

CURRICULUM VITAE of JOS T. PUTHUR



Director, Central Sophisticated Instrumentation Facility (Addl. Charge),
University of Calicut

Professor
Division of Plant Physiology and Biochemistry
Head, Department of Botany
University of Calicut
Calicut University P.O.-673635, Malappuram
Kerala, India

Tel: Mobile: +91-9447507845, 0495-2377845 (H)

E Mail: jtputhur@yahoo.com
jtputhur@uoc.ac.in

Website: https://botany.uoc.ac.in/images/CV_of_Jos_T_Puthur_August_2018_for_web.pdf

Academic Qualifications:

Name of Examination	Board/University	Year of Passing	Division Obtained
Sec. School Certificate Examination	Board of Public Exam, Kerala State	March '87	First
10+2	Calicut University	April '89	First
B.Sc. (Botany)	Calicut University	April '92	First
M.Sc. (Botany)	Calicut University	April '94	First (IV Rank)
Ph.D. (Biosciences)	Jamia Millia Islamia (Central University)	March'2001	
Post Doctoral	Biological Research centre, Hungarian Academy of sciences	Mar, 2007- Mar, 08	
Post Doctoral	Institut für Molekulare Physiologie und Biotechnologie der Pflanzen (IMBIO), University of Bonn, Germany	Sept 2012 April 2013	

Ph.D. Thesis: "Photosynthetic events in *Sesbania sesban* (L.) Merrill in relation to osmotic stress during different developmental stages"

Current Research Interests :

- A. *Osmoregulation, Biochemical and Molecular Responses of Plants to Abiotic Environmental Stresses*
 - B. *Alteration in Photosynthetic Process of plants subjected to Abiotic Environmental Stresses*
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Fellowships, Awards and Recognitions:

2023 Hansatech International Award for the best paper published based on WOS citations in the special issue of the journal "Photosynthetica", Academy of Sciences of the Czech Republic, in honour of Prof. Retto Strasser, Jan 23, 2023.

2019	Course coordinator of GIAN (Global Initiative for Academic Networking) programme of MHRD, Govt. of India held in University of Calicut, Kerala, April 01-05, 2019.
2017	Faculty member of the Massive Online Open Course (MOOC) of Consortium for Educational Communication (CEC), MHRD, Govt. of India.
2012	Selected as visiting scientist under INSA-DFG programme of International Scientific Collaboration and Exchange of Scientists for 3 months visit to Institut für Molekulare Physiologie und Biotechnologie der Pflanzen (IMBIO), University of Bonn, Germany.
2010	Project Coordinator of science popularization programme of KSCSTE, Govt. of Kerala.
2008	Awarded TWAS Research Grant under the category; award for high-level and promising scientific research projects carried out by individual scientists in developing countries.
2007	Awarded BOYSCAST Fellowship of DST, Govt. of India
2006	Awarded UGC Fellowship under Indo-Hungarian Educational Exchange programme.
2005	Awarded TWAS-UNESCO Associateship at centers of Excellence in South (CEFOBI, Rosario, Argentina).
2003	Awarded Fast Track Young Scientist Project (a grant of Indian Rs. 12 lakhs), by Dept. of Science and Technology, Govt. of India.
2002	Qualified National Eligibility Test (Plant Physiology) of Indian Council of Agriculture Research (ICAR)
2000	Research Associateship from Council of Scientific and Industrial Research, Human Resource Development Ministry, Government of India.
1998	Participated in the XI International Congress on Photosynthesis Research, held at Budapest, Hungary as member of Indian scientific delegation.
1997	Senior Research Fellowship from Council of Scientific and Industrial Research, Human Resource Development Ministry, Government of India.
1996	Qualified the Kerala State Lectureship Eligibility Test (SLET)

Appointments and Professional Experience:

Research:

- **July 2021 till this date:** Head, Dept. of Botany, University of Calicut, Calicut University Campus P.O.- 673635, Calicut, Kerala, India.
- **Mar 2015 till this date:** Professor, Dept. of Botany, University of Calicut, Calicut University Campus P.O.- 673635, Calicut, Kerala, India.

- **Mar 2012 to Mar 2015:** Assoc. Professor, Dept. of Botany, University of Calicut, Calicut University Campus P.O.- 673635, Calicut, Kerala, India.
- **Mar 2009 to March 2012:** Asst. Professor, Dept. of Botany, University of Calicut, Calicut University Campus P.O.- 673635, Calicut, Kerala, India.
- **Mar 2007 to Mar 2008:** Visiting Scientist, Thylakoid Membrane Energization Group, Institute of Plant Biology, Biological Research Centre (Centre of Excellence of the EU), Hungarian Academy of Sciences, P.O. 521, H-6701, Szeged, Hungary.
Area of Research: Alternate electron donors to photosystem II; its role and significance. LHC II reorganization studies in response to abiotic stress
- **Jan 2002 to Mar 2009:** Lecturer, PG and Research Dept. of Botany, (on study leave from 2007 March to 2008 March) St. Thomas College, Pala, Kottayam - 686574, Kerala, India.
- **Sept 2000 to Jan 2002:** Research Associate in a project entitled "Physiological studies on Vanilla" sponsored by Indian Cardamom Research Institute, Spices Board, Ministry of Commerce, (Govt. of India) Myladumpara, Kailasanadu P. O. -685553, Idukki, Kerala, India.
- **Sept 1997 to Sept 2000:** Senior Research Fellow in Department of Science and Technology (Govt. of India) sponsored project. "Salt stress effect on Rubisco of *Brassica juncea*" at Department of Biosciences, Jamia Millia Islamia Central University, New Delhi

Professional Affiliations (National & International):

1. International Society for Photosynthesis Research (ISPR)
2. Federation of European Societies of Plant Biologists (FESPB)
3. Indian Society for Plantation Crops (ISPC)
4. Indian Society for Plant Physiology, IARI, Pusa, N. Delhi
5. Society for Biochemistry and Biotechnology, IARI, Pusa, N. Delhi
6. Indian Botanical Society, Lucknow, U.P, India
6. Fellow, Indian fern Society, Chandigarh, India
7. Gregor Mendel Foundation, University of Calicut, Kerala, India

Editor

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National Research Institute, Falenty, al. Hrabaska 3 05-090 Raszyn, POLAND

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Invited Reviewer

Journal of Plant Physiology, Environmental and Experimental Botany, Acta Physiologia Plantarum, Protoplasma, Plant Physiology and Biochemistry, Journal of plant growth regulation, BMC Plant Biology, 3Biotech, Plant and Soil, Scientia Horticulturae, International Journal of Phytoremediation, Photosynthetica, Nature Scientific Reports, The Plant Journal, Frontiers in Plant Sciences

Conferences/Workshops Organized/Attended:

International

- Organized the International Conference on "Physiological and Molecular Mechanisms of Abiotic Stress Tolerance in Plants" from 26th to 28th October, 2022 and a Workshop on "Physiological and Molecular Markers of Abiotic Stress Tolerance in Plants" from 31st October to 4th November, 2022 at the Department of Botany, University of Calicut, Kerala.
- Participated in 3rd UV4 Plants Network Meeting, online 13.-16, October 2020 Plant responses to UV radiation - Diversity in time and space
- Participated in the EMBO symposium on "Sensing and Signalling in plant stress response" at New Delhi. April 15-17, 2019.
- Chaired the paper presentation session (Life Sciences) of World Congress on Research and Innovations (WCR12K13) at St. Josephs College, Irinjalakuda, Thrissur, Kerala on Dec 17-20, 2013.
- International Symposium on "Future of Drought Stress Research" at University of Bonn, Germany on April 12, 2013.
- Invited delegate to "Young Scientists of Asia Conclave", TWAS Regional Office for Central & South Asia (TWAS-ROCASA), Jawaharlal Nehru Centre for Advanced Scientific Research, Bangalore, India, January 15-17, 2009
- World conference of stress from August 23-26, 2007 at Budapest, Hungary
- 4 days Marie Curie Research Training Network Workshop and School (May 09-12, 2007) at Institute of Plant Biology, Biological Research Centre, Szeged, Hungary: The workshop included theory as well as practical sessions of a) thermoluminescence b) thermal imaging c) CD & LD spectroscopy d) differential polarization laser scanning microscopy (DPLSM) and e) invitro reconstitution of LHC II.

