Title	**Professor**	First Name	**Renu**	Last Name	**Deswal**	Photograph
Designation		Professor				
Address		Molecular Plant Physiology and Proteomics Laboratory (Lab. # 21) Room # 27, Botany Department, University of Delhi, Delhi - 110007.				
Phone No Office		Nil				
Residence		91-11-25453208				
Mobile		9711742276				
Email		rdeswal@botany.du.ac.in renudeswal@yahoo.co.in deswalr@hotmail.com				

Educational Qualifications

Degree	Institution	Year
Ph.D.	Ph.D. (Biochemistry), Jawaharlal Nehru University, New Delhi.	1994
M.Phil.	M.Phil. (Life Sciences), Jawaharlal Nehru University, New Delhi.	1988-89
PG	M.Sc. (Life Sciences), Jawaharlal Nehru University, New Delhi	1987
UG	B.Sc. (Gen. B), University of Delhi	1985

Career Profile

2009–continuing : Professor, Department of Botany, University of Delhi
2006 - 2008: Associate Professor, Department of Botany, University of Delhi.
February, 2001 - 2006: Reader, Department of Botany, University of Delhi.
1998- 2001: Staff Scientist III&II, National Centre for Plant Genome Research, Jawaharlal Nehru University, New Delhi.
1995 – 1998: Research Scientist, Centre for Plant Mol. Biol., Jawaharlal Nehru University, New

Delhi.
1994 – 1995: Research Associate, School of Life Sciences, Jawaharlal Nehru University, New Delhi.

Administrative Assignments

2011- 2016, Deputy Proctor, University of Delhi.

2014 – 2017,Member, Internal Complaints Committee

2011- 2014 Member, Apex Complaints Committee against Sexual Harassment

2007 – 2010 Member, Interim Committee against Sexual Harassment, Science Cluster.

Areas of Interest / Specialization

Abiotic stress (cold stress), Functional Genomics (Proteomics), Nitric oxide signalling and Nanobiotechnology

Subjects Taught

M.Phil/ Ph.D. **course work**

Nanobiotechnology

M.Sc.

BOT 103 Physiology and Biochemistry

BOT 307 Genomics and Proteomics (Elective paper)

BOT 408 Topics in Plant Physiology and Biochemistry

BOT 409 M.Sc. Dissertations

Time table of the subjects taught during the current semester

S.No.	Subject	Days	Time	Classroom
1.	**Bot 103**	**Monday**	**8:40 am- 9:35 am Theory** **9:35 am-5:30 pm Practical**	**LH-02** **Lab-05**
2.	**Bot 103**	**Thursday**	**8:40 am- 9:35 am Theory** **9:35 am-5:30 pm Practical**	**LH-02** **Lab-05**
3.	**Bot 307**	**Wednesday**	**9:30 am-11:30 am Theory** **11:00-5:00 pm Practical**	**LH-01** **Lab-01**
4.	**M.Phil/Ph.D.**	**Friday**	**Nanobiotechnology 12:00 pm-2:00 pm**	**Committee Room and CIF/USIC**

Theory
2:30 pm-5:00 pm
Practical

Research Guidance

Supervision of awarded Doctoral Thesis: Two in 2015, Nine till date.

1. ***Prakriti Kashyap 2017:*** *Analysing CBF dependent cold stress signaling in Solanum lycopersicum , Brassica juncea and Hippophae rhamnoides*

2. ***Bhavana Sharma:*** *Comparative Proteome and Lipid Profiling of Indian Sebuckthorn for Understanding its Stress Tolerance and Nanobiotehnological Application Date of Registration 03.06.2013.* ***Thesis submitted in 2019.***

Supervision of Doctoral Thesis, under progress: Five

1) Shruti Sharma: Proteome analysis of *Dioscorea alata* in search for Biochemical and Molecular markers. Date of Registration **23.12.2013**

2) Meenakshi Arya: Analysis of Cuticular proteome in *Brassica* species. Date of Registration – **22.09.2014**

3) Sougrakpam Yaiphabi Chanu: Post translational modifications in Cuticle proteome. Date of Registration- **17.02.2015**

4) Satya Prakash: Study of Redox sensitive sub-proteome in *Brassica. Juncea*. Date of Registration- **16.02.2015**

5) Priyanka Babuta: Analysing de-nitrosylation in *B.juncea.* Date of Registration- **13.01.2016**

Supervision of awarded M.Phil dissertations: One (as detailed below) in 2018/2019 Fifteen till date.

