology, Roorkee, India

Invited Lectures (Last 5 years)

Jagreet Kaur- Deciphering the mechanism underlying resistance against fungal necrotroph *Alternaria*

brassicae. (Invited Speaker) Arabidopsis workshop at CCMB Hyderabad 8th -10th Oct 2014.

- Invited Speaker in Molecular Intricacies of Plant Pathogenic Micro-organisms (MIPPM-2015) : *An Interactive Meet: 21st and 22nd Feb 2015* organised by Department of Molecular Biology and Biotechnology Tezpur University

- Invited speaker : Genetic dissection of Alternaria leaf blight at Arabidopsis in Emerging challenges in plant biology. 20-22 March 2016. IISER Mohali

Professional Societies Memberships

Member of Molecular Plant Microbe interaction Society 2007-2008

Project (Major/Grants/Collaborations)

ONGOING RESEARCH PROJECTS:

- NPTC-ICAR (2015-2017) False smut resistance in Rice.
- DBT –RNAi (2015-18): Host mediated pathogen gene silencing: Developing a strategy for engineering resistance against necrotrophic pathogen *Sclerotinia sclerotiorum* in *Brassica juncea* (Indian mustard)
- BBSCR-DBT (2014-2018) Co-PI
- DU/DST Purse Grant –Phase II
- Contributing to Center of Excellence (Phase II) for Brassica at UDSC funded by DBT.

COMPLETED RESEARCH PROJECTS:
In the last five years:

- DU/DST Purse Grant (2009- 2012) Characterizing novel globins across species and deciphering their stress response and interacting partners: An integrated holistic approach for function elucidation.
- DBT, Rapid Grant For Young Investigator, (2010-2013) Dissecting the molecular mechanisms underlying the early stages of resistance in a plant-necrotroph interaction using a reporter expression system.
- Serb-Fast Track (2013-2016) Cellular, molecular and genetic dissection of resistance response to *Alternaria brassicae* in *Arabidopsis thaliana*

Signature of Faculty Member **(Signature & Stamp of Head of the Department)**