- 4 days meeting of Interdisciplinary Network for Training and Research on Photosystem II (INTRO2) in Rojtokmuzsaj, Hungary, May 13-16, 2007.

Papers presented:

- Nair G. Sarath, Shackira A. M. and **Jos T. Puthur** (2022). Analysis of metal accumulation and phytochelatin synthase (PCS) gene expression underpin copper phytoremediation potential of *Volkameria inermis* L. at International conference on Physiological and Molecular Mechanisms for Abiotic Stress Tolerance in Plants, University of Calicut, October 26-28, 2022
- K. P. Raj Aswathi and **Jos T. Puthur** (2022). Priming induced redox homeostasis in cowpea seedlings subjected to PEG stress at International conference on Physiological and Molecular Mechanisms for Abiotic Stress Tolerance in Plants, University of Calicut, October 26-28, 2022
- Sameena P. P. and **Jos T. Puthur** (2022). Variations in histology and elemental distribution patterns in *Ricinus communis* L. under copper stress at International conference on Physiological and Molecular Mechanisms for Abiotic Stress Tolerance in Plants, University of Calicut, October 26-28, 2022
- Akhila Sen, **Jos T. Puthur**, Dinakar Challabathula and Marian Brestie (2022). Trans-generational effect of UV-B priming on photochemistry and antioxidation mechanisms in rice seedlings exposed to PEG-induced drought stress at International conference on Physiological and Molecular Mechanisms for Abiotic Stress Tolerance in Plants, University of Calicut, October 26-28, 2022
- Veena Mathew and **Jos T. Puthur** (2022). "Rakthashali, a landrace is a good source of nutraceuticals as assessed by quality matrix" at international conference on advanced biology, organized by inter university center for evolutionary and integrative biology, University of Kerala, February 23-25, 2022
- Riya Johnson and **Jos T. Puthur** (2022). "Short and long term effect of light exposure on photosynthetic machinery of *Vigna unguiculata* L." at international conference on Advanced Biology organized by Inter University Centre for Evolutionary and Integrative Biology, University of Kerala, February 23-25, 2022
- M. S. Amritha, **Jos T. Puthur** and Kishore Sridharan (2022). "Modest and high levels of saline and drought stresses have differential impacts on physio-chemical attributes of rice cultivars" at International Conference on Advanced Biology, 2022, organized by Inter University Center for Evolutionary and Integrative Biology, University of Kerala, February 23-25, 2022
- Palliyath Sruthi., **Jos T. Puthur** (2021). Calcium oxalate crystal formation; a means of Cu detoxification and Na⁺ regulation in *Bruguiera cylindrica* (L.) Blume, Erudite webinar proceedings Plant Functional Biology Sir Syed College, pp: 62-72

- Sameena P.P. and **Jos T. Puthur** (2021). Alterations in the antioxidative functions in *Ricinus communis* L. seedlings exposed to increasing levels of copper, Erudite webinar proceeding Plant Functional Biology Sir Syed College, pp: 86-92
- Riya Johnson and **Jos T. Puthur** (2021). Modulation of various physio-chemical changes in *Vigna unguiculata* L. var. KBC IV subjected to NaCl and PEG stress, Erudite webinar proceeding Plant Functional Biology Sir Syed College, pp: 93-101
- Janeeshma, E. and **Jos, T. Puthur** (2021). Phytochemical analysis of *Zea mays* associated with arbuscular mycorrhizae and subjected to cadmium and zinc stresses, Erudite webinar proceeding Plant Functional Biology Sir Syed College, pp: 102-110
- Sarath G. Nair and **Jos T. Puthur** (2021). Physio-chemical changes in *Acanthus ilicifolius* L. associated with arsenic stress, Erudite webinar proceeding Plant Functional Biology Sir Syed College, pp: 117-124
- Aswathi Raj K. P. and **Jos T. Puthur** (2021). Enhancement in major metabolites content of cowpea seeds induced by β -amino butyric acid (BABA) Erudite webinar proceeding Plant Functional Biology Sir Syed College, pp:125-129
- Faseela P. and **Jos T. Puthur** (2021). Effects of high light exposure on leaf gas exchange parameters and xanthophyll cycle pigments in rice seedlings, Erudite webinar proceeding Plant Functional Biology Sir Syed College, pp: 224-232
- Akhila Sen, Dinakar Challabathula and **Jos T. Puthur** (2021). Ameliorative potential of halo priming in enhancing stress tolerance of *Oryza sativa* L. Vyttila 6 through enhanced gene expression levels of antioxidant enzymes, Erudite webinar proceeding Plant Functional Biology Sir Syed College, pp: 233-238
- Dhanya Thomas T. T. and **Jos T Puthur** (2021) Dual role of UV-B in stress induction and alleviation is dosage dependent in rice, Erudite webinar proceeding Plant Functional Biology Sir Syed College, pp:239-250
- Janeeshma E. and **Jos T. Puthur** (2019). "Histochemical changes in roots and leaves of maize seedlings subjected to cadmium stress" at International conference on exploring the scope of plant genetic resources, organized by Department of Botany, University of Kerala, May 22-24, 2019.
- Sarath G. Nair and **Jos T. Puthur** (2019). "Photochemistry associated with phyto-desalinization potential of *Clerodendrum inerme* (L.) Gaertn" at International conference on exploring the scope of plant genetic resources, organized by Department of Botany, University of Kerala, May 22-24, 2019.
- Sinisha A. K. and **Jos T. Puthur** (2019). "Differential response of two rice varieties towards Zn stress assessed through bioaccumulation and histological changes" at International conference on exploring the scope of plant genetic resources, organized by Department of Botany, University of Kerala, May 22-24, 2019.

- Sruthi P. and **Jos T. Puthur** (2019). "Copper induced oxidative stress and antioxidant defense mechanisms in *Bruguiera cylindrica* (L.) Blume" at International conference on exploring the scope of plant genetic resources, organized by Department of Botany, University of Kerala, May 22-24, 2019.
- Dhanya Thomas T. T. and **Jos T. Puthur** (2017). "Augmentation of UV-B stress tolerance mechanism in rice seedlings with low dose of UV-B priming" at International seminar on photochemistry and its applications, M G University, Kottayam, Nov 10-13, 2017.
- Faseela P. and **Jos T. Puthur** (2017). "The effects of UV-B radiation stress on photochemistry of rice seedlings" at International seminar on photochemistry and its applications, M G University, Kottayam, Nov 10-13, 2017.
- Sinisha A. K. and **Jos T. Puthur** (2017). "Cadmium stress-induced changes in Chlorophyll a fluorescence of *Oryza sativa* 'Aathira' and 'Mattatriveni'" at International seminar on photochemistry and its applications, M G University, Kottayam, Nov 10-13, 2017.
- Dhanya Thomas T. T. and **Jos T. Puthur** (2017). "UV-B priming imparts NaCl and PEG stress tolerance potential to rice seedlings" at 8th International Conference on Photosynthesis and Hydrogen Energy Research for Sustainability - 2017 at School of Life Sciences, University of Hyderabad, Hyderabad, India, Oct 30 - Nov 4, 2017.
- Faseela P. and **Jos T. Puthur** (2017). "Rice cultivars with varied tolerance towards high light and UV-B irradiation: A comparative physiochemical approach" at 8th International Conference on Photosynthesis and Hydrogen Energy Research for Sustainability - 2017 at School of Life Sciences, University of Hyderabad, Hyderabad, India, Oct 30 - Nov 4, 2017.
- Shackira A. M. and **Jos T. Puthur** (2017). "Modulation of photosynthesis associated with phytostabilization of Zinc in a halophyte- *Acanthus ilicifolius* L." at 8th International Conference on Photosynthesis and Hydrogen Energy Research for Sustainability - 2017 at School of Life Sciences, University of Hyderabad, Hyderabad, India, Oct 30 - Nov 4, 2017.
- P. Faseela and **Jos T. Puthur** (2015). Chlorophyll a fluorescence changes in response to short and long term high light stress in rice seedlings. 3rd International Plant Physiology Congress Dec 11-14, 2015 and Annual meeting of Indian Society of Plant Physiology. Jawaharlal Nehru University, New Delhi.
- **Jos T. Puthur** and Sudeep Jose (2011). Effect of GABA Priming on Drought Tolerance Potential of Prominent *Brassica Juncea* (L.) Czern Varieties. International Conference on Plant Science in Post Genomic Era (ICPSPGE-2011) Feb 17-19 and Annual meeting of Indian Society of Plant Physiology and Biochemistry. Sambalpure University, Orissa.