Completed:

1. Amarjeet Singh ***(2019):*** Green Synthesis of Iron Oixde Nanopraticles using leaf and Pomace of Hippophae rhamnoidesand their Nanobiotechnological Applications.

Under Progress:

1. Kailash Yadav: Comparative analysis of antifreeze activity in Brassicaceae (*Brassica juncea, B. nigra, B. rapa and Raphanus sativus*) and optimization of a nano-based antifreeze activity assay.

Summer trainees : 30 till date

Publication profile Last One Year

1. Kashyap P., and **Deswal, R. (2019).** Two ICE isoforms showing differential transcriptional regulation by cold and hormones participate in *Brassica juncea* cold stress signaling. *Gene* Vol.695, pp. 32-41.
2. Sharma B., and **Deswal, R. (2019).** Ecophysiolomic analysis of stress tolerant Himalayan shrub *Hipppophae rhamnoides* shows multifactorial acclimation strategies induced by diverse environmental conditions. *Physiologia Plantarum, https://doi.org/10.1111/ppl.12942*
3. Sharma B., Gupta R., Sahoo D., and **Deswal, R. (2019).**Purification of dual-functioning chitinases with hydrolytic and antifreeze activities from *Hippophae rhamnoides* seedlings. *Journal of Proteins and Proteomics,* pp.1-13.
4. Sherawat A., Sougrakpam Y., and **Deswal, R. (2018).** Cold modulated nuclear S-nitrosoproteome analysis indicates redox modulation of novel Brassicaceae specific, myrosinase and napin in *Brassica juncea. Journal of Environmental and Experimental Botany.*https://doi.org/10.1016/j.envexpbot.2018.10.010.
5. Sharma B., Sahoo D., and **Deswal, R. (2018).** Single-step purification and characterization of antifreeze proteins from leaf and berry of a freeze tolerant shrub *Seabuckthorn* (*Hippophae rhamnoides*). *Journal of Separation Science*, 41 (20), 3938-3945.
6. Sharma B., and **Deswal, R. (2018).** Single pot synthesised gold nanoparticles using *Hippophae rhamnoides* leaf and berry extract showed shape dependent differential nanobiotechnological applications.*Journal of Artificial Cells, Nanomedicine, and Biotechnology*, 10.1080/21691401.2018.1458034
7. Singh, A., Sharma, B., and **Deswal, R. (2018).** Green silver nanoparticles from novel Brassicaceae cultivars with enhanced antimicrobial potential than earlier reported Brassicaceae members. *Journal of Trace Elements in Medicine and Biology.* 47, 1-11.

Other Publications:

1) Abat J., and **Deswal, R. (2019).** Nitric oxide a ting decoder and transmitter of information. Eds. (S.K. Sopory) In Sensory Biology of Plants, pp.978**.**
2) Kashyap P., and **Deswal, R. (2019).** Phytohormones regulating the Master Regulators of CBF Dependent Cold Stress Signaling Pathway. Eds. (Vijay Rani Rajpal, Deepmala Sehgal, Avinash Kumar, S.N. Raina) In *Genetic Enhancement of Crops for Tolerance to Abiotic Stress: Mechanisms and Approaches*, Vol. I, pp. 249-264.
3) Sougrakpam Y., Babuta P., and **Deswal, R. (2018).** Current Scenario of NO (S-Nitrosylation) Signaling in Cold Stress**.** Eds. (Akula Ramakrishna, Sarvajeet Singh

Gill Taylor & Francis Group) In *Metabolic Adaptations in Plants during Abiotic Stress*, pp. 351-360.

