



*Dr. Chandī Charan Rath*

**Designation:** Professor

**Qualification:** M.Sc, M. Phil., PhD

**Date of Birth:** 14.07.1966

**Date of Joining:** 22.06.2018

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## Area of Interest

Extremophiles, Microbial diversity of unique ecosystems, Bioactivity studies of natural products of plants (plant essential oils) and microbial origin

Present Research interest : Bioprospecting of Endophytes

## Courses taught

Microbiology, Algology, Mycology, Genetic Engineering

## Career

Professor (2018-present): Rama Devi Women's University, Bhubaneswar

## Teaching Experience

28 years

## Research Experience

30 years

**Administrative/Executive Experience (only prominent/statutory roles including membership of academic council/syndicate/board of studies. Avoid mere membership in committees)**

1. Head of the Department Life Sciences , Ram Devi Women's University 1.09.2018 - 31.05.2020
2. Controllers of Examinations, Ram Devi Women's University, 30.04.2019-07.05.2020
3. Director, Sports Council, Ram Devi Women's University, 1.09.2018-27.11.2020
4. Director, College Development Council, Ram Devi Women's University, 20.06.2020-1.9.2022
5. Director, IQAC, Rama Devi women's University, 17<sup>th</sup> January 2021
6. Chairman, Post Graduate Council, Rama Devi Women's University, 02.09.2022 (Continuing)
7. Member Academic Council, Rama Devi women's University
8. Member Syndicate, Rama Devi women's University

## **Awards & Honors (including travel support award)**

- 1. March 1992 to March 1994** : Junior Research Fellow (GATE), Regional Medical Research Center (ICMR), Bhubaneswar, Ind
- 2. April 1994 to October 1995** : Senior Research Fellow, R. M. R. C. (ICMR), Bhubaneswar, Ind
- 3. Young Scientist (1993)** National Environmental Science Academy, NewDelhi, Ind
- 4. Sarojini G. Panigrahi Young Scientist (1995)**, Orissa Botanical Society, Bhubaneswar, Ind
- 5. Prof. B.K. Nanda Memorial Award (1996)**, Orissa Botanical Society, Bhubaneswar, Ind
- 6. Best Teacher Award in Botany, 2023, Odisha Botanical Society**

## **Research Guidance**

- ✓ PhD thesis supervised : **10 (TEN)**
- ✓ M Tech/M.Phil thesis supervised : **09 (THREE)**
- ✓ M.Sc thesis supervised : **16 (SIXTEEN)**

## Research Grants (All research grants including seed funds)

Sl.	Title of Project	Funding Agency/ Year/Status	Carried out at
1	Studies on microbial diversity(Bacteria and Fungi) of Similipal Biosphere Reserve and their potential application as plant growth promoters and biocontrol agents against selective phytopathogens (Completed)	DST, Govt. Of Orissa, 2010-13	North Orissa University
2	Studies on bacteriological quality assessment of street foods in Baripada, Orissa and application of essential oils as natural food preservatives (Completed)	UGC, New Delhi 2011-13	North Orissa University
3	Studies on bacterial diversity of Simlipal Biosphere Reserve and screening for their antimicrobial metabolites	Ministry of Environment and Forest, Govt. Of India , New Delhi	North Orissa University
4	<i>In vitro</i> propagation and <i>Agrobacterium</i> -mediated genetic transformation of <i>Linum usitatissimum</i> L. (Completed)	UGC, New Delhi 2009-12	North Orissa University
5	<i>Isolation and characterization of endophytic bacteria from selected medicinal plants and exploitation of their potential role in sustainable agriculture with reference to plant growth promoting activities and biocontrol properties "</i>	DST, Govt. of Odisha 2017-2020	Orissa University of Agriculture and Technology