- Szilvia Z. Tóth, Valéria Nagy, **Jos T. Puthur**, László Kovács, and Győző Garab (2010). The physiological role of ascorbate as photosystem II electron donor: protection against photoinactivation in heat-stressed leaves. 4th international symposium of the SFB 429, "signals, sensing and plant primary metabolism", University of Potsdam, Sanssouci, Germany, October 6th - 9th, 2010.
- Tóth S. Z., Nagy V, **Puthur J. T.**, Kovacs L, Garab G. (2010). Ascorbate alleviates donor-side induced photoinhibition by acting as alternative electron donor to photosystem II. 14th International Photosynthesis Congress. Beijing, China. 22-27th August, 2010.
- Szilvia Z. Tóth, Valeria Nagy, **Jos T. Puthur** and Gyozo Garab (2009). Ascorbate: The electron donor of photosystem II following heat stress. Straub Napok. BRC, Szeged, Hungary, Nov 25-27, 2009.
- Tóth S. Z., **Puthur J. T.**, Garab G. (2008). Identification and possible physiological role of the alternative electron donor of Photosystem II. IXth Hungarian Congress on Plant Biology, Szeged, 7-9 July, 2008.
- Tóth S. Z., **Puthur J. T.**, Garab G. (2008). Ascorbate is a naturally occurring alternative electron donor of Photosystem II. Gordon Research Conference-Photosynthesis, Mount Holyoke College, South Hadley, MA, USA, 22-27th June 2008.
- Tóth S. Z., Kovacs L, **Puthur J. T.**, Garab G. (2007). Do alternative electron donors protect heat-inactivated photosystem II from photoinhibition? 14th International Photosynthesis Congress. Photosynth Res. 91: 194

National

- Sameena P. P. and **Jos T. Puthur** (2019). "Effects of copper stress on photosystem II efficiency of cotyledonary and true leaves of *Ricinus communis* L. seedlings" in National Conference of Plant Physiology on "Plant Productivity and Stress Management", organized by Kerala Agricultural University, Thrissur and Indian Society for Plant Physiology, New Delhi, December 19-21, 2019.
- Shackira A. M. and **Jos T. Puthur** (2019). "Nutritional and anatomical adaptations associated with the Zn-phytostabilization in *Acanthus ilicifolius* L." in National Conference of Plant Physiology on "Plant Productivity and Stress Management", organized by Kerala Agricultural University, Thrissur and Indian Society for Plant Physiology, New Delhi, December 19-21, 2019.
- Sinisha A. K. and **Jos T. Puthur** (2019). "Differential impacts Cd stressor on bioaccumulation and histological features of *Oryza sativa* var. Varsha and *Oryza sativa* var. Jyothi subjected to Cd stress" in National Conference of Plant

Physiology on "Plant Productivity and Stress Management", organized by Kerala Agricultural University, Thrissur and Indian Society for Plant Physiology, New Delhi, December 19-21, 2019.

- Janeeshma E. and **Jos T. Puthur** (2019). "Responses of *Zea mays* and *Oryza sativa* to different concentrations of cadmium; a comparative study" in National Conference of Plant Physiology on "Plant Productivity and Stress Management", organized by Kerala Agricultural University, Thrissur and Indian Society for Plant Physiology, New Delhi, December 19-21, 2019.
- Sarath G. Nair and **Jos T. Puthur** (2019). "NaCl stress amelioration potential of *Clerodendrum inerme* (L.) Gaertn. : Role of antioxidants and osmo-protectants" in National Conference of Plant Physiology on "Plant Productivity and Stress Management", organized by Kerala Agricultural University, Thrissur and Indian Society for Plant Physiology, New Delhi, December 19-21, 2019.
- Akhila Sen, Dinakar Challabathula, **Jos T. Puthur** (2019). "UV-B augmented photosynthetic, respiratory and anti-oxidation efficiency of *Oryza sativa* L. var. Vyttila 6 on exposure to NaCl and PEG stresses" in National Conference of Plant Physiology on "Plant Productivity and Stress Management", organized by Kerala Agricultural University, Thrissur and Indian Society for Plant Physiology, New Delhi, December 19-21, 2019.
- Faseela P. and **Jos T. Puthur** (2019). "Effects of high light exposure on foliar micromorphology and chloroplast ultrastructure in rice leaves" in National Conference of Plant Physiology on "Plant Productivity and Stress Management", organized by Kerala Agricultural University, Thrissur and Indian Society for Plant Physiology, New Delhi, December 19-21, 2019.
- Riya Johnson and **Jos T. Puthur** (2019). "Highlight exposure above critical period is detrimental for photosynthetic machinery of *Vigna unguiculata* L. var. KBC IV" in National Conference of Plant Physiology on "Plant Productivity and Stress Management", organized by Kerala Agricultural University, Thrissur and Indian Society for Plant Physiology, New Delhi, December 19-21, 2019.
- Akhila sen and **Jos T. Puthur** (2019). "Effect of UV-B priming on the anti-oxidation machinery of rice seedlings on exposure to PEG stress" at XLII all India botanical conference of the Indian botanical society and national symposium, on "Innovations and Inventions in Plant Science Research", organized by Department of Botany, University of Calicut, November 06-08, 2019.
- Janeeshma E. and **Jos T. Puthur** (2019). "Root physiology and phytochemistry related to cadmium toxicity in rice associated with arbuscular mycorrhizae" at XLII all India botanical conference of the Indian botanical society and national symposium, on "Innovations and Inventions in Plant Science Research", organized by Department of Botany, University of Calicut, November 06-08, 2019.