Conference Organization/ Presentations (in the last three years)

1. Babuta, P., and **Deswal R. (2019).** Presented poster on "Purification of S-nitrosoglutathione reductase (GSNOR) from *Brassica juncea:* its in silico and biotechemical analysis" at National Symposium on "Current trendes and future prospecter in plant science research" from 1st – 3rd February, 2019 Centre of Advance study Department of Botany Institute of Science Banaras Hindu University in India.
2. Sharma, B., and **Deswal R. (2019).** Presented poster on "*Hippophae rhamnoides* a cold tolerant wonder plant with potential biomedical and nanotechnological applications" at 6th World congress in Nanomedical sciences and chemistry Biology interface 2019 and Conference on Science and technology for the future of mankind from 7th -9th January, 2019 at Vigyan Bhawan, New Delhi.
3. **Deswal R. (2019).** Invited Presentation on "Dioscorea – An Alternative Crop to Cater the World Food Crisis Scenario" at International conference on Biotechnological innovations in food and Health care (BIfhc 2019) from 27 - 28 January, 2019, BITS PILANI Dubai Campus.
4. Sharma S., and **Deswal R. (2019).** Presented poster on" Analyzing the role of Nitric oxide (NO) in *Dioscorea alata* tuber for managing its post- harvest shelf life" at International conference on Biotechnological innovations in food and Health care (BIfhc 2019) from 27 - 28 January, 2019 , BITS PILANI Dubai Campus.
5. **Deswal R. (2018**). Invited Lecture on **"**Under representative of woman in Science in India". In Emergence of feminism in 2021century India: Group Activism to hash tag. 24th November, 2018 JNU Convention Centre, JNU, New Delhi.
6. **Deswal R. (2018).** Lecture on "Small Steps towards green development of nation through research in plant Sciences".22nd Oct, 2018 at Faculty Development Program on Sustainable and Green development, Atma Ram Santan Dharma College. (ARSD), University of Delhi.
7. **Deswal R. (2018).** Co-Chaired the Technical Session of2nd National Conference of *Seabuckthorn* Association of India on "*Seabuckthorn*-Technologies for Cultivation Environmental Conservation Nutrition Security and Health Protection" organized by *Seabuckthorn* Association of India on 23-25 October 2018 at Hotel Peterhoff, Shimla.
8. Prakash, S., and **Deswal R. (2018**). Oral presentation on "Analysis of Brassica juncea leaf protein corona formed on the surface of gold nanoparticles in vitro" at 2nd International Conference on Nanobiotechnology for Agriculture Detection, Conservation and Responsible Use of Natural Resources 13th -14th December, 2018, Aditya Bhawan Auditorium, National Institute of Solar Energy (NISE), Gwal Pahari Gurugram.
9. **Deswal R. (2018)** Lecture on "Redox Proteomics and significations what how and in stress biology" FDP in refresher Course in Department Biology University Delhi, Delhi-07.
10. Yadav, K., and **Deswal R. (2018).** Presented poster on "Advance in Antifreeze Protein Research and their Applications" at The 2nd National Conference of *Seabuckthorn*

Association of India on "*Seabuckthorn*-Technologies for Cultivation Environmental Conservation Nutrition Security and Health Protection" organized by *Seabuckthorn* Association of India on 23-25, October 2018 at Hotel Peterhoff, Shimla.

11. Sharma, B., and **Deswal R. (2018).**Oral presentation on "Nanobiotechnological potential of the underutilized Himalayan shrub*, Seabuckthorn* for decontaminating fabric dye containing waste water" at The 2nd National Conference of *Seabuckthorn* Association of India on "*Seabuckthorn*-Technologies for Cultivation Environmental Conservation Nutrition Security and Health Protection" organized by *Seabuckthorn* Association of India on 23-25, October 2018 at Hotel Peterhoff, Shimla.
12. Sharma, S., and **Deswal, R. (2017).** Presented poster on **"**Change in the redox status triggers tuber germination and showed the involvement of Asada –Halliwell pathway in germination" **Awarded Best Poster Award.**
13. Sharma, B., Singh, A., and **Deswal R. (2017)** Presented poster on "Exploring the Nanobiotechnological Potential of Novel North Indian varieties of Brassicaceae for their Antimicrobial Potential at National Conference "Emerging Discoveries in Health and Agricultural Sciences" at JNU, 16 Nov-19 Nov, 2017." **Awarded Best Poster Award.**
14. Sharma, B., and **Deswal R. (2017).** Presented poster on "Exploring the Nanobiotechnological Potential of a Himalayan Shrub, Hippophae rhamnoides for Azo Dyes Decontamination" at National Conference on Seabuckthorn for Improving Health and Sustainable Development of Himalayan Region, September 22-23, 2017, at DIHAR, Leh-Ladakh, India. Received **Awarded Best Poster Award.**
15. Chaurasia, S.P., and **Deswal R. (2017)** Presented poster on "Identification of Major Redox Modulated Proteins from Brassica juncea Seedlings, and demonstration of differential sensitivity of RuBisCO large and small subunit towards oxidative stress" at National Conference on Protein Structure and Dynamics in Health and Agriculture, November 03-04, 2017 at Jamia Hamdard University Delhi, India.
16. **Deswal R. (2017)** Invited Lecture on "Antifreeze Protein (AFP) as a novel downstream targets in ICE-CBF signalling pathway in *Hippophae rhamnoides*" at National Conference on *Seabuckthorn* for Improving Health and Sustainable Development of Himalayan Region, September 22-23, 2017, at DIHAR, Leh-Ladakh, India.
17. **Deswal R. (2017).** Inaugural Lecture "Nitrosylation mediated nitric oxide (NO) signaling in cold stress on *Brassica juncea* seedlings", 8thSeptember, 2017, Hans raj College, University of Delhi, Delhi.

Workshops organized :

Organized 3rd Plant Proteomics Workshop/training Programme at Department of Botany, University of Delhi, Delhi, December 19-23, (2017).

Organized 2nd Plant Proteomics Workshop/training Programme at Department of Botany, University of Delhi, Delhi, December 21-26, (2015).

Organized 1st Plant Proteomics Workshop/training Programme at Department of Botany, University of Delhi, Delhi, December 26-30, (2013).

Research Projects (Major Grants/Research Collaboration)

1) **Title of project** : Structural, Functional, Developmental and Evolution of Plant

cuticular waxes

Funding agency : DST-PURSE Grant (DST)

Amount : 60 Lakhs (Approximately)

Period : 2013-2017

2) **Title of project** : Characterizing un-explored Seabuckthorn germplasm in Sikkim for antifreeze proteins, secondary metabolites, its comparison with germplasm of Lahaul and Spiti valley, Himachal Pradesh and also utilizing the bioresources for uplifting the livelihood of local people.

Funding agency : DBT-IBSD

Amount : 50 Lakhs

Period : 2017 - 2019

Awards and Distinctions

- National Award for significant contribution in Seabuckthorn research by Seabuckthorn Association of India at "The 7th Conference of the International Seabuckthorn Association (ISA2015)" held at NASC Complex, New Delhi, India, 2015.
- Editor for Frontiers in Plant Physiology.
- Editor for Journal of Proteins and Proteomics.
- Co-editor with Dr. Sabine Luthje and Dr. Ganesh Kumar Agrawal for special volume of Proteomics (2015) "Plant based foods: Seed, Nutrition and Human Health".
- Co-editor with Prof. Suman Kundu and Dr. Sanjeeva Srivastava for special volume of Journal of Proteins and Proteomics (2016) "Functional and Interaction Proteomics: Applications in Food and Health".
- Reviewer for various National and International Plant Physiology, Proteomics and Biochemistry Journals.
- Reviewer for various National (DBT, DST, CSIR, DRDO etc.) and International (National Science Foundation, USA, Discovery grants Canada, National Research Centre etc.) Grants

Association With Professional Bodies

- Academic Committee Member, Central Institute for Medicinal and Aromatic Plants, (CIMAP) Lucknow, India.
- Chairperson, Development Committee and Country representative, International Plant Proteomics Organisation (INPPO).

- Board of Studies Member in Biotechnology and Biochemistry for Central University of Haryana. Mahendragrah.
- Executive Committee Member, Seabuckthron Association of India.
- Life member, The Society for Low Temperature Biology.
- Life member, Proteomics Society of India.
- Member, Human Proteome Organization, (HUPO).

Signature of Faculty Member

You are also requested to also give your complete resume as a DOC or PDF file to be attached as a link on your faculty page.