## Publications

## Patents (Entire list of patents/copyrights etc.)

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

## Journal publications (Give the entire list of publication in Scopus/SCI-WoS/UGC care only)

## LIST OF PUBLICATIONS

### JOURNALS

1. **C. C. Rath** and G. C. Satapathy. Effect of leaf extracts of some weeds on conidial germination of four pathogenic fungi. **Bull Environmental Science**, (1993), XI: 51-55.
2. V. R. Subramanyam, **C. C. Rath**, M. Mishra and G.P. Chhotrai . Subcutaneous infections due to *Curvularia* species. **Mycoses**, (1993), 36: 449-450.
3. V. R. Subramanyam, and **C. C. Rath**. A note on the growth and viability of *Vibrio cholerae* and other bacteria in Ragi (*Eleusine coracona*), gruel. **Biomedical Letter** , (1994), 50: 147-150.
4. S. Pattnaik **C. C. Rath** and V. R. Subramanyam. Characterization of essential oils in a strain of *Pseudomonas aeruginosa* (VR-6). **Microbios**, (1995), 81:29-31.
5. **C. C. Rath** and V. R. Subramanyam. Thermotolerant enzyme activities of *Bacillus* spp. Isolated from the hot springs of Orissa, India. **Microbios**, (1996), 86:157-161.
6. **C. C. Rath** and S. K. Dash and G. C. Satapathy. Fungicidal activity of leaf extracts of some hydrophytic weeds. **Bull Environmental Science**, (1996) : 18-19.
7. **C. C. Rath**. Evaluation of Invitro susceptibility and resistance to honey in *V. cholerae*, El Tor strains. **Ind. J of Med. Microbiology**, (1996), 14(2): 93-94.
8. S. pattanaik, V. R. Subramanyam and **C. C. Rath**. Effect of essential oil on the viability and morphology of *E. coli* (SP-11). **Microbios**, (1996), 84: 195-199.
9. **C.C. Rath** and V.R. Subramanyam. L-Glutaminase activity of bacteria isolated from a hot spring of Orissa. **J. of Aquaculture**, (1997), 5 : 43-46 .
10. **C.C. Rath** and V.R. Subramanyam. A note on thermotorant Cellulolytic fungi from a hot spring at Taptapani, Orissa. **Microbios**, (1997), 89 : 157-161.
11. **C. C. Rath** and V.R. Subramanyam. Isolation of thermophilic bacteria from hot springs of Orissa. **Geobios**, (1998), 25 : 133-119.
12. **C. C. Rath** and S. K. Dash and R. K. Mishra. Vibriocidal activity of Pyocianin producing *Pseudomenas aeruginosa*. **Geobios**, (1998), 25: 285-287. (
13. **C. C. Rath**. Heat stable lipase activity of bacteria from hot springs of Orissa, India. **Cytobios**, (1999), 99 : 105-111.
14. **C. C. Rath** and V. R. Subramanyam Metal tolerance capacity of bacteria isolated from the hot springs of Orissa. **J. of Ecobiology**, (1999), 11(3): 181-187.