- Riya Johnson and **Jos T. Puthur** (2019). "Non-enzymatic antioxidants solely contributes toward antioxidation function in *Vigna unguiculata* L. var. KBC IV subjected to NaCl stress" at XLII all India botanical conference of the Indian botanical society and national symposium, on "Innovations and Inventions in Plant Science Research", organized by Department of Botany, University of Calicut, November 06-08, 2019.
- Sameena P. P. and **Jos T. Puthur** (2019). "Bioaccumulation pattern of copper and associated physiological changes in cotyledonary and true leaves of *Ricinus communis* seedlings" at XLII All India Botanical Conference of the Indian Botanical Society and National Symposium on "Innovations and Inventions in Plant Science Research", organized by Department of Botany, University of Calicut, November 06-08, 2019.
- Sinisha A.K and **Jos T. Puthur** (2019). "Photosynthetic changes associated with CdCl₂ stress intolerant and sensitive rice varieties" at XLII all India botanical conference of the Indian botanical society and national symposium, on "Innovations and Inventions in Plant Science Research", organized by Department of Botany, University of Calicut, November 06-08, 2019.
- Sarath G. Nair and **Jos T. Puthur** (2019). "Effect of supra optimal temperatures on the photosynthetic efficiency and ROS production of *Vigna unguiculata* L. var. PGCP 6" at National seminar on "Advances in Biotechnology and Bioprospecting" at St.Joseph's college Devagiri, Kozhikode, Kerala Feb 7, 2019.
- Sarath G. Nair and **Jos T. Puthur** (2019). "Eco-physiological studies in relation to heavy metal content in different strategic areas/plants of Kadalundi Vallikkunnu Community Reserve" at 31st Kerala Science Congress, Fathima Mata College National College, Kollam Feb 2 & 3, 2019.
- Mirshad P. P. and **Jos T. Puthur** (2018). "Arbuscular mycorrhizal association enhances Nacl stress tolerance potential in *Saccharum spontaneum* L., a prominent bioenergy crop". National seminar on "climatic vagaries and biodiversity issues contemporary and futuristic", 17 and 18th Sept. 2018 at Dept. of Botany, SN College Kannur.
- Sarath G. Nair and **Jos T. Puthur** (2018). "The impact of high temperature stress on photochemistry of *Vigna unguiculata* L. var. PGCP 6". National seminar on "climatic vagaries and biodiversity issues contemporary and futuristic", 17 and 18th Sept. 2018 at Dept. of Botany, SN College Kannur.
- Sarath G. Nair and **Jos T. Puthur** (2018). "Physico-chemical responses of cow pea seedlings exposed to different temperatures". National seminar on "Recent trends in climate change and carbon research" at Department of Botany, University of Calicut, Malappuram, 26-28 February, 2018.
- Janeeshma, E. and **Jos T. Puthur** (2018). "Anatomical and pigment variations in *Zea mays* under different concentrations of zinc", National seminar on

"Recent trends in climate change and carbon research" at Department of Botany, University of Calicut, Malappuram, 26-28 February, 2018.

- Dhanya Thomas T. T. and **Jos T. Puthur** (2017). "Low NaCl concentration enhances prime physiological features in *Oryza sativa* cv Jyothi" at National seminar on Modern trends in conservation, Utilization and Improvement of Plant Genetic Resources, Kerala University, Kariavattom, Nov 23-24, 2017.
- Vijayakumari, K. and **Jos T. Puthur** (2016). "Priming of rooted black pepper vines with non-protein amino acids improves acclimatization during transplantation". National seminar on "planting material production in spices" held at Calicut from April 21 to 22, 2016. Organized by Directorate of Arecanut and Spices Development, Ministry of Agriculture and Farmers welfare, Calicut, Kerala.
- Sinisha, A. K., Anjali, A. R., George, K. J. and **Puthur, J. T.** (2015). "Bio-accumulation of heavy metals and related stress metabolism in common roadside medicinal plants", Proceedings of the 27th Kerala science congress, 27-29 Jan. Alappuzha, Kerala, pp: 90-91.
- Mirshad, P. P. and **Puthur, J. T.** (2015). "Enhanced antioxidation potential of *Saccharum arundinaceum* (retz.) in association with AM fungi under drought", Proceedings of the 27th Kerala science congress, 27-29 Jan. Alappuzha, Kerala, pp: 152-153.
- Faseela P. and **Jos T. Puthur** (2015). "High light intensity induced photo inhibitory stress effects on photosynthetic efficiency and antioxidant defence mechanism in *Oryza sativa* 'Karuna'", 20th Feb. Govt. Arts and Science College, Kozhikode.
- Sinisha A. K. and **Jos T. Puthur** (2015). "Chlorophyll a fluorescence of *Oryza sativa* 'Kanchana' subjected to various concentrations of ZnSO₄", 20th Feb. Govt. Arts and Science College, Kozhikode.
- Shackira A. M. and **Jos T. Puthur** (2015). "Cadmium-induced biochemical changes in the leaves of *Acanthus ilicifolius* L. grown under hydroponic conditions", 25-26 Feb. Nirmalagiri College, Kuthuparamba.
- Sruthi P. and **Jos T. Puthur** (2015). "Changes in photosynthetic pigments and lipid peroxidation of *Bruguiera cylindrica* (L.) Blume seedlings as influenced by various concentration of NaCl", 25-26 Feb. Nirmalagiri College, Kuthuparamba.
- Faseela P. and **Puthur J. T.** (2014). "Chlorophyll a fluorescence- an ideal tool to study the high light stress effects on photosystem II in rice seedlings", National seminar on environmental issues: challenges and concerns, 26-27 Sep. 2014, University of Calicut, Kerala.
- Shackira A. M. and **Puthur J. T.** (2014). "Effects of cadmium and zinc on photochemistry of *Acanthus ilicifolius* L. as analyzed by Chlorophyll a fluorescence", National seminar on environmental issues: challenges and concerns, 26-27 sep. 2014, University of Calicut. Kerala.

- Mirshad P. P. and **Puthur J. T.** (2014). "Association of arbuscular mycorrhizae with *Saccharum arundinaceum* (retz.) improves photosynthetic responses under drought", National seminar on green living for sustainable development association with AM fungi under drought, 15-17 Oct. Govt. Brennen College, Thalassery, pp: 67-68.
- Mirshad, P. P. and **Jos T. Puthur** (2013). Presented a paper on "Arbuscular mycorrhizal association of some prominent energy grasses in natural habitat" at National Seminar on Forestry and Agriculture, KFRI, Peechi, Nov 7-9, 2013.
- Jisha, K. C. and **Jos T. Puthur** (2013). Presented a paper on "NaCl priming differentially influences the osmotic stress-related metabolism in *Vigna radiate* (L.) Wilczek varieties" at National Seminar on Forestry and Agriculture, KFRI, Peechi, Nov 7-9, 2013.
- Vijayakumari, K. and **Jos T. Puthur** (2013). Presented a paper on "Drought stress related metabolism in prominent varieties of pepper" at 2^{5th} Kerala Science Congress, Jan 29-Feb 01, 2013.
- Faseela, P. and **Jos T. Puthur** (2012). "The protective role of different osmolytes on Photosystem I & II exposed to NaCl in ecotypically varying members of *Acanthaceae*". National seminar of plant physiology on Physiological and Molecular Approaches for Development of Climate Resilient Crops Dec 12-14 at Acharya N. G. Ranga Agriculture University Campus, Rajendranagar, Hyderabad.
- Presented a paper on "Physiological evaluation of drought tolerance potential of energy grasses" at National conference on "Bioprospecting of plant genetic resources of Western Ghats" by department of Botany, St. Thomas College, Pala, Kottayam, Kerala, Nov 22-23, 2011.
- National Seminar on "Forest Resources: Diversity, Utilization and Conservation" cum workshop on "Forests as Carbon Sinks" organized by Department of Forestry and Environmental Sciences, UAS, GKVK, Bangalore, sponsored by the three Academies of India (IASc, INSA and NASI), March 9-11, 2011.
- Workshop cum Refresher course in "Modern Biotechnological Techniques" organized by Manipal Institute of Life Sciences under the auspices of Three Science Academies of India, Jan 10-22, 2011.
- Presented a paper on "Selection of potential energy grasses and evaluation of its photosynthetically active light regime" at 22nd Kerala Science Congress, Jan 28-31, 2010.

Invited Lectures/Chairing in Conferences/Seminars/Workshops

- Delivered a lecture on the topic "Equipping the plants for cross and transgenerational tolerance towards abiotic stresses" in the three day

international webinar on the topic 'Frontier areas in Plant science for Human Welfare' organized by Dept. of Botany, organized by St. Thomas College (Autonomous), Thrissur Sept 5-7. 2021.

