

Faculty Profile of Dr. R. Rajkumar



Dr. R. Rajkumar
Assistant Professor
Department of Environmental Sciences

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Research Area

- Algae based biofuels and other bioproducts
- Phycoremediation of environmental pollutants
- Microbial Technology

Education & Career

Education

Ph. D.

Subject : Applied Plant Science

Institution : CAS in Botany, University of Madras

Affiliated University : University of Madras

Year of Award : 2011

M. Sc.,

Subject: Applied Plant Science

Institution : CAS in Botany, University of Madras

Affiliated University : University of Madras

Year of Award : 2005

B.Ed.,

Subject : Biological Science

Institution : Institute of Advanced Study in Education (IASE), Saidapet

Affiliated University : University of Madras

Year of Award : 2003

B. Sc.,

Subject: Botany

Institution: Government Arts College Ariyalur

Affiliated University: Bharathidasan University

Year of Award: 2002

Career**At Bharathiar University (Reverse Order)**

Assistant Professor : Nov. 2016 to Till Date

Past Experience

DST-SERB Young Scientist : Feb. 2016 to Nov.2016 at Central Leather Research Institute, Chennai

Post Doctoral Fellow : June 2011 to Dec. 2015 at National University of Malaysia, Malaysia

Awards

Travel awards

Academic Awards

Awarding agency: Nature Science Foundation

Purpose of award: Best Scientist

Date: 9 Feb. 2019

Membership

Professional Bodies

Academic Bodies

Department of Environmental Sciences, Bharathiar University

Member: Member

Period: Since 2017

Visits

Country : Malaysia

Date of Visit : June 2011 to Dec. 2015

Purpose of Visit : Post Doctoral Research

Collaborators

Others

Projects

Funded Projects(National Level)

- [Ongoing - 00](#)
 - [Completed - 04](#)
-

1. Tamil Nadu State Council for Science and Technology (TNSCST)

Title of the project : Cultivation of Spirulina sp. in a photobioreactor for CO₂ sequestration and commercial applications: A viable remedy to climate change.

Funding Agency : Tamil Nadu State Council for Science and Technology (TNSCST)

Amount : Rs. 7500/-

Duration : Student Project Scheme, 2020

2. Tamil Nadu State Council for Science and Technology (TNSCST)

Title of the project : Study of biomass production, stress induced enhancement of exopolysaccharides from cyanobacteria and their flocculation activity.

Funding Agency : Tamil Nadu State Council for Science and Technology (TNSCST)

Amount : Rs. 7500/-

Duration : Student Project Scheme, 2019

3. RUSA 2.0- BEICH

Title of the project : Investigation on the bioflocculant potential of Exopolysaccharide obtained from cyanobacteria.

Funding Agency : RUSA 2.0- BEICH

Amount : Rs. 10 Lakhs

Duration : 2019

4. DST- Science and Engineering Research Board,

Title of the project : Exploration and enumeration of high lipid producers of diatoms for biodiesel production from South East Coast of India.

Funding Agency : DST- Science and Engineering Research Board,

Amount : Rs. 37. 20 Lakhs

Duration : 2016

1. Funding Agency Name

Title of the project : ' *****'

Funding Agency : *****

Amount : Rs. *****

Duration : *****

Consultancy Projects

- [Ongoing - 00](#)
 - [Completed - 01](#)
-

1. TNB Research Sdn. Bhd. Malaysia

Title of the project : Screening, Isolation and identification of marine microalgae consortia. Executed at National University of Malaysia (UKM), Malaysia

Funding Agency : TNB Research Sdn. Bhd. Malaysia

Amount :

Duration :7 months (Year: 2015)

1. Funding Agency Name

Title of the project : ' ***'**

Funding Agency : *****

Amount : Rs. *****

Duration : *****

Research Guidance

- [Post Doc](#)
- [Ph.D](#)
- [M.Phil](#)
- [M.Sc.](#)

Ongoing

Candidate Name :A. Baala Harini

Date of Admission :2017

Candidate Name :Sarangi N.V

Date of Admission :2018

Awarded

Ongoing

Completed

Ongoing

Sl. No. : 1

Name of the candidate :Amal Jith

Title of the Dissertation :

Year Of Awarded :2019-2020

Sl. No. : 2

Name of the candidate :Kanchana. M. J

Title of the Dissertation :