15. **C. C. Rath**, S.K. Dash, R.K. Mishra and J.K. Charyulu. *In vitro* evaluation of antimycotic activity of turmeric (*Curcuma longa* L) essential oil against *Candida albicans* and *Cryptococcus neoformans*. **Ind. Perfumer**, (1999), 43(4) 172-178.
16. **C.C. Rath** and S.K Dash and R.K Mishra. A comparative note on antimycotic activity of turmeric leaf essential oil against *Candida albicans* and *Cyptococcus neoformans*. **J. Essential Oil Bearing Plants**, (1999), 2(2): 106-111.
17. **C. C. Rath** and S. K. Dash and R. K. Mishra. A note on the characterization of susceptibility of turmeric (*Curcuma longa*) leaf oil against *Shigella* sps. **Ind. Drugs**, (1999), 36(2): 133-136.
18. **C. C. Rath** and V. R. Subramanyam. Extremophiles: a novel groups of microorganisms for 3<sup>rd</sup> millennium with a special reference to thermophiles. (Review). **J of Ecobiology**, (2000), 12(3): 163-178.
19. S.K. Dash, **C. C. Rath**, S.P.Adhikary and R.K. Mishra. Isolation and characterization of a novel halophilic strain of *E.coli* from the Bay of Bengal at Puri, India. **J. Ecobiology**, (2000), 12(4) :301-305.
20. A. Vimla, S.Mishra, **C. C. Rath et. al.**, A note on *invitro* antibacterial activity of bacterial associations of marine sponges against common fish pathogens. **J. of Aquaculture**, (2000), 8 :61-65.
21. C. Behera **C. C. Rath**, S.K. Dash, R.K. Mishra. And O.S. Ramachandriah. Antifungal activity of essential oils of *Curcuma longa* against five-rice pathogens *in vitro*. **J. Essential Oil Bearing Plants**, (2000), 3(2): 79-84.
22. D.Dash, **C. C. Rath**, S.Ganapati, M.Bapuji. Antimicrobial activity of Pyrolysed sal resin (*Shorea robusta*). **Ind. Perfumer**, (2000), 44(4) : 279-254.
23. C. Behera, P. Ray, **C. C. Rath et. al.**, Fungitoxicity of *Curcuma longa* L. extracts against rice sheath blight fungus : *Rhizoctonia solani*. **Oryza**, (2001), 38(1-2) : 89-91.
24. **C. C. Rath**, S.K. Dash, R.K. Mishra and J.K Charyulu. Anti *E.coli* activity of turmeric (*Curcuma longa*) essential oil., **Ind. Drugs** (2001) 38(3): 106-111.
25. **C. C. Rath** , S.K. Dash, R.K. Mishra, G.S.Ramachandriah. A comparative analysis of *invitro* antifungal activity of pure and fractionally-distilled turmeric (*Curcuma longa*) leaf essential oil. , **Ind Drugs**, (2002), 39(1): 18-22.
26. **C. C. Rath** and S.K Dash and R.K Mishra. *In vitro* susceptibility of Japanese mint leaf oil against five human fungal pathogens. **Ind, Perfumer**, (2001), 45(1): 57-61.
27. M.Baswa, **C. C. Rath** and S.K. Dash R.K. Mishra. Antibacterial activity of Karanj (*Pongamia pinnata*) and Neem (*Azadirachta indica*) seed oil: A preliminary report. **Microbios**, (2001), 105 : 183-189.

28. A. Dash Mohapatra, **C. C. Rath**, S.K. Das and R.K. Mishra Microbiological evaluation of street foods in Bhubaneswar. **J. Food Science and Technology**, (2002), 39(1) : 59-61.
29. D. Mishra, S.Pattanaik, **C.C.Rath** and S.K.Dash and R.K.Mishra. Antimicrobial activity of some newly synthesized organic complexes. **Ind. J. Pharmaceutical Sciences**, (2002) ;256-259.
30. S.Sahoo, S.B. Mahapatra, P.R. Mishra, R.K. Mishra and **C. C. Rath**. Bactericidal activity of some plant extracts against few pathogenic Enterobacteriaceae. **Phytomedica**, (2002), 3: 101 – 109.
31. P. Ray, **C.C.Rath** ,K.Mishra and R.K.Mishra. Antifungal activity of turmeric (*C. longa*) extracts against three dermatophytes. **J. Microbial World**, (2002), 4(2) :123-126.
32. **C. C. Rath** and S.K. Dash and R.K.Mishra. Antibacterial efficacy of six Indian essential oils individually and in combination. **J. Essential Oil Bearing Plants**, (2002), 5(2) : 99 –107.
33. O.S.Ramachandriaaha, G.Azeemoddin, J.K.Charylu, **C. C. Rath et al.**, Isolation, Characteristics Chemical composition and microbial activity of turmeric (*curcuma longa* ) leaf oil. **Ind, Perfumer**, (2002), 46(3) :211-216.
34. D.J. Dash, **C. C. Rath**, S. Ganapathy *et. al.*, Effect of ultrasound on antibacterial activity of pyrolysed sal (*Shorea robusta Gaerth*) Resin. **Ind. Perfumer**, (2003), 47(2): 189-197.
35. S. Mohanty, M. Bapuji, R.K. Mishra, A. Sree, S.B. Mohapatra, P.Ray and **C.C. Rath**. Studies on Metal tolerance of bacterial associates of marine sedentary organisms. **Asian J. of Microbio., Biotech. Env. Sc.**, (2004), 6(2) : 291-296.
36. A. Vimla, A-Sree, M. Bapuji and **C. C. Rath**. Isolation and characterization of *Acinetobacter* sp. from a Marine sponge *Axinella agariciformis*.. **Asian J. of Microbiol. Biotech. Env. Sc.**, (2004), 6(2) : 297-300.
37. R.Gupta, **C. C. Rath**, S.K. Dash and R.K. Mishra. *In vitro* antibacterial potential assessment of Carrot (*Daucus carota*) and Celerey (*Apium graveolens*) seed essential oils against twenty one bacteria. **J. Essential Oil Bearing Plants**, (2004), 7(1) : 79-86.
38. **C. C. Rath** and S.K. Dash, R.K Mshra, and B.R Rajesswaar Rao. Antifungal activity of rose scented Geranium (*Pelargonium sp.*) essential oil and its constituents. **J. Essential Oil Bearing Plants**, (2005), 8(2): 218.
39. **C. C. Rath**, S. Mishra, S.K. Dash, R.K. Mishra. Antistaphylococcal activity of Lime and Juniper essential oils against MRSA. **Ind. Drugs**, (2005), 42(12) : 797-801.