- Delivered a lecture on the topic "The strive for quality science research publication" in the webinar series entitled 'Research to Publication' organized by IQAC at Dept of botany, MES Asmabi College, P. Vemballur on July 28, 2021.
- Delivered a lecture on the topic "UV-B priming for cross-tolerance towards multiple abiotic stresses" in International Webinar" Priming: an effective technique for good crop stand" on 13th July, 2021 Ghazi University, D.G Khan, Pakistan.
- Delivered a lecture on the topic "Priming Imparts cross-tolerance for multiple abiotic stresses" in the national webinar on 'Plant Science' and special lectures organized by the postgraduate department of studies in Botany, Karnatak University, Dharwad on July 12, 2021.
- Delivered a lecture on the topic "Academic writing and publishing" at five day faculty development programme on Research and career, October 21, 2020. Vimala College (Autonomous), Thrissur, Funded by Dept. of Biotechnology, Govt. of India under the DBT star college scheme.
- Delivered an invited lecture on the topic "Seed priming: A means to boost abiotic stress tolerance mechanism in crop plants" at Three Day International Webinar Series- Doctrina (11) on " Plant Functional Biology" organized by Department of Post Graduate Studies and Research in Botany and Internal Quality Assurance Cell (IQAC), Sir Syed College, Thaliparambu in association with Kerala State Higher Education Council (KSHEC) Biology from 05 to 07 June, 2020.
- Delivered an invited lecture in the Albertian Knowledge Webinar series 2020, organized by Albertian Centre for Human Resource Development and Research, St. Alberts College (Autonomous), M. G. University, Kerala on the topic "Phytochromes Controlled Plant Physiological functions "on April 29, 2020.
- Delivered an invited lecture in the seminar "Women in Science" organized by the Dept. of Botany, Govt. Arts and Science College, Kozhikode on Feb 20, 2020, sponsored by KSCSTE, Govt. of Kerala.
- Delivered an invited lecture on the topic "Career options in Biology" at Dept. of Botany, Farook College (Autonomous), Kozhikode on Feb 14, 2020, sponsored by UGC Autonomous grant 2019-20.
- Chaired a technical session during National Conference of Plant Physiology-2019 organized by Kerala Agricultural University, Thrissur under the aegis of

Indian Society for Plant Physiology, New Delhi on "Plant Productivity and Stress Management" December 19-21, 2019.

- Chaired a technical session during XLII All India Botanical conference of the Indian Botanical Society and National Symposium on "Innovations and Inventions in Plant science Research" held at Dept. of Botany, University of Calicut, from Nov 06-08, 2019.
- Delivered an invited lecture on the topic: "Molecular and Biochemical techniques at Workshop on Research Methodology, Writing Practices, Language and Soft Skills for Young Scientists" Sponsored by: WSD-KSCSTE held at Malabar Botanical Garden and Institute for Plant Sciences, Kozhikode, 14 & 15th March, 2019.
- Delivered an invited lecture on the topic: "Framing Research proposals and research funding opportunities" at UGC sponsored one week orientation programme for college teachers held at Farook College (Autonomous), Kozhikode on March 05, 2019.
- Delivered an invited lecture on the topic: "Framing Research proposals and research funding opportunities" at State level two day workshop on Research methodology-practices and updates organized by MES college, Marampally, Jan 19, 2019.
- Delivered an invited lecture on the topic: "Physiology of seed storage" at National workshop on seed collection and conservation, organized by Dept. of Botany, Univ. of Kerala, March 8-10, 2017.
- Delivered an invited lecture on the topic: "Preparation of proposals for research grants" at State level two day workshop on Research methodology-practices and updates organized by MES college, Marampally, Jan 21, 2017.
- Delivered an invited lecture on the topic: "Physiological stress of the plants" at National Seminar on "Species The Passion-II", organized by St. Thomas College (Autonomous), Thrissur. June 16-17, 2016.
- Delivered an invited lecture on the National seminar on "Modern trends in phytochemistry" organized by post-graduate department of Botany, Maharaja's college (Autonomous), Ernakulam on Feb 01-02, 2016.
- Delivered an invited lecture on the National seminar on "sustainable agriculture solutions for food security" organized by the Department of Botany, Govt. College, Madapally on Jan 19-20, 2016.
- Delivered an invited lecture on the topic: "Antioxidants and cellular antioxidation mechanism in plants" at National Seminar on "Emerging trends in herbal technology", organized by St. Thomas College (Autonomous), Thrissur. Oct 7-9, 2015.
- Delivered an invited lecture in the Student programme for excellence in experimental design (SPEED) sponsored by KSCSTE, Govt. of Kerala,

organized by Department of Botany, University of Calicut on April 24-28, 2015.

- Lectured on the topic "Abiotic stresses and tolerance mechanisms in plants" for the live lecture series produced by EMMRC, University of Calicut and telecast through the EDUSAT Network/www.webcast.gov.in on 29-05-2014.
- Delivered an invited lecture on the topic: "Plant physiology research in context to climate change" at National Seminar on "innovative approaches in plant sciences" organized by PG and Research Dept. of Botany, MES Asmabi College, P. Vemballur, Thrissur, Kerala. Sept 18-19, 2014.
- Delivered an invited lecture on the topic: "Writing research proposals and funding agencies" Orientation workshop for the newly engaged Asst. professors of KVASU, Kerala Veterinary and Animal Sciences University, Feb 4-7, 2014.

Chairman: Board of Adjudicators for Ph.D. Viva Voce.

- Viji J. M., Dept. of Botany, University of Kerala, Trivandrum, Dec 07, 2021.
- Raseena N. R. Dept. of Botany, University of Kerala, Trivandrum, July 14, 2021.
- Drisya Ravi R. S., Dept. of Botany, University of Kerala, Trivandrum, June 11, 2020.
- Manasa D. J., Dept. of Applied Botany, Mangalore University, May 22, 2019.
- Gayathri, G., Dept. of Botany, University of Kerala, Trivandrum, April 27, 2015.

Ph.D. Thesis Adjudications

- Surabhi Tomar, 2022. "Functional Exploration of Uncharacterized Stress-Responsive Cystathionine Beta-Synthase Domain-Containing Proteins in Rice". Jawaharlal Nehru University, New Delhi, India.
- Jayaraj M. S., 2022. "Mechanisms of drought stress response in the wild variety-*Momordica charantia* var. *muricata* (Willd.) Chakrav." Kerala University, Thiruvananthapuram, Kerala.
- Raseena N. R., 2021. "Floral Morphogenesis and gene expression studies in *Coccinia grandis* (L.) Voigt (Cucurbitaceae)". Kerala University, Thiruvananthapuram, Kerala.
- Anto Mathew, 2020. "Population structure and seed biology of *Garcinia imberti* Bourd. An endangered endemic tree of southern Western Ghats". Kerala University, Thiruvananthapuram, Kerala.

- Drisya Ravi R. S., 2020. "Development of molecular markers for genetic diversity analysis and micropropagation of superior germplasm of *Moringa oleifera* Lam". Kerala University, Thiruvananthapuram, Kerala.
- Manasa D. J., 2018. "Phytochemical evaluation and nanoparticles synthesis from two endemic plants of Western Ghats" Mangalore University, Karnataka.
- Rajeshwari P., 2018. "Assessment and management of microbial contamination of herbal drug raw materials and herbal medicines", University of Mysore, Karnataka.
- Nidheesh K. S., 2018. "Endomycorrhizal studies in *Musa* spp of South India" Mahatma Gandhi University, Kottayam, Kerala.
- Shelmi Antony, 2017. "Allelopathic properties of phytochemicals from selected plants". Mahatma Gandhi University, Kottayam, Kerala.
- Soumya Soman, 2017. "Photosynthesis of metal nanoparticles (Zn and Ag) and their biological significance. Mahatma Gandhi University, Kottayam, Kerala.
- G. Odelu, 2017. "Influence of brassinosteroids on the performance of green gram [*Vigna radiata* (L.) R. Wilczek.] under zinc toxicity stress, Osmania University, Hyderabad.
- Bince Mani, 2016. "Bioactivities, genetic analysis and conservation of *Pittosporum dasycaulon* Miq. (Pittosporaceae) from the western ghats". Mahatma Gandhi University, Kottayam, Kerala.
- Kokila S, 2015. "Molecular Characterization of transcripts induced under drought and salt stress from *lablab purpureus* (Hyacinth Bean). Bangalore University, Karnataka.
- Gayathri G., 2014. "Phytochemical Evaluation and identification of active principles in *Azima tetraacantha* Lam. (Salvadoraceae). Kerala University, Thiruvananthapuram, Kerala.
- Ranjusha A. P., 2013. "Invitro phytochemical and molecular studies in *Rauvolfia hookeri* Srinivas & Chithra, A rare and endemic plant of southern western Ghats. Kerala University, Thiruvananthapuram, Kerala.

