



Dr. Raj Kumar Joshi

Designation: Associate Professor

Qualification: M.Sc, PhD, Post-doc (Canada)

Date of Joining: 01.06.2018

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➤ **Area of Interest**

Functional Genomics, Genetic Engineering, Molecular Plant Microbe Interactions

➤ **Courses taught**

Genetics, Genetic Engineering, Genomics, Proteomics & Molecular Diagnostics

➤ **Career**

- ✓ Associate Professor, Dept. of Biotechnology, Rama Devi Women's University, Bhubaneswar (Jun 2018- till date)
- ✓ Assistant Professor-II, Centre of Biotechnology, Siksha O Anusandhan (Deemed to be University), Bhubaneswar (September 2011 to May 2018).
- ✓ Assistant Professor-I, Centre of Biotechnology, Siksha O Anusandhan (Deemed to be University), Bhubaneswar (July 2009 to August 2011).
- ✓ Adjunct Professor, Dept. of Agriculture, Food and Nutritional Science, University of Alberta, Edmonton, Canada (January 2013-)

➤ **Teaching Experience**

- ✓ 16 years

➤ **Research Experience**

- ✓ 19 years

➤ **Administrative/Executive Experience**

- ✓ HOD, Dept. of Biotechnology, Rama Devi Women's University, Bhubaneswar (September 2020 -August 2022)
- ✓ Administrative Officer, PG Council, Rama Devi Women's University, Bhubaneswar (January 2021-August 2022)
- ✓ OIC, UG Admissions, Rama Devi Women's University, Bhubaneswar (May 2019 till date)
- ✓ Public Information Officer (PIO), Rama Devi Women's University, Bhubaneswar (October 2018-August 2022).
- ✓ Coordinator, Centre for Skill Development & Training (CSDT), Rama Devi Women's University, Bhubaneswar (September 2018-till date).

- ✓ Member, Academic Council, Rama Devi Women's University, Bhubaneswar (January 2020-December 2022)
- ✓ Coordinator, Dept. of Physics, Rama Devi Women's University, Bhubaneswar (September 2022-till date)
- ✓ Member, Research & Development Committee, Rama Devi Women's University, Bhubaneswar (January 2021 to August 2022).
- ✓ Member, Institutional Biosafety Committee (July 2021 till date)
- ✓ Member, Institutional Ethics Committee (July 2021 to August 2022)

➤ Awards & Honors

- ✓ DBT-CREST award (Formerly DBT overseas fellowship) from DBT, Govt. of India, New Delhi to undergo post-doctoral research at University of Alberta, Canada (2013).
- ✓ Early Career Research award from SERB, DST, Govt. of India (2012).
- ✓ Outstanding Scientist Award by education connect Plus and Hypedge Media group (2022).
- ✓ Young Professor of the Year Award 2021 by EIA conference (2021).
- ✓ International travel award to visit Berlin, Germany from SERB, DST, Govt. of India (2018).
- ✓ International travel award to visit Tokyo, Japan from SERB, DST, Govt. of India (2013).
- ✓ International travel award to visit Vienna, Austria from SERB, DST, Govt. of India (2010).
- ✓ Senior Research Fellowship (Indian Council of Agricultural Research-ICAR) (2005).
- ✓ University topper in M.Sc. Biotechnology, Sambalpur University (2004).
- ✓ University topper in B. Sc. Botany, Sambalpur University (2002).

➤ Membership in editorial board

- ✓ Associate Editor- Elsevier 'Physiological & Molecular Plant Pathology' (ISSN no. 1096-1178)
- ✓ Review Editor- Frontiers in Plant Science (ISSN no. 1664-462x)
- ✓ Editor- 'Research Journal of Biotechnology' (ISSN no. 2278-4535)

➤ Membership in Scientific Societies

- ✓ Fellow Member: Scholar Academic & Scientific Society, India
- ✓ Fellow Member: World Researchers Association
- ✓ Life Member: Society of Plant Biochemistry and Biotechnology
- ✓ Life Member: Indian Society of Genetics and Plant Breeding
- ✓ Life Member: Association of Biological Chemists (ABC), India.
- ✓ Life Member: Association of Microbiologists, India.

