



## University of Rajasthan

J.L.N. Marg, Jaipur-302004, Rajasthan, India.

### Dr. Chandra Pal Singh, PhD

After completing his Master degree in Botany from the Maharani Shri Jaya College, Bharatpur, in 2004, Dr. CP Singh (born 1984) opted for a career in research, he joined Central Institute of Medicinal and Aromatic Plants (CIMAP), Lucknow, in September 2007, but later (March 2008) moved to Centre for DNA Fingerprinting and Diagnostics (CDFD), Hyderabad. During his Ph.D. training he worked on host-pathogen interaction using *Bombyx mori* and its pathogen *Bombyx mori* nucleopolyhedrovirus (BmNPV) as models. Most of his research centered on viral-encoded microRNAs identification and characterizing their role in virus infection. Dr. CP obtained his Ph.D. in January 2014 from the CDFD, Hyderabad. In December 2013, he joined University of Rajasthan, Jaipur, as Assistant Professor, in the Department of Botany. His current research interests involves, role of small RNAs in combating abiotic stress in plants and in insect immunity.



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#### Work Experience

**Assistant Professor:** Dec. 2013 – till date, Department of Botany, University of Rajasthan, Jaipur.

**Senior Research Fellow:** Centre for DNA Fingerprinting and Diagnostics (CDFD), Hyderabad, March 5, 2011 to March 4, 2013.

**Junior Research Fellow:** Centre for DNA Fingerprinting and Diagnostics (CDFD), Hyderabad March 5, 2008 to March 4, 2011.

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#### Education

2008-2014: **PhD** -Centre for DNA Fingerprinting and Diagnostics (CDFD), Hyderabad.

2003-2004: **MSc (Botany)**-Maharani Shree Jaya College, Bharatpur, of Rajasthan University, Jaipur, Rajasthan [1<sup>st</sup> Division with an aggregate of 64.44%].

2000-2002: **BSc (Zoology, Botany & Chemistry)**-Maharani Shree Jaya College, Bharatpur, of

Rajasthan University, Jaipur, Rajasthan [1<sup>st</sup> Division with an aggregate of 70.59%).

1999: **Intermediate (Agriculture)-Rajasthan Secondary Education Board, Ajmer,**  
Rajasthan [1<sup>st</sup> Division with an aggregate of 74.31%].

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## Publications

### Journals

1. Characterization of antiviral and antibacterial activity of *Bombyx mori* seroin proteins. **C.P. Singh** \*; Vaishna R.L.; Kakkar A.; Arunkumar K.P.; Nagaraju J., *Cellular microbiology*, 2014 Sep;16(9):1354-65.
2. *bmnpv-miR-3* facilitates BmNPV infection by modulating the expression of viral P6.9 and other late genes, in *Bombyx mori*. **C.P. Singh** \*; Singh J.; Nagaraju J., *Insect biochemistry and molecular biology* 2014, 49, 59-69.
3. A Baculovirus-Encoded MicroRNA (miRNA) Suppresses Its Host miRNA Biogenesis by Regulating the Exportin-5 Cofactor Ran. **C.P. Singh**, J. Singh, and J. Nagaraju, *Journal of Virology*. 2012, 86(15):7867.
4. Discovering microRNAs from *Bombyx mori* nucleopolyhedrosis virus. J. Singh, **C.P. Singh**, A. Bhavani, J. Nagaraju, *Virology* 407 (2010) 120–128.

## Citations

Citation indices	Number of citations
Citations	110
h-index	3

Citation link: <http://scholar.google.co.in/citations?user=PyqGr0QAAAAJ&hl=en>

\* Corresponding author.

### Books/chapters

1. Role of miRNA in abiotic stress responses in *Arabidopsis thaliana*. **C.P. Singh**, Navneet Singh Chaudhary, Manish Goyal and Ratnakaran, **Nova Science Publishers, New York** (2015) **ISBN: 978-1-63482-196-4**.
2. Redox regulation in arabadopsis: an introduction to antioxidant and redox defense systems. Manish Goyal, Pooja Chauhan, **C.P. Singh**, and Ratnakaran, **Nova Science Publishers, New York** (2015) **ISBN: 978-1-63482-196-4**.

**Awards and Fellowships**

- 2015: Received **Dr. R. S. Paroda Best Innovation Award** by the Vaigyanik Drishtikon Society and Rajasthan Science Congress, March 2015.
- 2011: Awarded Travel Bursary for attending **Keystone Symposia**, Banff, Alberta, Canada, by **Immunology Foundation of India**, New Delhi.
- 2008: Qualified for interview of CSIR's prestigious-SPM Fellowship.
- Dec. 2007: Awarded CSIR- JRF in Life Sciences.
- June 2007: Awarded CSIR - JRF in Life Sciences.
- Dec. 2006: Awarded UGC-NET-Lectureship in Life Sciences.
- June 2006: Awarded UGC-NET-Lectureship in Life Sciences.