Year Of Awarded :2019-2020

Sl. No. : 3

Name of the candidate :Ajeesha Kuriachan

Title of the Dissertation :

Year Of Awarded :2019-2020

Completed

Sl. No. : 1

Name of the candidate :N. Deepak

Title of the Dissertation :Comparative analysis of physicochemical parameters and phytoplankton distribution of Ukkadam and Krishnampathi Lakes, Coimbatore, Tamil Nadu

Year Of Awarded :2017-2018

Sl. No. : 2

Name of the candidate :N. Ezhumalai

Title of the Dissertation :Green synthesis and characterization of silver nanoparticles from microalgae for their dye decolourization activity

Year Of Awarded :2017-2018

Sl. No. : 3

Name of the candidate :S. Shruthi

Title of the Dissertation :Effect of different medium and nitrogen source

limitation on growth and lipid content of *Botryococcus braunii*

Year Of Awarded :2017-2018

Sl. No. : 4

Name of the candidate :Saranya Prakasan

Title of the Dissertation :Assessment of bioactive extracts from marine algae *Ulva fasciata* and *Dictyota dichotoma* with antioxidant and antimicrobial potential

Year Of Awarded :2018-2019

Sl. No. : 5

Name of the candidate :N. Shalini

Title of the Dissertation :Isolation and optimization of cultural conditions for exopolysaccharide production from cyanobacteria

Year Of Awarded :2018-2019

Sl. No. : 6

Name of the candidate :Golap Chandra Singha

Title of the Dissertation :Impacts of Industrialization on River Water

Year Of Awarded :2018-2019

Research Publication

- [International](#)
- [National](#)
- [Patents](#)
- [Conferences](#)
- [Books/Chapters](#)
- [Database](#)

2020

- 1) [A green approach for the synthesis of silver nanoparticles by *Chlorella vulgaris* and its application in photocatalytic dye degradation activity,](#)

R. Rajkumar, G. Ezhumalai and M. Gnanadesigan,
Environmental Technology & Innovation, 21, 101282 (2021).

2) [Enhanced production of lipid as biofuel feedstock from the marine diatom *Nitzschia* sp. by optimizing cultural conditions,](#)

B. H. Anandapadmanaban, R. Rajkumar, and M.S. Takriff,
BioResources, 15:4, 7532-7550 (2020).

3) [Prospects of algae and their environmental applications in Malaysia: A case study,](#)

R. Rajkumar, and M.S. Takriff.

Journal of Bioremediation and biodegradation, 7:321, (2015)

4) [Nutrient removal of POME using POME isolated microalgae strain, *Characium* sp.](#)

T. B. Tamil Selvam, R. Rajkumar, and M. S. Takriff,
Advanced Materials Research, 1113, 364-369 (2015).

5) [Nutrient removal from anaerobically treated Palm Oil Mill Effluent by *Spirulina platensis* and *Scenedesmus dimorphus*,](#)

R. Rajkumar, and M. S. Takriff,
Der Pharmacia Lettre, 7:7, 416-421 (2015).

6) [Potential of the micro and macro algae for biofuel production:](#)

A Brief Review, R. Rajkumar, Z. Yaakob, and M. S. Takriff,
Journal of BioResources, 9: 1, 1606-1633 (2014).

7) [The current methods for the biomass production of the microalgae from waste waters – an overview,](#)

Z. Yaakob, K.F. Kamarudin, R. Rajkumar, M. S. Takriff, and S. N. Badar,
World Applied Sciences Journal, 31:10, 1744-1758 (2014).

8) [Bioremediation of palm oil mill effluents \(POME\) using *Scenedesmus dimorphus* and *Chlorella vulgaris*,](#)

K. F. Kamarudin, Z. Yaakob, R. Rajkumar, M. S. Takriff, and J. A. Ghani,
International Journal of Advanced Science Letters, 19:10, 2914-2918 (2013).

9) [In vitro anticancer activity of natural \$\beta\$ -carotene from *Dunaliella salina* EU5891199 in PC-3 cells,](#)

K.R. Jayappriyan, R. Rajkumar, V. Venkatakrishnan, S. Nagaraj, and R.

Rengasamy,
Biomedicine & Preventive Nutrition, 3:2, 99-105 (2013).