SERVICE

Committees/ Boards (University, College, System):

1. Coordinator, NAAC-SSR committee, University of Calicut, Kerala
2. Director, Central Sophisticated Instrumentation Facility (CSIF), University of Calicut (Dec 2019, continuing).
3. Director, Directorate of Admissions, University of Calicut (April 2014 to Dec 2019).
4. Member, Academic Advisory Committee for DTH Channel-08, Consortium for Educational Communication (CEC), MHRD, Govt. of India.

5. University Nominee, Governing Council, Vimala College (Autonomous), Thrissur, Kerala. (2020, continuing)
6. Chairman, Board of Studies (Plant Science), University of Calicut (2020-2022)
7. Member, Board of Studies (Plant Science), University of Calicut (2017-2019)
8. Subject Expert in Research Advisory Committee, St. Thomas college, Thrissur (Autonomous) (2017, continuing).
9. Member, Board of Advisers, Providence College, Kozhikode (2017, continuing)
10. Member, Board of Studies (Botany), St. Josephs College (Autonomous), Irinjalakuda (2017-2019), St. Berchmans College, Changanassery (2018, continuing), St. Therasas College, Ernakulam (2018, continuing), St. Alberts college, Ernakulam (2018, continuing), M A College, Kothamangalam (Autonomous), MSc Integrated Bioscience (2021, continuing),
11. Subject expert for the selection of Asst. Professors in Plant Sciences at Central University of Kerala, Aug 18, 2015, in Botany at Mar Thoma College, Chungathara, Malappuram Dist. Kerala. March 30, 2016, Deva Matha college, Kuruvilangad, 2017, Christian College, Chenganoor Nov 14, 2018, St. Josephs college for Women, Allapuzha, Nov 2020.
12. Vice chancellor's Nominee for the selection of Principal, M A College, Kothamangalam, Kerala Jan 08, 2022.
13. Co-convenor of Venue arrangement committee of the 28th Kerala Science congress held at Calicut University campus during 28-30th Jan, 2016.
14. Member, Curriculum refinement and revision committee of State Eligibility Test (SET)-Botany. June 4-5, 2015.
15. Technical Adviser to Kannur University for the implementation of single window admission for UG and PG.
16. Member, High level committee constituted by Vice Chancellor of Kannur University to grade the colleges with potential for excellence, which is to be recommended to UGC, Feb 09, 2015.
17. External Member, Department Quality Assurance Cell (DQAC), Dept. of Botany, Sacred Heart College (Autonomous), Thevara, Ernakulam, Kerala.
18. Chairman, Board of Studies (Plantation Sciences), University of Calicut (2014-16)
19. Chairman, Kerala University M.Sc. board for paper setting in M.Sc. Botany (2013, 2014, 2018),
20. Member (Vice Chancellor's nominee) in Research Admission Committee of Malabar Botanical Garden, Ollavana, Kozhikode, Kerala.
21. Chairman, Mahatma Gandhi University Doctoral committee (Botany) 2013.
22. Research guide in Botany of University of Calicut.
23. Chairman, Kerala University M.Sc. board for paper setting in M.Sc. Genetics and Plant Breeding (2012, 2013, 2014).

24. Chairman, Calicut University M.Sc. board to conduct practical exams for M.Sc. Plant Sciences (2011).
25. Secretary, Calicut University Botanical Society (CUBS) (2009-2014)
26. Member, MG University B.Sc. Board to conduct B.Sc. Botany sub practical exams (2006, 2008)
27. Additional Examiner, MG University M.Sc. Board to evaluate the Botany first semester theory examination papers (2008)
28. Member, Calicut University Board for paper setting-M.Sc. Plant sciences (2008-09).
29. Research guide in Biosciences of Mahatma Gandhi University, Kottayam.
30. Member of Internal Quality Assurance Cell (as per NAAC guidelines) of the college (St. Thomas College, Pala, Kottayam)
31. Coordinator of Research and Consultancy Service Cell (RACS cell) of the college. (St. Thomas College, Pala, Kottayam)(Aug, 2002 to March, 2007)
32. Organizing Secretary for National Conference on Recent Trends in Plant Science Research, 2002 held at St. Thomas College, Pala, Kottayam. Chief Editor of Proceedings of National Conference on Recent Trends in Plant Science Research, 2002.
33. Programme Director for an electronic programme on the topic "photosynthesis", telecasted by state-owned broadcasting corporation (Doordarshan), organized by State Institute of Education and Technology (SIET), a Kerala govt. agency - 2004.

Details of research grant received from national funding agencies:

Sl. No	Name of the Investigator	Title of the project and duration	Amount sanctioned	Funding Agency
1	Dr. Jos T. Puthur	Investigations into the effective harvesting and utilization of light in vanilla (<i>Vanilla Planifolia Andrews</i>) and cardamom (<i>Elettaria Cardamomum Maton</i>) to ensure maximum productivity. (2003-06)	Rs. 12,00,000/-	DST, Govt. of India (Fast Track)
2	Dr. Jos T. Puthur	Identification and physiological characterization of energy grass(es) suitable for poor quality soils (2011-14)	Rs. 8,79,800/-	UGC, Govt. of India

Research projects applied to various funding agencies:

Sl. No	Name of the Investigator	Title of the project and duration	Amount sanctioned	Funding Agency
1	Dr. Jos T. Puthur	Physiochemical and molecular analysis of "stress memory" in <i>Oryza sativa</i> L. raised from seeds subjected to various seed priming techniques	Rs. 38,13,719/-	DST, Govt. of India

Details of research grant received from international funding agency:

Sl. No	Name of the Investigator	Title of the project and duration	Amount sanctioned	Funding Agency
1	Dr. Jos T. Puthur	Physiological Characterization of <i>Musa paradisiaca</i> L. var. nendran soma clonal variants (SV) for drought tolerance. (2008-2009)	USD 7700 (~INR 3,20,000/-)	Third World Academy of Sciences (TWAS), Strada Costiera 11 34014 Trieste, Italy

Details of research grant received from state funding agency (KSCSTE):

Sl. No	Name of the Investigator	Title of the project and duration	Budget	Funding Agency
1	Dr. Jos T. Puthur	Science popularization programme for higher secondary and UG students of Malappuram district. (2010-11)	Rs.1,68,300 /-	KSCSTE, Govt. of Kerala.
2	Dr. Jos T. Puthur	Effect of GABA/BABA-priming on drought tolerance potential of pepper (<i>Piper</i>	Rs. 15,93,000/-	KSCSTE, Govt. of Kerala.

		<i>nigrum</i> L.): A less defense investment process. (2011-14)		
3	Dr. Jos T. Puthur	Ecophysiological studies of Mangroves in Kadalundi-Vallikunnu Community Reserve with Special Reference to <i>Acanthus ilicifolius</i> L. (2017-20)	Rs. 21,32,000/-	KSCSTE, Govt. of Kerala

International Collaborations Initiated:

Sl. No	Name and address of the collaborating partner	Title of the work	Proposed collaboration through
1	Prof. Dorothea Bartels Botanical Institute of the University of Bonn, Bonn Germany	Characterization of stress proteins present in the developing embryos	INSA-DFG fellowship
2	Dr. Gabor Jakab (HOD) Department of Plant Physiology, Institute of Biology, University of Pecs, Pecs, Hungary	Effect of chemical priming on the drought tolerance potential and productivity of spice crops	Indo-Hungarian collaborative project
3	Dr. Gyozo Garab Institute of Plant Biology Biological Research Centre (Centre of Excellence of the EU), Hungarian Academy of Sciences, P.O. 521, H-6701, Szeged, Hungary.	To study the role of alternative electron donors to PS II in relation to stress tolerance	BOYSCAST fellowship of DST. Govt. of India
4	Prof. Christine Foyer Institute of Integrative and Comparative Biology Faculty of Biological Sciences University of Leeds, UK	Mechanism of Ascorbate-Controlled Plant Growth and defense in <i>Arabidopsis thaliana</i> focusing on Abscisic Acid (ABA)-Dependent and ABA-Independent Pathways.	Commonwealth staff academic fellowship

5	Prof. Hazem M. Kalaji Warsaw University of Life Sciences (SGGW), Warsaw, Poland	Physiological responses of plants towards stress using computerized and portable instruments	GIAN (Global Initiative for Academic Networking) programme of MHRD, Govt. of India
6	Prof. Om Parkash Dhankher Stockbridge School of Agriculture, University of Massachusetts Amherst, USA	Nanoscale Graphitic Carbon Nitride (g-C ₃ N ₄) Priming of Rice (<i>Oryza sativa</i> L.) for Enhancing Abiotic Stress Tolerance.	Research Scholar working as a Fulbright Kalam Climate Doctoral Research Fellow

RESEARCH PUBLICATIONS:

JOURNALS:

1. A. M. Shackira, Nair G. Sarath, K. P. Raj Aswathi, P. Pardha-Saradhi and **Jos T. Puthur** (2022). Green seed photosynthesis: What is it? What do we know about it? Where to go? *Plant Physiology Reports*, Springer. 27, 573-579. <https://doi.org/10.1007/s40502-022-00695-4>
2. Sarath, Nair G., A. M. Shackira, Hamed A. El-Serehy, Daniel Ingo Hefft, and **Jos T. Puthur** (2022). Phytostabilization of arsenic and associated physiological changes in *Acanthus ilicifolius* L. *Environmental Pollution*. Elsevier. 298, 118828. <https://doi.org/10.1016/j.envpol.2022.118828> (IF= 9.988)
3. Akshaya Prakash Chengatt, Nair G. Sarath, Delse Parekkattil Sebastian, N. Shibin Mohanan, E. S. Sindhu, Satheesh George and **Jos T. Puthur** (2022). Chelate assisted phytoextraction for effective rehabilitation of heavy metal(loid)s contaminated lands. *International Journal of Phytoremediation*, Taylor & Francis. 1-16. <https://doi.org/10.1080/15226514.2022.2124233> (IF=4)
4. Edappayil Janeeshma, Riya Johnson, M. S. Amritha, Louis Noble, K. P. Raj Aswathi, Arkadiusz Telesiński, Hazem M. Kalaji, Alicja Auriga and **Jos T. Puthur** (2022). Modulations in Chlorophyll a Fluorescence Based on Intensity and Spectral Variations of Light. *International Journal of Molecular Sciences*, MDPI. 23(10), 5599. <https://doi.org/10.3390/ijms23105599> (IF= 6.208)

5. Nair G. Sarath, Shackira A. Manzil, Sajad Ali, Abdulaziz Abdullah Alsahli, **Jos T. Puthur** (2022). Physio-anatomical modifications and elemental allocation pattern in *Acanthus ilicifolius* L. subjected to zinc stress, *Plos One*. 17(5), e0263753. <https://doi.org/10.1371/journal.pone.0263753> (IF= 3.752)
6. Riya Johnson, Kanchan Vishwakarma Md. Shahadat Hossen, Vinod Kumar, A.M. Shackira, **Jos T. Puthur** (2022). Potassium in plants: Growth regulation, signaling, and environmental stress tolerance. *Plant physiology and biochemistry*, Elsevier. 172, 56-69. <https://doi.org/10.1016/j.plaphy.2022.01.001> (IF= 5.437)
7. Shackira, A. M., Nair G. Sarath, **Jos T. Puthur** (2022). Phycoremediation: a means for restoration of water contamination, *Environmental Sustainability, Springer*. 5(1), 25-38. <https://doi.org/10.1007/s42398-022-00220-1>
8. George Sherin, K.P. Raj Aswathi and Jos T.Puthur. (2022) Photosynthetic functions in plants subjected to stresses are positively influenced by priming. *Plant Stress*. Elsevier. 4, 100079. <https://doi.org/10.1016/j.stress.2022.100079>
9. A. Sen, **J.T. Puthur**, D. Challabathula, and M. Brestič (2022). Transgenerational effect of UV-B priming on photochemistry and associated metabolism in rice seedlings subjected to PEG-induced osmotic stress. *Photosynthetica*. 60(2), 219-229. <https://doi.org/10.32615/ps.2022.006> (IF=3.189)
10. Mohammad Sarraf, Kanchan Vishwakarma, Vinod Kumar, Namira Arif, Susmita Das, Riya Johnson, Edappayil Janeeshma, **Jos T. Puthur** (2022). Metal/Metalloid-Based Nanomaterials for Plant Abiotic Stress Tolerance: An Overview of the Mechanisms. *Plants*, MDPI. 11(3), 316. <https://doi.org/10.3390/plants11030316> (IF= 4.658)
11. Puthukkolli P. Sameena, Hazem M. Kalaji, Krystyna Żuk-Gołaszewska, Tomasz Horaczek, Edyta Sierka and **Jos T. Puthur** (2021). 6-Benzylaminopurine Alleviates the Impact of Cu²⁺ Toxicity on Photosynthetic Performance of *Ricinus communis* L. Seedlings. *International Journal of Molecular Sciences*. 22(24), 13349. <https://www.mdpi.com/1422-0067/22/24/13349>. (IF=5.92).
12. Sameena P. P. and **Jos T. Puthur** (2021). Exogenous Application of Cytokinins Confers Copper Stress Tolerance in *Ricinus communis* L. Seedlings. *Journal of Plant Growth Regulation*. 41, 3395-3409. <https://doi.org/10.1007/s00344-021-10522-z> (IF=4.17).
13. K. P Raj Aswathi, Hazem M. Kalaji, **Jos T. Puthur** (2021). Seed priming of plants aiding in drought stress tolerance and faster recovery: a review. *Plant Growth Regulation*. 97, 235-253. <https://doi.org/10.1007/s10725-021-00755-z>. (IF=3.41).