**Qualified competitive examinations**

- 2008: **BARC-Mumbai** entrance examination for Ph.D.
- 2007: **CDFD-Hyderabad** entrance examination for Ph.D.
- 2007: **IISc-Bangalore** entrance examination for Ph.D.
- 2007: **CIMAP-JNU-Lucknow** entrance examination for Ph.D.
- 2007: Graduate aptitude Test in Engineering (**GATE**).

**Sanctioned/undertaken Projects**

<b>Name of the funding agency</b>	<b>Title</b>	<b>Date of Sanction</b>	<b>Duration</b>	<b>Amount</b>
University Grant Commission (UGC-Startup Grant)	Comparative Expression Analysis of RNAi Pathway Genes under Abiotic Stress Conditions in <i>Arabidopsis thaliana</i>	March 30, 2015	2015-2017	6 lakhs

**Reviewed journals**

- Journal of computational Science (**Elsevier**).  
<http://www.journals.elsevier.com/journal-of-computational-science/>
- African journal of microbiology research  
<http://www.academicjournals.org/journal/AJMR>
- Molecular biology of gene therapy  
<http://www.genetherapy.net.com/gene-therapy-and-molecular-biology.html>
- International Journal of Biotechnology and Molecular Biology Research  
<http://www.academicjournals.org/journal/IJBMBR>

Abstracts/paper presented in conferences

International

1. **C.P. Singh** \*; Kakkar A.; Arunkumar K.P., Serpins, novel antiviral proteins of *Bombyx mori*, probably regulated by host-miRNAs. “International Conference on Recent Trends in Agriculture, Veterinary and Life Science-2015” held in **Vikram University, Ujjain, Madhya Pradesh, India**, from 30<sup>th</sup> to 31<sup>st</sup> January 2015.
2. Jyoti Singh, **C.P. Singh** and J Nagaraju, BmNPV encodes miRNA for modulating the expression of its own late genes to establish infection in *Bombyx mori*. 23rd International Congress of the International Sericultural Commission on Sericulture and Silk Industry held at **Bangalore, India**, 24-27 November 2014.
3. **C.P. Singh**, J Singh and J. Nagaraju., Virus employs microRNA to regulate the host non-coding RNA nucleocytoplasmic transport. **Keystone symposia** on “MicroRNAs and Human Diseases (J6)” held in Fairmont Banff Springs, Banff, **Alberta, Canada**, from 11<sup>th</sup> to 16<sup>th</sup> February 2011.
4. J. Singh, **C.P. Singh** and J. Nagaraju., Characterization and functional analysis of *Bombyx mori* nucleopolyhedrosis virus (BmNPV)-encoded microRNAs and their targets. **Keystone symposia** on “RNA Silencing: Mechanism, Biology and Application (A7), **Colorado, USA**, from 14<sup>th</sup> to 19<sup>th</sup> January 2010.

National

1. **C.P. Singh**\* and KP Arunkumar, Elucidation of small silk proteins antiviral function in *Bombyx mori* 38<sup>th</sup> All India Conference of The Indian Botanical Society & National Symposium on Emerging Trends in Plants Sciences, held in Department of Botany, University of Rajasthan, Jaipur, India, from 26<sup>th</sup>-28<sup>th</sup> October, 2015.
2. **C.P. Singh**\*, J. Singh, and J. Nagaraju, Viral microRNAs: fine regulators of host-pathogen interaction “3<sup>rd</sup> Rajasthan Science Congress’ held in Manipal University Jaipur, India, from 28<sup>th</sup> February to 2<sup>nd</sup> March 2015.
3. **C.P. Singh**\*, J. Singh, and J. Nagaraju, bmnvp-miR-3 facilitates BmNPV infection by modulating the expression of viral P6.9 and other late genes, in *Bombyx mori*. “National conference on Plant Bioresource Management and Biotechnology” held in Department of Botany, University of Rajasthan, Jaipur, India, from 29<sup>th</sup> to 31<sup>th</sup> January 2014.

### Invited talks/lectures

1. **C.P. Singh\***, J. Singh, and J. Nagaraju, bmnpv-miR-3 facilitates BmNPV infection by modulating the expression of viral P6.9 and other late genes, in *Bombyx mori*. “Scientific Symposium and Workshop on Recent Trends in Cytogenetics-2014” held in Institute of medical sciences, **Banaras Hindu University, Varanasi**, India, from 21<sup>th</sup> to 24<sup>th</sup> September, 2014.

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### Research interests

- **Identification of novel small non-coding RNAs from plant and insect systems.**
- **Role of small RNA in abiotic stress in plants.**
- **Analysis of RNAi-factors in abiotic stress.**
- **Mechanism of small RNA-mediated gene regulation.**
- **Regulation of small RNAs with respect to specific microbial infection.**

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### Corresponding address

**Dr. Chandra Pal Singh**

Assistant Professor

Department of Botany

University of Rajasthan,

JLN Marg, Jaipur-302004

Rajasthan (India).

**Lab phone No.: 0141-2711654**

**Mob: +91-8107924464**

**E mail:** [chandrapal203@gmail.com](mailto:chandrapal203@gmail.com) & [cpsinghuor@gmail.com](mailto:cpsinghuor@gmail.com)

**Department web-page link:** <http://uniraj.ac.in/index.php?mid=4701&did=319>