40. S. Mishra, S.K. Dash, P. Ray & **C. C. Rath** . Study of prevalence of pathogenic marine *Vibrio* sp. in the coastal waters of bay of Bengal, at Puri, India. **J. Microb. World**, (2006), 8(2) : 155-159.
41. A. Vimla, **C. C. Rath**, A. sree & S. Pattnayak. Biodiversity and antimicrobial properties of cultivable microbial association of marine sessiler organisms of Orissa coast (Bay of Bengal).  
**Asian J. of Microbiol. Biotech. Env. Sc.**, (2006), 8(1): 17-22.
42. S. Mohapatra. **C. C. Rath**, S. K. Dash & R. K. Mishra. Microbial evaluation of wounds and their susceptibility to antibiotics and essential oils. **J. Microb. World**, (2006), 8(1): 101-109.
43. R. Bahuti and **C. C. Rath**, Mohapatra, U. Physicochemical mycological studies of selected soil samples from Similipal Biosphere Reserve. **Plat Sc. Res.** (2006), 28(1&2): 1-7.
44. C. H. L. D. Karuna, M Bapuji, **C. C. Rath** & Y. L. N. Murthy. Pigment production by a mangrove *Penicillium* **J. Microb. World** (2007), 9(1): 21-26.
45. **C. C. Rath**, S. Devi, S. K. Dash, & R. K. Mishra. Antibacterial potential assessment of jasmine (*Jasminum sambac* L. ) essential oil against *E. coli* (MTCC-443). **Ind. J. Pharmaceutical Sciences** (2008), 70: 238-240.
46. S. K. Dash, **C. C. Rath**, P. Ray and S. P. Adhikary. Effect of antibiotics and some essential oils on marine vibrios isolated from the coastal waters of Bay of Bengal at Orissa coast. **J. Pure and Applied Microbiology**, (2007), 1(2): 247-250.
47. **C. C. Rath**. Prospects and challenges of essential oils as natural food preservatives - a review. **Food** (2007), 1(2) : 172-180.
48. **C. C. Rath**, S. Singh, S. K. Dash & R. K. Mishra. *In Vitro* vibriocidal activity of coriander (*Coriandrum sativum* L.) and aniseed (*Pimpinella anisum* L.) essential oils. **Food**(2007), 1(2) ; 216-219.
49. K..Tayung and **C. C. Rath**. Antibacterial activity of eagle wood tree (*Aquilaria agallocha* Roxb.) essential oil against human pathogens. **Ind. Perfumer** (2008), 46 : 61-63.
50. A. Vimla, **C. C. Rath** and A. Sree . Characterization of extracellular cellulose(Endoglucanase) activity of *Bacillus subtilis* and *Bacillus stearothermophilus* isolated from marine sponges of Gopalpur coast, Orissa (Bay of Bengal). **Journal of Pure and Applied Microbiology**,(2009), 3(1) : 67-74.
51. M.. Behera, J. Dandapat and **C. C. Rath**. Isolation, Characterization and screening of bacterial isolates from Similipal Biosphere Reserve forest soil for their metal tolerance capacity and

extracellular enzymatic activities. *Bioremediation, Biodiversity and Bioavailability*, (2009), 3(2): 72-78.

