

# Dr. Anbarasu Kumar

## Assistant Professor

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[scholar.google.co.in/citations?hl=en&user=uD5MqNAAAAAJ](https://scholar.google.co.in/citations?hl=en&user=uD5MqNAAAAAJ)



## Education

### PhD in Biotechnology (2008 – 2014)

CSIR-Central Food Technological Research Institute, University of Mysore

### M.Sc., in Biotechnology (2002 – 2004)

Periyar University, Salem

### B.Sc., in Microbiology (1999 – 2002)

Sengunthar Arts & Science College, Trichengode (Periyar University, Salem)

## Research Funding/Grants Received

**1. Title:** *Aspergillus carbonarius* mutant in relation to partially saturated canthaxanthin biosynthesis

**Scheme:** Young Scientist Scheme

**Role:** Principal Investigator

**Grant:** Rs. 1890000/-

**Funding agency:** Department of Science and Technology (DST)

**Period:** 3 Years (April, 2016 – March, 2019)

**Project Number:** YSS/2015/000298

**2. Title:** Development of herbal aerosol formulation for mastitis

**Scheme:** Biotech Innovation Ignition School (BIIS)-2

**Role:** Supervisor

**Grant:** Rs. 100000/-

**Funding agency:** SRISTI (Society for Research and Initiatives for Sustainable Technologies and Institutions) in collaboration with BIRAC (Biotechnology Industry Research Assistance Council, Department of Biotechnology, Govt. of India)

**Period:** 1 Year (Jan, 2019 – March, 2020)

**3. Title:** Training on production of soy based products for the Self-empowerment and Generation of Income to Rural Women

**Scheme:** Dissemination of Innovative Technology

**Role:** Programme Co-ordinator

**Grant:** Rs. 50000/-

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

**Period:** 5 Days

**Reference:** <http://tanscst.nic.in/pdf/ditr17.pdf>

**4. Title:** Evaluation of Antidiabetic and Hypolipidemic effects of functional food components

**Scheme:** Industry Consultancy Project

**Role:** Principal Investigator

**Grant:** Rs. 50000/-

**Funding agency:** Thennagam, Chennai

**Period:** --

**Project Number:** --

**Reference:** Lr. No: 0370/Registrar/2019-20/Dated: 06.12.2019

**5. Title:** Optimization of cultivation techniques for commercial production of *Flammulina velutipes* (Enoki Mushroom)

**Scheme:** Seed Money Project

**Role:** Principal Investigator

**Grant:** Rs. 35000/-

## Work Experience

### Assistant Professor (2016 - Present)

Department of Biotechnology, Periyar Maniammai Institute of Science & Technology, Thanjavur

### Postdoctoral Research Fellow (2015 - 2016)

Universiti Putra Malaysia, Malaysia

### Project Assistant (2006 - 2008)

CSIR-Central Food Technological Research Institute

### Project Assistant (2004 - 2006)

CSIR-Central Food Technological Research Institute, Mysore

## Work Summary

- Total Experience: 9 Years and 6 Months
- Research Experience: 5 Years
- Teaching Experience: 4 Years and 6 Months
- Industrial Experience: 0

## Research Interests

- Fungal pigments
- Fungal enzymes
- Functional Foods
- Nutraceuticals
- Food Fermentation

**Funding agency:** Periyar Maniammai Institute of Science & Technology

**Period:** --

**Project Number:** --

**Reference:** Lr. No: 0180/Registrar/2019-20/Dated: 22.10.2019

**6. Title:** Entrepreneurship Awareness Camp (EAC)

**Scheme:** Department of Science and Technology-National Implementing and Monitoring Agency for Training (DST-NIMAT)

**Role:** Chief Programme Coordinator

**Grant:** Rs. 20000/-

**Funding agency:** National Science & Technology Entrepreneurship Development Board (NSTEDB), Department of Science and Technology, Government of India, New Delhi

**Period:** 3 days

**7. Title:** Development of silver nanoparticle based burn wound healing cream and its anti-bacterial evaluation

**Scheme:** Student's Research Project

**Role:** Supervisor

**Grant:** Rs. 10000/-

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

**Period:** 6 Months (Nov, 2017 – April, 2018)

**Project Number:** MS-003

**Reference:** <http://www.tanscst.nic.in/pdf/spsr18P1.pdf>

**8. Title:** Formulation and characterization of *Andrographis paniculata* based first aid cream

**Scheme:** Student's Research Project

**Role:** Supervisor

**Grant:** Rs. 10000/-

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

**Period:** 6 Months (Nov, 2016 – April, 2017)

**Project Number:** MS-13

**Reference:** <http://www.tanscst.nic.in/pdf/spsr17P1.pdf>

**9. Title:** Development of Herbal medicine for treatment of Bovine mastitis

**Scheme:** Student's Research Project

**Role:** Supervisor

**Grant:** Rs. 7500/-

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

**Period:** 6 Months (Nov, 2019 – April, 2020)

**Project Number:** VS-002

**Reference:** <https://www.tanscst.nic.in/pdf/SPSR1920.pdf>

## Publications

1. **Anbarasu Kumar**, Akshatha Hosahalli Srikanta, Muthukumar Serva Peddha, Umesh-Kumar Sukumaran and Vijayalakshmi Govindaswamy. 2011. Antioxidant and lipid peroxidation activities in rats fed with *Aspergillus carbonarius* carotenoid. **Food and Chemical Toxicology**. 49(12): 3098 – 3103. **IF – 3.80**
2. **Anbarasu Kumar**, Akshatha Hosahalli Srikanta, Muthukumar Serva Peddha, Umesh-Kumar Sukumaran and Vijayalakshmi Govindaswamy. 2012. A Short term toxicity study of *Aspergillus carbonarius* **International Journal of Toxicology**. 31(2): 158 – 165. **IF – 1.205**
3. **Anbarasu Kumar** and G. Vijayalakshmi. 2007. Improved Shelf life of protein rich Tofu using *Ocimum sanctum* (Tulsi) extracts to benefit Indian rural population. **Journal of Food Science**. 72(8): M300-M305. **IF – 2.081**
4. **Anbarasu Kumar**, Akshatha Hosahalli Srikanta, Anandharamakrishnan Chinnaswamy, Oi Ming Lai and Vijayalakshmi Govindaswamy. 2016. Encapsulation of partially saturated canthaxanthin - A functional ingredient from *Aspergillus carbonarius* **Current Topics in Nutraceutical Research**. Nov 251-258. **IF – 0.161**
5. Akshatha Hosahalli Srikanta, **Anbarasu Kumar** and Vijayalakshmi Govindaswamy. 2015. Resveratrol content and antioxidant properties of underutilized fruits. **Journal of Food Science and Technology**. 52: 383 – 390. **IF – 1.262**
6. Marimuthu K, **Anbarasu Kumar**, Akshatha Hosahalli Srikanta and Vijayalakshmi Govindaswamy. 2014. Solid-state fermentation of agricultural by-products by *Monascus purpureus* for bioactive metabolites with antioxidant properties. **Journal of Bioprocess Engineering and Biorefinery**. 3: 150 - 159.
7. Akshatha Hosahalli Srikanta, **Anbarasu Kumar**, Shinde Vijay Sukhdeo, Muthukumar

## Recognitions and Achievements

- Reviewer for Journal of Food Science
- Reviewer for Pharmaceutical Biology
- Doctoral Committee Member for Research Scholars
- PhD Guidance - 1

## Fellowships and Awards

- Postdoctoral Research Fellowship, Universiti Putra Malaysia, Malaysia
- Senior Research Fellowship, Council of Scientific and Industrial Research (CSIR), Government of India, India
- Senior Research Fellowship, Indian Council of Medical Research (ICMR), Government of India, India
- Best Poster Award, Association of Microbiologists of India, India
- Best Oral presentation Award, Association of Microbiologists of India, India

## Technical Competence

### Microbiological techniques

Isolation and identification, Mutation & strain improvement strategies

### Analytical techniques

Biochemical analysis of food components, Enzyme assays, Protein purification, Electrophoretic techniques and Western blotting, Chromatographic methods – TLC, HPTLC, Column chromatography, HPLC and GC, UV-Spectrophotometric analysis