➤ Research Guidance

- ✓ PhD thesis supervised : **06 (FIVE)**
- ✓ M Tech/M.Phil thesis supervised : **03 (THREE)**
- ✓ M.Sc thesis supervised : **31 (TWENTY-ONE)**

➤ **Research Grants**

✓ **Ongoing Research projects**

S. No	Title of the project	Funding Agency	Amount	Sanction year & duration
1	Development of high-throughput SNP markers and marker-assisted selection towards Stemphylium Leaf Blight (SLB) resistance in onion (<i>Allium cepa</i> L.) (Principal Investigator)	SERB, Govt. of India	33.62 Lakhs	March 2024 (Three Years)
2	Engineering broad spectrum disease resistance in tomato using a single transcript CRISPR/Cas9 genome editing system (Principal Investigator)	S & T Dept., Govt. of Odisha	9.99 Lakhs	December 2023 (Three Years)
3	Engineering Anthracnose resistance in Chilli Pepper (<i>Capsicum annum</i>) using a single transcript CRISPR/Cas9 genome editing system. (Co- Investigator)	SERB, Govt. of India	29.98 Lakhs	August 2021 (Three Years)

✓ **Completed Research projects**

S. No	Title of the project	Funding Agency	Amount	Sanction year & duration
1	Rapid development of NGS based SNP markers and marker-assisted selection towards purple blotch resistance in Onion (<i>Allium cepa</i> L.) (Principal Investigator)	SERB, Govt. of India	42.35 Lakhs	October 2019 (Three Years)
2	Delineating the small RNA networks associated with host resistance and pathogenesis of basal rot fungus ' <i>Fusarium oxysporum</i> f. sp. <i>cepae</i> ' in <i>Allium cepa</i> L. (Principal Investigator)	DBT, Govt. of India	47.29 Lakhs	September 2018 (ThreeYears)
3	Development of sequenced characterized amplified region (SCAR) markers and marker-assisted selection towards purple blotch resistance in onion (<i>Allium cepa</i> L.) (Principal Investigator)	DBT, Govt. of India	46.64 Lakhs	2015 (Three years)
4	Evaluation of cytogenetic diversity in some genera of Cucurbitaceae and characterization of sex-linked genes in <i>Coccinia</i> through SCAR marker approach. (Co-Investigator)	DBT, Govt. of India	23.56 Lakhs	2014 (Three years)
5	Ecotyping, chemotyping and genotyping of some important drug yielding plants of Eastern India for authentic identification, selection and conservation of elites. (Co-Investigator)	DBT, Govt. of India	51.59 Lakhs	2013 (Three years)

6	Development and characterization of SSRs and SNPs for cultivar identification in turmeric (<i>Curcuma longa</i> L) (Co-Investigator)	DST, Govt. of India	29.94 Lakhs	2013 (Three years)
7	Chemical profiling of turmeric from different agroclimatic regions and optimization of environmental parameters for high curcumin yield (Co-Investigator)	DBT, Govt. of India	34.52 Lakhs	2013 (Three years)
8	Molecular cloning, characterization and expression analysis of potential genes for developing disease resistance in garlic (<i>Allium sativum</i> L.) (Principal Investigator)	DST, Govt. of India	22.5 Lakhs	2013 (Three years)
9	Molecular characterization and expression analysis of Mitogen activated protein kinase genes towards resistance development in turmeric (<i>Curcuma longa</i>) against <i>Pythium aphanidermatum</i> (Principal Investigator)	Seed-funds	8.05 Lakhs	2012 (Three years)

➤ **List of Patents:**

Patent no.	Patent type	Patent title	Year of filing	Name of Inventor(s)	Status
2021104155	Australian Innovation patent	Methods for Molecular Mapping and Developing Diagnostic Markers for Detecting Anthracnose Resistance in Chili Pepper	2021	R Mishra, RK Joshi, E Rout, JN Mohanty	Granted
2021105189	Australian Innovation patent	A Method for Creating Novel Anthracnose Resistant Pepper Plants Using Genome Modification Technique	2021	RK Joshi, R Mishra, JN Mohanty, B Mahanty	Granted
202022100303	German Utility Patent	A System for an Efficient Identification of Purple Blotch Resistance in Onion	2022	RK Joshi, R Mishra, JN Mohanty, B Mahanty	Granted
202022104748	German Utility Patent	A system for rapid detection of disease resistant onion plants using nucleotide specific markers	2023	RK Joshi, R Mishra, B Mahanty, J Sahoo	Granted