52. CHLD Karuna, M. Bapuji, **C. C. Rath** and YLN Murthy. Isolation of Mangrove fungi from Godavari and Krishna deltas of Andhra Pradesh, India. , ***J. Ecobiol.* (2009), 24(1):** 91-96.
53. I. Das, **C. C. Rath** and U. B. Mohapatra . Antibacterial assessment of essential oils of three *Ocimum* spp. against food borne pathogens. ***Plant Sci. Res.*, (2009), 31(1&2):** 60-65.
54. H. S. Mohanta and **C. C. Rath**. Extracellular Enzymatic Activity of Bacterial Strains Isolated from a Local Hotspring Tarabalo, Nayagarh District, Orissa, India. , ***Internt J. Microbiol.* (2009) , 7(2):** 1-7.
55. R. Behera and **C. C. Rath**. Evaluation of antibacterial activity of turmeric (*Curcuma longa* L.) leaf essential oils of three different states of India against *Shigella* spp. ***Journal of Biologically Active Products from Nature* (2011), 1 (2):** 125-131.
56. M. Das, **C. C. Rath** and U. B. Mohapatra . Bacteriology of a most popular street food (*Panipuri*) and inhibitory effect of essential oils on bacterial growth. ***J. Food Sci. Technol.* (2012), 49(5) :** 564-571.
57. P. Mishra, S. Mohanty, M. Samanta and **C. C. Rath**. Reestablishment of Cellulase-Producing bacteria in the intestine of Grass Carp (*Ctenophayngodon idella*). ***Dynamic Biochemistry, Process Biotechnology and Molicular Biology* (2012),6 (SI), 102-108.**
58. **C. C. Rath** and S. Patra. Bacteriological quality assessment of selected street foods and antibacterial action of essential oils against food borne pathogens. ***Int. j. Food Safety*, (2012) , (14):** 5-10.
59. S. K. Jena and **C. C . Rath**. Optimization of Culture Conditions of Phosphate Solubilizing Activity of Bacterial sp. Isolated from Similipal Biosphere Reserve in Solid-State Cultivation by Response Surface Methodology. ***Int. J. Curr. Microbiol. Appl. Sci.* (2013), 2(5):** 47-59.
60. D. Behera, **C. C. Rath**, and U. B. Mohapatra. Medicinal orchids in India and their conservation : A review. ***Floriculture and Ornamental Biotechnology*, (2013), 7(1):** 53-59.
61. D. Behera, **C. C. Rath**, K. Tayung and U. B. Mohapatra. Ethnomedicinal uses and antibacterial activity of two orchid species collected from Similipal Biosphere Reserve Odisha, India. ***J. Agrl. Technol.* (2013), 9(5):** 1269-1283.
62. Jena S. K and **C. C. Rath**. Effect of environmental and nutritional conditions on phosphatase activity of *Aspergillus awamori*. ***Current Research in Environmental & Applied Mycology* (2014), 4(1):** 45-56.