10) Investigation of microalgae growth in palm oil mill effluent,
T. B. Tamil Selvam, R. Rajkumar, and M. S. Takriff,
International Journal of Multidisciplinary Research (IJMR), II:6 (III), 42-45
(2013).

11) [Optimization of medium composition for the production of peroxidase by Bacillus sp,](#)
R. Rajkumar, Z. Yaakob, M. S. Takriff, and K. F. Kamarudin.
Der Pharma Chemica, 5:2, 167-174 (2013).

12) [Phycoremediation in anaerobically digested palm oil mill effluent using Cyanobacterium, Spirulina platensis,](#)
A. Zainal, Z. Yaakob, M. S. Takriff, R. Rajkumar, and J. A. Ghani,
International Journal of Biobased Materials and Bioenergy, 6, 1-6 (2012).

13) [Production and characterization of a novel protease from Bacillus sp RRM1 under Solid State Fermentation,](#)
R. Rajkumar, K.R. Jayappriyan, and R. Rengasamy, 2011,
Journal of Microbiology and Biotechnology, 21:6, 627-636 (2011).

14) [Purification and characterization of a protease produced by Bacillus megaterium RRM2: application in detergent and dehairing industries,](#)
R. Rajkumar, K.R. Jayappriyan, and R. Rengasamy,
Journal of Basic Microbiology, 51, 1-11 (2011).

15) [Unusual occurrence of non carotenogenic strains of Dunaliella bardawil and Dunaliella parva in India,](#)
K.R. Jayappriyan, R. Rajkumar, and R. Rengasamy,
Journal of Basic Microbiology, 51, 473-483 (2011).

16) [Optimization of culture conditions for production of protease from Bacillus megaterium,](#)
R. Rajkumar, K.R. Jayappriyan, P. Ramesh Kannan, and R. Rengasamy,
Journal of Ecobiotechnology, 2:4, 40-46 (2010).

17) [Optimization study in Dunaliella salina EU5891200 isolated in salt pans of Tamil Nadu, South India,](#)

K.R. Jayappriyan, R. Rajkumar, L. Sheeja, S. Divya, and R. Rengasamy, Recent Research in Science and Technology, 2:4, 54-62 (2010).

18) [Significance of 18S rDNA specific primers in the identification of genus Dunaliella,](#)

K.R. Jayappriyan, R. Rajkumar, P. Ramesh Kannan, S. Divya, and R. Rengasamy, Journal of Experimental Sciences, 1:1, 27-31 (2010).

19) [Discrimination between the morphological and molecular identification in the genus Dunaliella,](#)

K.R. Jayappriyan, R. Rajkumar, S. Nagaraj, S. Divya, and R. Rengasamy, International Journal of Current Research, 8, 73-78 (2010).

Books

1. Food and Nutraceutical Applications of Algae

K.R. Jayappriyan, B. Baskar, M. Vijayakumar, A. Brabakaran, R. Rajkumar, and S. Elumalai, Algae for Food: Cultivation, Processing and Nutritional Benefits, CRC Press-Taylor and Francis Group, (2021), ISBN: 9780367762087 (Accepted).

2. Food wastes/residues: Valuable source of energy in circular economy

R. Rajkumar, and C. Kurinjimalar, Handbook of Biofuels 1st Edition. Elsevier- Academic Press, (2021) ISBN: 9780128228104 (Accepted).

3. Microbes and plant mineral nutrition,

R. Rajkumar, and C. Kurinjimalar, Microbiological activity for soil and plant health management, Springer-

Singapore, (2021),
ISBN: 978-981-16-2921-1 (Accepted).

4. Assessment on the antimicrobial activity of green microalgae,
A. Baala Harini, N.V. Sarangi, and R. Rajkumar,
Proceedings of International Conference on Renewable Energy and
Sustainable Environment – RESE19, (2019).
ISBN No: 978-93-5235-155-8.

5. Distribution of phytoplankton in Mandapam Coastal waters, South East
Coast of India,
R. Rajkumar,
10th NABS National Conference Proceedings paper: Recent trends in Life
Science: Research, Practices and Application for Sustainable Development;
Macmillan publishers, New Delhi, (2017).

6. [The biology of microalgae](#),
R. Rajkumar and Z. Yaakob
Biotechnical applications of microalgae: biodiesel and value added products,
CRC Press, Taylor and Francis Group, UK, (2013)
ISBN: 978-1-4665-1529-1

2012

Alumini Reflections: