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BARADWAJ, RAVI GOPAL  
Research Scientist

## PROFESSIONAL EXPERIENCE

**University at Buffalo (SUNY)**  
*Department of Biological Sciences*  
Research Scientist

**Buffalo, New York, US**  
September 2024 – To date

Guest Lecturer  
BIO 501 Advanced Biochemistry

December 2024

**North and 7 Biotech Solutions Pvt. Ltd.**  
*Founder and Director*

**Chennai, Tamil Nadu, India**  
April 2023 – August 2024

**University at Buffalo (SUNY)**  
*Department of Biochemistry*  
Postdoctoral Associate  
Worked on a Pfizer-funded project

**Buffalo, New York, US**  
September 2021 – March 2023

**University at Buffalo (SUNY)**  
*Department of Biological Sciences*  
Postdoctoral Associate  
Published five manuscripts during postdoc, including one in Nature Communication

**Buffalo, New York, US**  
May 2018 – September 2021

Guest Lecturer  
BIO 501 Advanced Biochemistry

October 2019

**R. K. M. Vivekananda College (Autonomous)**  
*Department of Botany*  
Assistant Professor  
Lectured on Plant Biotechnology, Vascular cryptogam, Allied Botany, and Molecular biology

**Chennai, Tamil Nadu, India**  
February – July 2015

**Bharathidasan University**  
*Plant Science Department*  
University Research Fellow

**Tiruchirappalli, Tamil Nadu, India**  
February 2010 – February 2015

**Shreedhar Bhat's Laboratory**  
Lab Associate  
Plant Molecular Biology and Tissue Culture

**Bangalore, Karnataka, India**  
January - October 2009

**DuraSoft India**  
Corporate trainer

**Chennai, Tamil Nadu, India**  
January 2008 – January 2009

**National Institute of Information Technology (NIIT)**  
Teaching faculty

**Chennai, Tamil Nadu, India**  
February 2006 – December 2007

## EDUCATION

### Bharathidasan University

Tiruchirappalli, Tamil Nadu, India

#### Ph.D. Botany / Plant Biotechnology

February 2018

Advisor : [Prof. M. V. Rao](#)

Thesis : "Seed dormancy breakage, *In vitro* propagation and anti-colorectal adenocarcinoma activity of *Alpinia galanga* (L) Willd."

### R. K. M. Vivekananda College (Autonomous)

Chennai, Tamil Nadu, India

#### M.Sc. in Plant Biology and Plant Biotechnology

June 2007

Advisor : [Prof. T. S. Suryanarayanan](#)

### R. K. M. Vivekananda College (affiliated to the University of Madras)

Chennai, Tamil Nadu, India

#### B.Sc. in Plant Biology and Plant Biotechnology

July 2005

Minor : Chemistry and Zoology

## FELLOWSHIPS AND AWARDS

### University Research Fellow

February 2010-2015

Bharathidasan University, Tiruchirappalli, Tamil Nadu, India

Secured departmental rank 1 during selection

### National Eligibility Test for Lectureship (NET)

June 2011

Council of Scientific & Industrial Research, Government of India

Secured all India rank 19

## REVIEWER

**Applied Biochemistry and Biotechnology**, Springer Nature (ISSN 0273-2289)

**Asian Journal of Organic Chemistry**, Wiley (ISSN 2193-5815)

**South African Journal of Botany**, Elsevier (ISSN 0254-6299)

**Toxicon**, Elsevier (ISSN 0041-0101)

**Japanese Journal of Oncology and Clinical Research**, JScholar (ISSN 2770-4211)

**European Journal of Medical Research and Clinical Trials**, JScholar (ISSN 2770-7024)

**Journal of Visualized Experiments** (ISSN 1940-087X)

## PUBLICATIONS

(\*Co-first author)

1. Carroll, Emily, **Baradwaj Ravi Gopal\***, Indu Raghavan, Minakshi Mukherjee, and Zhen Q. Wang. "A cytochrome P450 CYP87A4 imparts sterol side-chain cleavage in digoxin biosynthesis." **Nature Communications** 14, no. 1 (2023): 4042.
2. Indu Raghavan, **Baradwaj Ravi Gopal**, Emily Carroll, and Zhen Q. Wang. "Cardenolide Increase in foxglove after 2, 1, 3-benzothiadiazole treatment reveals a potential link between cardenolide and phytosterol biosynthesis." **Plant and Cell Physiology** 64, no. 1 (2023): 107-116.
3. Girish Swayambhu, Indu Raghavan, **Baradwaj Ravi Gopal**, Blaine A. Pfeifer, and Zhen Q. Wang. "Salicylate Glucoside as a Nontoxic Plant Protectant Alternative to Salicylic Acid." **ACS Agricultural Science & Technology** 1, no. 5 (2021): 515-521.

4. **Baradwaj Ravi Gopal**, Mary Grace E. Guardian, Rebecca Dickman, and Zhen Q. Wang. "High-resolution tandem mass spectrometry dataset reveals fragmentation patterns of cardiac glycosides in leaves of the foxglove plants." **Data in Brief** 30 (2020): 105464.
5. **Baradwaj Ravi Gopal**, Mary Grace E. Guardian, Rebecca Dickman, and Zhen Q. Wang. "Profiling and structural analysis of cardenolides in two species of *Digitalis* using liquid chromatography coupled with high-resolution mass spectrometry." **Journal of Chromatography A** 1618 (2020): 460903.
6. **Baradwaj, R. G.**, M. V. Rao, and T. Senthil Kumar. "Novel purification of 1'S-1'-Acetoxychavicol acetate from *Alpinia galanga* and its cytotoxic plus antiproliferative activity in colorectal adenocarcinoma cell line SW480." **Biomedicine & Pharmacotherapy** 91 (2017): 485-493.
7. **Baradwaj, R. G.**, M. V. Rao, and KUMAR T. Senthil. "Curbing Actinomycetes and thidiazuron enhanced micropropagation in the rare *Alpinia galanga* – A medicinal Zingiber." **Asian J. Pharm. Clin. Res** 10, no. 7 (2017): 1-6.
8. **Baradwaj, R. G.**, M. V. Rao, Carol C. Baskin, and T. Senthil Kumar. "Non-deep simple morphophysiological dormancy in seeds of the rare *Alpinia galanga*: a first report for Zingiberaceae." **Seed Science Research** 26, no. 2 (2016): 165-170.
9. Baskaran Subramani, and **Baradwaj Ravi Gopal**. "Antibacterial, anti-oxidant and in vitro anticancer analysis of *Zingiber officinale* (L.) Rosc." **Journal of Advanced Applied Scientific Research** 1, no. 6 (2016): 33-49.

Google Scholar Link - <https://scholar.google.com/citations?user=YQoqPtcAAAAJ&hl=en>

## CONFERENCES, SEMINARS, SYMPOSIA AND TALKS

1. Talk at Rashtram School of Public Leadership, Rishihood University, India, on "**My experiments with DNA -> RNA -> Protein**" (May 10<sup>th</sup> 2023)
2. Departmental research showcase talk at the Department of Biological Sciences, SUNY at Buffalo, on "**Mining the transcriptome of foxglove (*Digitalis lanata*) for elucidating the biosynthetic pathway of digoxin, a cure for heart failure**" (September 12<sup>th</sup> 2019)
3. Three-minute talk and poster at the Postdoc Symposium at SUNY at Buffalo on "**Digoxin: The mysteries of a heart drug**" (May 30<sup>th</sup> 2019)
4. International Conference on "**Trends in Plant Systematics (TIPS)**" and 24<sup>th</sup> Annual Conference of Indian Association For Angiosperm Taxonomy (IAAT), Department of Plant Science, Bharathidasan University - **Member Organizing committee** (November 31 - October 2, 2014)
5. National Conference on "**Recent Trends in Plant Biotechnology**", Department of Plant Science, Bharathidasan University - **Member Organizing committee** (February 27 - 28, 2013)
6. XXXV All India Botanical Conference and National Symposium on "**Role of Plants and Microbes for the Betterment of Mankind in the Changing Climate**", Department of Botany, Maharaja Sayajirao University of Baroda, Vadodara, Gujarat. (December 8, 2012) - **ORAL PRESENTATION**
7. International Symposium and XXII Annual conference of Indian Association for Angiosperm Taxonomy on "**Innovative Prospects in Angiosperm Taxonomy**", Department of Botany, Sant Gadge Baba Amravati University, Amravati, Maharashtra. (October 28, 2012) - **ORAL PRESENTATION**
8. National Seminar on "**New Vistas in Plant Science**", Department of Botany, Goa University, Goa. (March 15 - 16, 2012) - **ORAL PRESENTATION**

9. National Conference on “**Genomics and Genetic Engineering Strategies for Crop Improvement**”, Department of Biotechnology, Periyar University, Salem, Tamil Nadu (February 27 - 28, 2012) - **ORAL PRESENTATION**

## TRAINING AND WORKSHOPS

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1. State level Workshop on “**Edible mushroom cultivation**”, Department of Botany, R. K. M. Vivekananda College, Chennai, Tamil Nadu - **Member Organizing committee** (February 18, 2015)
2. National level Workshop on “**Techniques in Animal Cell Culture and *In vitro* Toxicology**”, Mahatma Gandhi-Doerenkamp Center (MGDC) for Alternative to use of Animals in Life Sciences Education, Bharathidasan University, Tiruchirappalli, Tamil Nadu. (December 18 - 27, 2014)
3. National level Workshop on “**Modern analytical techniques**”, National College, Tiruchirappalli, Tamil Nadu (February 18 - 20, 2013)
4. **National e-Governance Plan Awareness Campaign Workshop**, Bharathidasan University, Tiruchirappalli, Tamil Nadu (January 9, 2012)
5. National Level Hands on Training Workshop on “**Molecular Techniques for Identification of Biocontrol Agents**” Department of Plant Science, Bharathidasan University, Tiruchirappalli, Tamil Nadu (October 18 - 20, 2011)
6. National level Workshop on “**Contemporary Research Avenues in the Bioscience**”, Vivekananda College, Mylapore, Chennai, Tamil Nadu (July 3, 2006)

## LEADERSHIP SKILLS

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**Secretary** (2012) LEITMOTIV club, Bharathidasan University.

**Secretary** (2002) and **President** (2003) Rotaract club of R.K.M. Vivekananda College.

[International cycle rally in Singapore and Malaysia \(2003\)](#)