63. M. Behera, J. Dandapat and **C. C. Rath**. Effect of heavy metals on growth response and antioxidant defense protection in *Bacillus cereus*. **J. Basic Microbiology (2014)**, 54: 1-9.
64. L. K. chintapenta, **C. C. Rath**, M. Bapuji and G. Ozbay. Culture conditions for growth and pigment production of a mangrove *Penicillium* species. **J. Multidisciplinary Scientific Research (2014)**, 2 (3): 1-5.
65. L. K. chintapenta, **C. C. Rath**, M. Bapuji and G. Ozbay. Pigment production from a mangrove *Penicillium*. **African J. Biotechnology (2014)**, 13 (26): 2668-2674.
66. D. Parida, S. K. Jena and **C. C. Rath**. Enzyme activities of bacterial isolates from iron mine areas of Barbil, Keonjhar District, Odisha, India. **International Journal of Pure and Applied Bioscience (2014)**, 2(3): 265-271.
67. B. Pradhan, S. K. Dash, **C. C. Rath**, S. Patel and S. Sahoo. Microbial extracellular L-asparaginase: An enzyme of therapeutic interest. **J. Advanced Microbiology (2014)**, 1(2): 75-78.
68. **C. C. Rath** and P. Bera. Antimicrobial action of essential oils against food borne pathogens isolated from street vended fruit juices from Baripada Town, India. **Int. J. Food Safety (2014)**, 16: 59-70.
69. S. K. Jena, K. Tayung and **C. C. Rath**. Effect of organophosphate pesticides on phosphates activity of *Aspergillus awamori* KC316117 isolated from Similipal Biosphere Reserve soil. **Asian. J. Microbiol. Biotech. Env. Sc. (2014)**, 16(4): 1073-1078.
70. M. Pradhan, M. Mishra, **C. C. Rath** and L. B. Sukla. Microbial beneficiation of iron ore collected from Rungta mine areas using *Aspergillus fumigatus*. **J. Advanced Microbiology (2014)**, 1(5) : 266-273
71. **C. C. Rath** and S. Mohapatra. Susceptibility characterization of *Candida* spp. to four essential oils. **Ind. J. Med. Microbiol. (2015)**, 33: S93-96.
72. S. K. Jena, K. Tayung, **C. C. Rath**, D. Parida. Occurrence of culturable soil fungi in a tropical moist deciduous forest Similipal Biosphere Reserve, Odisha, India. **Brazilian J. Microbiology (2015)**, 46: 85-96.
73. S. Mohanty, D. Samantary, S Mohapatra, S.N. Rath, D.P. Mohanty, and **C. C. Rath**. Studies on biodegradation of medium chain length PHAs by soil bacterial isolates. **J. Advanced Microbiology (2014)**, 1(6) : 350-357.
74. P. Mishra, S. Mohanty, M. Samant, N. K. Mohanty and **C. C. Rath**. Detection of Exogenous and Endogenous (Cell Culture Based Analysis) Production of Cellulase in Grass Carp (*Ctenopharyngodon idella*). **J. Advanced Microbiology (2015)**, 2(1) : 23-31.

75. S K. Jena, K. Tayung and **C. C. Rath**. Production and Optimization of Gibberellic Acid by a Rhizospheric bacterium , *Enterobacter* sp. **J. Env. Bio-Sci** (2016), 30(1): 215-219.(NAAS: 4.20)
76. D. Parida, S. K. Jena, B.Mohapatra, D. Das, K. Tayung, **C. C. Rath**. Phosphate solubilising activity of *Syncephalastrum* sp. Isolated from iron mine waste soil of Barbil, Keonjhar. **Annals of Plant and Soil Research**. (2016), 18(3): 203-213.
77. S. Mohapatra, S. N. Rath, S.K. Pradhan, D. P. Samantaray and **C. C. Rath**. Secondary structural model (16S rRNA) of polyhydroxyalkanoates producing *Bacillus* sp. Isolated from different rhizospheric soil:phylogenetics and chemical analysis. **Int.J. of Bioautomation**. (2016), 20(3):329-338.
78. S. Mohapatra, D. P. Samantaray, S. M. samantary, B.B.Mishra [-----], **C. C. Rath**. Structural and thermal characterization of PHAs produced by *Lysinibacillus* sp. Through submerged fermentation process. **Int. J. of Biological Macromolecules**. (2016), 93: 1161-1167.
79. S. K.Jena and **C. C. Rath**. Effect of Non-organophosphate pesticides on phosphatase activity of a soil fungus *Aspergillus awamori* Kc316117 isolated from a moist deciduous forest in Odisha, India. **J. Advanced Microbiology** (2016),2(6): 330-336.
80. **C. C. Rath**, and M. priyadarshanee Evaluation of In-vitro antibacterial activity of selected essential oils. **J. Essential Oil Bearing Plants** (2017), 20(2): 359-367.
81. I. Das, M. K. Panda., **C. C. Rath**, K. Tayung. Bioactivities of bacterial endophytes isolated from leaf tissues of *Hyptis suaveolens* against some clinically significant pathogens. **J. Appl. Pharmaceutical Sci.** (2017), 7 (08): 131-136.
82. S. A. Yesudass, S. Mohanty, S. K. Nayak and **C. C. Rath**. Zwitterionic-polyurethane coatings for non specific bacterial inhibition: A non toxic approach for marine application. **European Polymer Journal**. 2017, 96: 304-315
83. S. Mohapatra, S. Maity, H. R. Das, S Das, S. Pattnaik, **C. C. Rath**, D. Samantaray. *Bacillus* and Biopolymer: Prospects and Challenges. **Biochemistry and Biophysics Reports**. 2017. 12: 206-213.
84. S. Pattnaik, S. Mishra, S. Mohapatra, **C. C. Rath**, S. Maity, D. Samantaray. Biofilm formation of methicillin and vancomycin resistant *Staphylococcus* species, isolated from cellular phones. **International J. Pharmacy and Pharamceutical Sciences**. 2018, 10(3): 151-154.
85. **C. C. Rath** and A. Patnaik. In-Vitro antimycotic activity of selected essential oils and fungicides against *Aspergillus niger* and *Fusarium oxysporum*. **Journal of Experimental Biology and Agricultural Sciences** 2018, 6(3):490-497