➤ Publications

Total Publication: 84

Total citation: 2307; H-index: 25; i10 index-55

✓ Journal publications

1. Sahoo J, Mishra R, **Joshi RK** (2024) Bulk segregant RNA sequencing (BSR-Seq) combined with SNP genotyping towards mapping and characterization of a purple blotch resistance gene in onion (*Allium cepa* L.). **Plant Molecular Biology Reporter**. <https://doi.org/10.1007/s11105-024-01466-1> (IF-1.6).
2. Mahanty B, Mishra R, Joshi RK (2023) A global study of miRNome dynamics in response to *Fusarium* basal rot infection in onion (*Allium cepa* L.) **Physiological and Molecular Plant Pathology**. <https://doi.org/10.1016/j.pmpp.2023.102157>. (IF- 2.89).
3. Sahoo J, Mishra R, Joshi RK (2023) Development of SNP markers linked to purple blotch resistance for marker-assisted selection in onion (*Allium cepa* L.) breeding. **3 Biotech**. <https://doi.org/10.1007/s13205-023-03562-7> (IF-2.89).
4. Mahanty B, Mishra R, Joshi RK (2023) *Fusarium oxysporum* f.sp *cepae* small RNAs (Foc-sRNAs) promote disease susceptibility in onion (*Allium cepa* L.) through cross kingdom RNA interference. **Physiological and Molecular Plant Pathology**. 125: 102018. <https://doi.org/10.1016/j.pmpp.2023.102018>. (IF- 2.74).
5. Sahoo J, Mahanty B, Mishra R, Joshi RK (2023) Development of SNP markers linked to purple blotch resistance for marker-assisted selection in onion (*Allium cepa* L.) breeding. **3 Biotech**. 13: 137. <https://doi.org/10.1007/s13205-023-03562-7>. (IF-2.89).
6. Mahanty B, Mishra R, Joshi RK (2023) Cross-kingdom small RNA communication between plants and fungal phytopathogens-Recent updates and prospects for future agriculture. **RNA Biology**. <https://doi.org/10.1080/15476286.2023.2195731>. (IF: 4.77).
7. Mahanty B, Mishra R, Joshi RK (2023) Sexual differentiation in dioecious cucurbits-a molecular perspective. **Research Journal of Biotechnology**. 18(2): 118-126. <https://doi.org/10.25303/1802rjbt1180126> (IF-0.35).
8. Mahanty B, Mishra R, Joshi RK (2022) Molecular characterization of Zn(II)₂Cys₆ cluster gene family and their association with pathogenicity of the onion basal rot pathogen, *Fusarium oxysporum* f. sp. *cepae*. **Physiological and Molecular Plant Pathology**. <https://doi.org/10.1016/j.pmpp.2021.101782>. (IF- 2.74)
9. Mallick T, Mishra R, Mohanty S, Joshi RK (2022) Genome wide analysis of the potato soft rot pathogen *Pectobacterium carotovorum* strain ICMP 5702 to predict novel insights into its genetic features. **Plant Pathol J**. 38(2): 102-114. <https://doi.org/10.5423/PPJ.OA.12.2021.0190> (IF: 2.32).
10. Nanda S, Kumar G, Mishra R, **Joshi RK** (2022) Microbe assisted alleviation of heavy metal toxicity in plants: A review. **Geomicrobiology Journal**. <https://doi.org/10.1080/01490451.2021.1979697>. (IF- 2.41)
11. Mishra R, Mohanty JN, Mahanty B, **Joshi RK** (2021) A single transcript CRISPR/Cas9 mediated mutagenesis of CaERF28 confers anthracnose resistance in chilli pepper (*Capsicum annuum* L.). **Planta**. <https://doi.org/10.1007/s00425-021-03660-x>. (IF-4.54)
12. Mishra R, Zheng W, **Joshi RK**, Zhao K (2021) Genome editing strategies towards enhancement of rice disease resistance. **Rice Science**. 28(3): 1-14. <https://doi.org/10.1016/j.rsci.2021.01.003> (IF- 4.41).
13. Sharma R, Mahanty B, Mishra R, **Joshi RK** (2021) Genome wide identification and expression analysis of pepper C₂H₂ zinc finger transcription factors in response to anthracnose pathogen *Colletotrichum truncatum*. **3Biotech**. <https://doi.org/10.1007/s13205-020-02601-x> (IF-2.89)
14. Nanda S, Mishra R, **Joshi RK** (2021) Molecular basis of insect resistance in plants: current updates and future prospects. **Research Journal of Biotechnology**. (IF-0.35)

15. **Joshi RK**, Bharat SS, Mishra R (2020) Engineering drought tolerance in plants through CRISPR/Cas genome editing. **3Biotech**. <https://doi.org/10.1007/s13205-020-02390-3>. (IF-2.89).
16. Basu A, Jha S, **Joshi RK** (2020) Enhanced accumulation of phenolics in the β -cryptogein co-transformed hairy roots of *Plumbago zeylanica* L. **Research Journal of Biotechnology**. 15(9): 89-97. (IF-0.35).
17. Mishra R, **Joshi RK**, Zhao K (2019) Base editing in crops: current advances, limitations and future implications. **Plant Biotechnology Journal**. <https://doi.org/10.1111/pbi.13225>. (SCI impact factor-13.26).
18. Mohanty JN, Chand SK, **Joshi RK** (2019) Multiple microRNAs regulate the floral development and sex differentiation in the dioecious cucurbit *Coccinia grandis* (L.) Voigt. **Plant Molecular Biology Reporter**. <https://doi.org/10.1007/s11105-019-01143-8>. (IF-2.01).
19. Mishra R, Rout E, Mohanty JN, **Joshi RK** (2019) Sequence-tagged site based diagnostic markers linked to a novel anthracnose resistance gene Rct1 in chilli pepper (*Capsicum Annuum* L.) **3 Biotech**. 9: 9. <https://doi.org/10.1007/s13205-018-1552-0> (IF-2.89).
20. Mishra R, Mohapatra R, Mahanty B, **Joshi RK** (2019) Analysis of microRNAs and their targets from onion (*Allium cepa*) using genome survey sequences (GSS) and expressed sequence tags (ESTs). **Bioinformatics**. 15(12): 907-916. <https://doi.org/10.6026/97320630015907> (IF-1.01).
21. Mahapatra M, Mahanty B, **Joshi RK** (2019) Genome wide identification and functional assignments of C2H2-Zinc finger family transcription factors in *Dichantheium oligosanthes*. **Bioinformatics**. 15(9): 689-696. <https://doi.org/10.6026/97320630015689> (IF-1.01)
22. Megha S, Basu U, Joshi RK, Kav NNV (2018) Physiological studies and genome-wide microRNA profiling of cold-stressed *Brassica napus*. **Plant Physiology and Biochemistry**. 132, 1-17. <https://doi.org/10.1016/j.plaphy.2018.08.027> (IF-5.43)
23. Mishra R, **Joshi RK**, Zhao K (2018) Genome editing in rice: Recent advances, challenges and future implications. **Frontiers in Plant Science**. <https://doi.org/10.3389/fpls.2018.01361> (IF- 6.62).
24. Chand SK, Nanda S, **Joshi RK** (2018) Genetics and molecular mapping of a novel purple blotch resistance gene ApR1 in onion (*Allium cepa* L.) using STS and SSR markers. **Molecular Breeding**. <https://doi.org/10.1007/s11032-018-0864-4> (IF-3.29)
25. Mishra R, Mohanty JN, Chand SK, **Joshi RK** (2018) Can-miRn37a mediated suppression of ethylene response factors enhance the resistance of chilli against anthracnose pathogen *Colletotrichum truncatum* L. **Plant Science** 257:9-21. <https://doi.org/10.1016/j.plantsci.2017.12.001>. (IF- 5.36).
26. Mohanty JN, **Joshi RK** (2018) Molecular cloning, characterization and expression analysis of MADS-box genes associated with reproductive development in *Momordica dioica* Roxb. **3 Biotech**. 8 (150): 1-13. <https://doi.org/10.1007/s13205-018-1176-4> (IF-2.89).
27. Mishra R, Rout E, **Joshi RK** (2018) Identification of resistance sources against anthracnose disease caused by *Colletotrichum truncatum* and *Colletotrichum gloeosporioides* in *Capsicum annuum* L. **Proc. Natl. Acad. Sci., India**. <https://doi.org/10.1007/s40011-018-0965-1>. (IF- 0.96).
28. Chand SK, Nanda S, Mishra R, **Joshi RK** (2017) Multiple garlic (*Allium sativum* L.) microRNAs regulate the immunity against the basal rot fungus *Fusarium oxysporum* f. sp. cepae. **Plant Science** 257:9-21 <https://doi.org/10.1016/j.plantsci.2017.01.007>. (IF- 5.36).
29. Mohanty JN, Nayak S, Jha S, **Joshi RK** (2017) Transcriptome profiling of the floral buds and discovery of genes related to sex-differentiation in the dioecious cucurbit *Coccinia grandis* (L.) Voigt. **Gene** 626: 395-406. <https://doi.org/10.1016/j.gene.2017.05.058> (IF- 3.91).
30. Mishra R, Nanda S, Rout E, Chand SK, Mohanty JN, **Joshi RK** (2017) Differential expression of defense genes in chilli pepper infected with anthracnose pathogen *Colletotrichum truncatum*. **Physiological and Molecular Plant Pathology**. 97: 1-10. <https://doi.org/10.1016/j.pmpp.2016.11.001> (IF- 2.74).

31. Sinha P, Nanda S, **Joshi RK**, Panda PC (2017) Development of a sequence-tagged site (STS) marker for sex identification in the dioecious rattan species *Calamus guruba* Buch.-Ham. **Molecular Breeding**. 37: 22. <https://doi.org/10.1007/s11032-017-0630-z> (IF-2.108)
32. Basu A, Roychowdhury D, **Joshi RK**, Jha S (2017) Effects of cryptogein gene on growth, phenotype and secondary metabolite accumulation in co-transformed roots and plants of *Tylophora indica*. **Acta Physiologia Plantarum**. 39:3 <https://doi.org/10.1007/s11738-016-2306-4> (IF-2.73)
33. Sandeep IS, Das S, Nasim N, Mishra A, Acharya L, **Joshi RK**, Nayak S, Mohanty S (2017) Differential expression of CURS gene during various stages, climatic condition and soil nutrients in turmeric (*Curcuma longa* L.): towards site specific cultivation for high curcumin yield. **Plant Physiology and Biochemistry**. 118: 348-355. <https://doi.org/10.1016/j.plaphy.2017.07.001> (IF-5.43)
34. Sahoo A, Jena S, Kar B, Sahoo S, Ray A, Singh S, **Joshi RK**, Acharya L, Nayak S (2017) EST-SSR marker revealed effective over biochemical and molecular skepticism towards identification of specific turmeric (*Curcuma longa* L.) cultivars. **3 Biotech**. 7:84. <https://doi.org/10.1007/s13205-017-0701-1> (IF-2.89)
35. **Joshi RK**, Megha S, Basu U, Rahman MH and Kav NNV (2016). Genome wide identification and functional prediction of long non coding RNAs responsive to *Sclerotinia sclerotiorum* infection in *Brassica napus*. **PLoS ONE**. 11:e0158784. <https://doi.org/10.1371/journal.pone.0158784> (IF- 3.75).
36. **Joshi RK**, Megha S, Rahman MH, Basu U and Kav NNV (2016). A global study of transcriptome dynamics in canola (*Brassica napus* L.) responsive to *Sclerotinia sclerotiorum* infection using RNA-Seq. **Gene**. 590: 57-67. <https://doi.org/10.1016/j.gene.2016.06.003> (IF- 3.91).
37. Chand SK, Nanda S, Rout, Mohanty JN, Mishra R and **Joshi RK** (2016). De Novo sequencing and characterization of defense transcriptome responsive to *Pythium aphanidermatum* infection in *Curcuma longa* L. **Physiological and Molecular Plant Pathology**. 94: 27-37. <https://doi.org/10.1016/j.pmpp.2016.03.008> (IF- 2.74).
38. Chand SK, Nanda S and **Joshi RK** (2016). Regulation of miR394 in Response to *Fusarium oxysporum* f. sp. *cepae* (FOC) Infection in Garlic (*Allium sativum* L). **Frontiers in Plant Science**. 7:258. <https://doi.org/10.3389/fpls.2016.00258>. (IF- 6.62).
39. Akbar A, Kuanar A, **Joshi RK**, Sandeep IS, Mohanty S, Naik PK, Mishra A, Nayak S (2016) Development of prediction model and experimental validation in predicting the curcumin content of turmeric (*Curcuma longa* L.). **Frontiers in Plant Science**. 7:1507. <https://doi.org/10.3389/fpls.2016.01507>. (IF- 6.62).
40. Nanda S, Chand SK, Mandal P, Tripathy P, **Joshi RK** (2016) Identification of novel source of resistance and differential response of *Allium* genotypes to purple blotch pathogen, *Alternaria porri* (Ellis) Ciferri. **The Plant Pathology Journal**. 36:519-527. <https://doi.org/10.5423/PPJ.OA.02.2016.0034> (IF- 2.32).
41. Chand S, Nanda S, Rout E, Mohanty JN, Mishra R, **Joshi RK** (2016) Identification and characterization of microRNAs in turmeric (*Curcuma longa* L.) responsive to infection with the pathogenic fungus *Pythium aphanidermatum*. **Physiological and Molecular Plant Pathology**. 93: 119-128. <https://doi.org/10.1016/j.pmpp.2016.01.010> (IF- 2.74).
42. Mohanty JN, Nayak S, Jha S, **Joshi RK** (2016) A sequence tagged site (STS) marker encoding Copia-like retrotransposable element is associated with male specific sex expression in *Momordica dioica* Roxb. **Scientia Horticulturae**. 201: 265-270. <https://doi.org/10.1016/j.scienta.2016.02.008> (IF- 4.34).
43. Nanda S, Rout E, **Joshi RK** (2016) *Curcuma longa* mitogen activated protein kinase 6 (CIMP6) stimulates the defense response pathway and enhances the resistance to necrotrophic fungal infection. **Plant Molecular Biology Reporter**. <https://doi.org/10.1007/s11105-015-0972-9>. (IF-1.78).
44. Subudhi E, Das A, **Joshi RK**, Mohanty S, Nayak S (2016) Genetic diversity analysis and redundant identification in 48 core collections of *Zingiber officinale* Rosc (Zingiberaceae). **Brazilian Journal of Botany**. 39(3): 869-883. <https://doi.org/10.1007/s40415-016-0278-7> (IF-1.36)

45. Gaur M, Das A, Sahoo RK, Joshi RK, Subudhi E (2016) Comparative transcriptome analysis of ginger variety Suprabha from two different agroclimatic zones of Odisha. **Genomics Data**. 9:42-43. <https://doi.org/10.1016/j.gdata.2016.06.014>.
46. Rout E, Nanda S, **Joshi RK** (2015) Molecular characterization and heterologous expression of a pathogen induced PR5 gene from garlic (*Allium sativum* L.) conferring enhanced resistance to necrotrophic fungi. **European Journal of Plant Pathology**. <https://doi.org/10.1007/s10658-015-0772-y>. (IF-2.22).
47. E Rout, P Tripathy, S Nanda, S Nayak, **R K Joshi** (2015) Evaluation of cultivated and wild *Allium* accession for resistance to *Fusarium oxysporum* f.sp cepae. **Proc. Natl. Acad. Sci. INDIA**. <https://doi.org/10.1007/s40011-015-0506-0> (SCI impact factor- 0.96).
48. Pareek SS, **Joshi RK**, Ravi I, Rout E, Kumar S, Sharma V (2015) Identification and characterization of NBS-LRR class resistance gene analogs in mothbean (*Vigna aconitifolia*). **Journal of Plant Pathology**. <https://doi.org/10.4454/JPP.V97I1.006>. (IF- 2.64).
49. B K Bhowmick, S Nanda, S Nayak, S Jha and **R K Joshi** (2014) An *APETALA3* *MADS*-box linked SCAR marker associated with male specific sex expression in *Coccinia grandis* (L.). **Scientia Horticulturae** 176:85-90. <https://doi.org/10.1016/j.scienta.2014.06.041> (IF- 4.34).
50. S Nanda, S Nayak and **R K Joshi** (2014) Molecular characterization and differential regulation of MAP kinase genes in turmeric (*Curcuma longa* L.) in response to diverse environmental cues and signal substances. **Biologia Plantarum** <https://doi.org/10.1007/s10535-014-0429-2>. (IF- 1.12).
51. E Rout, S Nanda, S Nayak and **R K Joshi** (2014) Molecular characterization of NBS encoding resistance genes and induction analysis of a putative candidate gene linked to *Fusarium* basal rot resistance in *Allium sativum*. **Physiological and Molecular Plant Pathology**. 85:15-24. <https://doi.org/10.1016/j.pmpp.2013.11.003> (IF- 2.74).
52. B Kar, S Nayak and **R K Joshi** (2014) Development and evaluation of STS diagnostic marker to track turmeric (*Curcuma longa* L.) resistance against rhizome rot caused by *Pythium aphanidermatum*. **Australasian Plant Pathology**. 43:167-175. <https://doi.org/10.1007/s13313-013-0259-2> (IF-1.4).
53. B Kar, S Nanda, P.K Naik, S Nayak and **R K Joshi** (2013) Molecular characterization and functional analysis of CzR1, a coiled-coil-nucleotide-binding-site-leucine-rich repeat R-gene from *Curcuma zedoaria* Loeb. That confers resistance to *Pythium aphanidermatum*. **Physiological and Molecular Plant Pathology**. 83:59-68. <https://doi.org/10.6026/97320630009560> (IF- 2.74).