### Molecular techniques

Isolation of DNA & RNA, RAPD analysis

### Fermentation techniques

Solid state & Submerged fermentation, scale-up & down stream processing

- Serva Peddha and Vijayalakshmi Govindaswamy. 2016. The antioxidant effect of mulberry and jamun fruit wines by ameliorating oxidative stress in streptozotocin-induced diabetic Wistar rats. **Food and Function**. **7**, 4422-4431. **IF – 3.247**
8. Vikas Gupta, N.S. Vijayalakshmi, B. Ashwini, **Anbarasu Kumar**, G. Vijayalakshmi, Maya Prakash, A.R. Indiramma, G.C.P. Rangarao and B.S. Ramesh. 2010. Shelf life enhancement of coconut burfi – An Indian traditional sweet. **Journal of Food Quality**. 33(3): 329-349. **IF – 0.968**
9. **Anbarasu Kumar**, Ahila Mathimaran, Akshatha Hosahalli Shrikanta, and Vijayalakshmi Govindaswamy. 2018. Role of Partially Saturated Canthaxanthin and Ergosterol in the survival of *Aspergillus carbonarius* mutant at extreme acidic condition. **Microbiology**. 87(2): 183-190. **IF – 1.027**
10. Ahila Mathimaran and **Anbarasu Kumar**. 2020. Changes in morphogenesis and carotenogenesis to influence polygalacturonase secretion in *Aspergillus carbonarius* mutant. **Archives of Microbiology**. 3: 1-9. **IF – 1.642**
11. Ahila Mathimaran, Anbarasu Kumar, Gurudayal Prajapati, Ravi S. Ampapathi, Himangsu K. Bora & Rajdeep Guha. 2020. Partially saturated canthaxanthin alleviates aging-associated oxidative stress in D-galactose administered male wistar rats. **Biogerontology**. <https://doi.org/10.1007/s10522-020-09898-4>. **IF – 3.667**

## Selected Conference Presentations

1. **Anbarasu K**, Ahila Mathimaran, Umesh-Kumar S and Vijayalakshmi G. 2016. Role of partially saturated canthaxanthin and ergosterol in the survival of *Aspergillus carbonarius* mutant at extreme acidic condition – presented as an oral presentation at the Association of Microbiologists of India, Guwahati, Assam.
2. **Anbarasu Kumar**, Lai Wee Ting, Tan Poh Ling and Lai Oi Ming. 2015. Red Palm Olein Nanogel – A Novel Cosmeceutical for Topical Applications – presented as a poster in “Asian Congress on Biotechnology 2015”, Kuala Lumpur, Malaysia.
3. **Anbarasu K**, Akshatha HS, Anandharamakrishnan C, Umesh-Kumar S and Vijayalakshmi G. 2011. Microencapsulation of xanthophyll of *Aspergillus carbonarius* by spray drying – presented as a poster and **secured Best poster Award** at the Association of Microbiologists of India, Chandigarh.
4. **Anbarasu K**, Akshatha HS, Muthukumar SP, Umesh-Kumar S and Vijayalakshmi G. 2011. Safety assessment of partially saturated canthaxanthin extracted from *Aspergillus carbonarius* on female Wistar rats – 28 days repeated dose study, presented as a poster at the Biotechnology for Better Tomorrow, Aurangabad.
5. **Anbarasu K**, Akshatha HS, Umesh-Kumar S and Vijayalakshmi G. 2009. Isolation of quality DNA from *Aspergillus carbonarius* suitable for differential expression studies, presented as a poster at the Emerging Trends in Biotechnology, Varanasi.
6. **Anbarasu K**, Akshatha HS, Umesh-Kumar S and Vijayalakshmi G. 2009. Effect of inhibitors on pigment synthesis in *Aspergillus carbonarius*, presented as a poster at the Indian Convention of Food Scientists and Technologists, Bangalore.
7. **Anbarasu K**. 2008. Microbial Food Colours presented as an oral seminar and **secured First Prize** at Association of Microbiologists of India, CFTRI, Mysore.
8. **Anbarasu K**. 2007. Soybean Fermentation, presented as an oral seminar at Association of Microbiologists of India, CFTRI, Mysore.
9. **Anbarasu K** and Vijayalakshmi G. 2005. Natural preservation of protein rich Tofu suitable for rural population, presented as a poster at the Association of Microbiologists of India, Hyderabad.

## Subjects Handled

- Microbiology
- Cell Biology
- Industrial Biotechnology
- Food Biotechnology
- Bioinstrumentation
- Clinical Trials
- Biosafety, Bioethics & IPR

## Administrative Accomplishments

- Chief Examination Officer
- UGC Criterion VII coordinator
- NAAC Criterion III coordinator
- Department Research Coordinator
- Departmental Library In-charge
- Board of Studies member
- Class in-charge, Mentor