86. S. Panigrahi, D. Dash **C. C. Rath**. Characterization of endophytic bacteria with plant growth promoting activities isolated from six medicinal plants. **Journal of Experimental Biology and Agricultural Sciences** 2018, **6(5):782-791**.
87. P. Dal, PK Dash, JR Rout, S Srivastava, **C. C. Rath**, SL Sahoo. Phytochemical analysis and Antibacterial activity of *Clerodendrum philippinum* Schauer. **International Journal of Pharmacognosy and Phytochemical Research** 2018, **10(4): 170-175**.
88. P. Dal, JR Rout, PK Dash, S Panda, P Pati, **C. C. Rath**, C. Pradhan, SL Sahoo. Larvicidal and pupicidal activity of *Clerodendrum philippinum* Schauer leaf extracts against *Anopheles stephensi* and *Aedes aegypti*. **Pharmacognosy Journal**, 2018, **10(6): 1137-1142**.
89. S. Mishra, **C. C. Rath**, AP Das. Marine microfiber pollution: A review on present status and future challenges. **Marine Pollution Bulletin**, 2019, **140: 188-197**.
90. I Das, MK Panda, **C. C. Rath**. In Vitro antimicrobial activity and molecular characterization of *Bacillus amyloliquificiens* isolated from Smilipal Biosphere Reserve, Odisha, India. **Asian Journal of Pharmaceutical and Clinical Research**, 2019, **12(3): 1-6**.
91. S. Panigrahi, **C. C. Rath**. Condition Optimization for Phosphate Solubilization by *Kosakonia cowanii* MK834804, an Endophytic Bacterium Isolated from *Aegle marmelos*. **Int. J. Curr. Microbiol. App. Sci**, 2019, **8(8):2823-2835**.
92. S. Hota, **C. C. Rath**. Characterization of Antibacterial Activity of Selected Essential Oils. **Int. J. Curr. Microbiol. App. Sci**, 2019, **8(9):1051-1059**.
93. S Panigrahi, S Mohanty, **C C Rath**. Characterization of endophytic bacteria *Enterobacter cloacae* MG00145 isolated from *Ocimum sanctum* with indole acetic acid (IAA) production and plant growth promoting capabilities against selected crops. **South African journal of Botany**, **134(2020): 17-26**.
94. Mishra, RP Singh, **C. C. Rath**, AP Das . Synthetic microfibers: source, transport and their remediation. **J. Water Process Engineering**. **38(2020): 1016-12**
95. Anchal Tripathy and **C. C. Rath**. Endophytic fungi from *Oryza sativa* L: Isolation, characterization and production of GA<sub>3</sub> in Submerged fermentation. **Int. J. Curr. Microbiol. Appl. Sci**. 2020, **9(11): 1007-1020**

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## **Other information(s)**

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