54. B Kar, S Nayak and **R K Joshi** (2013) Molecular cloning, characterization and transcriptional variability study of resistance gene candidates from wild *Curcuma* spp. for resistance against *Pythium aphanidermatum*. **Plant Omics Journal**. 6(1):86-94. https://www.pomics.com/joshi_6_1_2013_86_94.pdf (IF- 1.79)
55. S Nanda, B Kar, S Nayak, S Jha and **R K Joshi** (2013) Development of an ISSR based STS marker for sex identification in pointed gourd (*Trichosanthes dioica* Roxb.). **Scientia Horticulturae**. 150:11-15. <https://doi.org/10.1016/j.scienta.2012.11.009> (IF- 4.34).
56. **R K Joshi**, B Kar, and S Nayak (2013) Cross amplification polymorphism of rice microsatellites in *Zingiberaceae*. **Research Journal of Biotechnology** 8(3):76-83. (IF-0.35).
57. B Kar, Kuanar A, S Singh, S Mohanty, **R K Joshi**, E Subudhi and S Nayak (2013) In vitro induction, screening and detection of high essential oil yielding somaclones in turmeric (*Curcuma longa* L). **Plant Growth Regulation**. <https://doi.org/10.1007/s10725-013-9836-1>. (IF- 1.67).
58. S Singh, **R K Joshi** and S Nayak (2013) Identification of elite genotypes of turmeric through agro climatic zone-based evaluation of important dye yielding traits. **Industrial Crops & Products** 43:165-171. <https://doi.org/10.1016/j.indcrop.2012.07.006> (IF- 6.4).
59. **R K Joshi**, B Kar, S Mohanty, E Subudhi and S Nayak (2012) Molecular cloning, characterization and expression analysis of resistance gene candidates in *Kaempferia galanga* L. **Molecular Biotechnology**.

50(3):200-210. <https://doi.org/10.1007/s12033-011-9430-6> (IF- 2.86).

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➤ Book/book chapter publications

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➤ **Participation in major conferences & seminars (as invited/plenary/chair)**

1. **R K Joshi** (2022) Engineering Disease Resistance in Plants by a Single Transcript CRISPR/Cas9 Multiplex microRNA Editing System. 8th Plant Genomics & Gene Editing Congress: Asia, November 15th-16th 2022, Kuala Lumpur, Malaysia.
2. **R K Joshi** (2021) Understanding cross kingdom RNAi during host-pathogen interaction by high

throughput profiling of fungal small RNAs. April 20th-21st 2021, Kuala Lumpur, Malaysia.

3. **R K Joshi** (2019) Genome editing in chilli pepper using a CRISPR/Cas9 cytidine base editing system. 5th Edition of International Conference on Plant Genomics, June 13th-14th 2019, Berlin, Germany.
4. **R K Joshi** (2018) Engineering anthracnose resistance in chilli through a single transcript CRISPR-Cas9 system. 2018 NextGen genomics, biology, bioinformatics and technologies (NGBT) conference, September 30th-October 2nd, 2018, Bhubaneswar, Odisha, India.
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