14. K. S. Anjitha, P. P. Sameena and **Jos T. Puthur** (2021). Functional aspects of plant secondary metabolites in metal stress tolerance and their importance in pharmacology. *Plant Stress*. Elsevier. 2, 100038. <https://doi.org/10.1016/j.stress.2021.100038>
15. Sameena P. P. and **Jos T. Puthur** (2021). Differential modulation of photosynthesis and defense strategies towards copper toxicity in primary and cotyledonary leaves of *Ricinus communis* L. *Journal of Photochemistry and Photobiology*. 8, 100059. <https://doi.org/10.1016/j.jpap.2021.100059>.
16. Edappayil Janeeshma, **Jos T. Puthur**, Jacek Wróbel, Hazem M Kalaji (2021). Metabolic alterations elicited by Cd and Zn toxicity in *Zea mays* with the association of *Claroideoglomus claroideum*. *Ecotoxicology*. 31, 92-113. <https://doi.org/10.1007/s10646-021-02492-5>
17. Amritha M. S., Kishore Sridharan, **Jos T. Puthur**, and Om Parkash Dhankher (2021). Priming with Nanoscale materials for Boosting Abiotic Stress Tolerance in Crop Plants. *ACS Journal of Agriculture and Food Chemistry*, 69 (35), 10017-10035. <https://doi.org/10.1021/acs.jafc.1c03673> (IF=5.27).
18. Hiba, H., Janeeshma, E., and **Jos T. Puthur** (2021). Dynamic alterations of metabolites in *Plectranthus amboinicus* (Lour.) Spreng. to encounter drought and Zn toxicity. *Brazilian Journal of Botany*. 44(3), 587-599. <https://doi.org/10.1007/s40415-021-00738-4> (IF=1.29).
19. Veena, M., and **Jos T. Puthur** (2021). Seed nutripriming with zinc is an apt tool to alleviate malnutrition. *Environmental Geochemistry and Health*. 44(8), 2355-2373. <https://doi.org/10.1007/s10653-021-01054-2> (IF=4.61).
20. Akhila Sen and **Jos T. Puthur** (2021). Halo- and UV-B priming-mediated drought tolerance and recovery in rice seedlings. *Plant stress*. 2, 100011. <https://doi.org/10.1016/j.stress.2021.100011>
21. Palliyath Sruthi and **Jos T. Puthur** (2021). Cadmium stress alleviation potential of *Bruguiera cylindrica* (L.) Blume enhances in combination with NaCl. *Bioremediation Journal*, Taylor & Francis. 26(2), 89-112. <https://doi.org/10.1080/10889868.2021.19119238-x> (IF=1.91).
22. Riya Johnson and **Jos T. Puthur** (2021). Seed priming as a cost-effective technique for developing plants with cross tolerance to salinity stress. 162, 247-257. *Plant Physiology and Biochemistry*, Elsevier. 147:21-30. (IF=3.4).
23. Riya Johnson and **Jos T. Puthur** (2021). Biostimulant priming in *Oryza sativa*: A novel approach to reprogram the functional biology under nutrient-deficient soil. *Cereal Research Communications*. Springer. 50, 45-52 (IF=0.8).
24. E. Janeeshma, Hazem Kalaji and **Jos T. Puthur** (2021). Differential responses in the photosynthetic efficiency of *Oryza sativa* and *Zea mays* on exposure to Cd and Zn toxicity. *Acta Physiologiae Plantarum*, Springer. 43, 1-16. <https://doi.org/10.1007/s11738-020-03178-x> (IF=1.76).

25. Arun Kumar, E. Janeeshma, Joseph Job and **Jos T Puthur** (2021). Physiochemical responses in coconut leaves infected by spiraling whitefly and the associated sooty mold formation, *Acta Physiologiae Plantarum*. Springer. 43, 1-13. <https://doi.org/10.1007/s11738-021-03213-5> (IF=1.76)
26. E. Janeeshma, **Jos T. Puthur**, Parvaiz Ahmad (2020). Silicon distribution in leaves and roots of rice and maize in response to cadmium and zinc toxicity and the associated histological variations. *Physiologia Plantarum*. 173(1), 460-471. <https://doi.org/10.1111/ppl.13310> (IF=4.14)
27. Sarath G. Nair and **Jos T. Puthur** (2020). Heavy metal pollution assessment in a mangrove ecosystem scheduled as a community reserve. *Wetlands Ecology and Management*. 29, 719-730. <https://doi.org/10.1007/s11273-020-09764-7> (IF=1.22).
28. Akhila Sen and **Jos T. Puthur** (2020). Halo and UV-B priming influences various physiological and importantly yield parameters of *Oryza sativa* var. Vyttila 6. *New Zealand Journal of Crop and Horticultural Science*, Taylor & Francis. 49(1), 1-16. <https://doi.org/10.1080/01140671.2020.1844765> (IF=1.00).
29. Sameena P. P. and **Jos T. Puthur** (2020). Dual benefits of bioenergy plants grown in contaminated lands: Phytoremediation and land utilization. *Soil and Sediment Contamination: An International Journal*, Taylor & Francis. 30(3), 253-274, <https://doi.org/10.1080/15320383.2020.1849017> (IF=1.25).
30. Sameena P. P. and **Jos T. Puthur** (2020). Cotyledonary leaves effectively shield the true leaves in *Ricinus communis* L. from copper toxicity. *International Journal of Phytoremediation*, Taylor & Francis. 23(5), 492-504. <https://doi.org/10.1080/02757540.2020.1799993> (IF=2.53).
31. E. Janeeshma, Vijisha K. Rajan, **Jos T. Puthur** (2020). Spectral variations associated with anthocyanin accumulation; an apt tool to evaluate the intensity of zinc stress in *Zea mays*. *Chemistry and Ecology*, Taylor & Francis. 37(1), 32-49 <https://doi.org/10.1080/02757540.2020.1799993>. (IF=1.40).
32. Akhila Sen, Dinakar Challabathula and **Jos T. Puthur** (2020). UV-B priming of *Oryza sativa* seeds augments the innate tolerance potential in a tolerant variety more effectively towards NaCl and PEG stressors. *Journal of Plant Growth Regulation*, Springer. 40, 1166-1180. <https://doi.org/10.1007/s00344-020-10177-2> (IF=2.67).
33. Dhanya Thomas T.T and **Jos T. Puthur** (2020). UV-B priming enhances specific secondary metabolites in *Oryza sativa* (L.) empowering to encounter diverse abiotic stresses. *Plant Growth Regulation*, Springer. 92, 169-180 (2020). <https://doi.org/10.1007/s10725-020-00628-x> (IF=2.75).
34. Sruthi, P. and **Jos T. Puthur** (2020). High NaCl tolerance potential of *Bruguiera cylindrica* (L.) Blume compromised by mild CuSO₄ concentration as

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BOOK

1. **Jos T. Puthur** & O. P. Dhankher (2022). *Bioenergy Crops: A sustainable Means of Phytoremediation*, Taylor & Francis group, CRC Press. ISBN: 13-9780367489137. <https://doi.org/10.1201/9781003043522>

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PROCEEDINGS

1. Sruthi, P. & **Puthur, J. T.** (2021). Calcium oxalate crystal formation; a means of Cu detoxification and Na⁺ regulation in *Bruguiera cylindrica* (L.) Blume. At: *Erudite webinar proceedings Plant Functional Biology* Organized by Sir Syed College, Department of Botany, June 5-7, 2020. ISBN: 978-81-940448-9-5.
2. Sameena, P. P. & **Puthur, J. T.** (2021). Alterations in the antioxidative functions in *Ricinus communis* L. seedlings exposed to increasing levels of copper. At: *Erudite webinar proceedings Plant Functional Biology* Organized by Sir Syed College, Department of Botany, June 5-7, 2020. ISBN: 978-81-940448-9-5.
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4. Janeeshma E. & **Puthur, J. T.** (2021). Phytochemical analysis of *Zea mays* associated with arbuscular mycorrhizae and subjected to cadmium and zinc stresses. At: *Erudite webinar proceedings Plant Functional Biology* Organized by Sir Syed College, Department of Botany, June 5-7, 2020. ISBN: 978-81-940448-9-5.
5. Sarath, G. N. & **Puthur, J. T.** (2021). Physio-chemical changes in *Acanthus ilicifolius* L. associated with arsenic stress. At: *Erudite webinar proceedings Plant Functional Biology* Organized by Sir Syed College, Department of Botany, June 5-7, 2020. ISBN: 978-81-940448-9-5.

6. Aswathi Raj K. P. & Puthur, J. T. (2021). Enhancement in major metabolites content of cowpea seeds induced by β -amino butyric acid (BABA). At: *Erudite webinar proceedings Plant Functional Biology* Organized by Sir Syed College, Department of Botany, June 5-7, 2020. ISBN: 978-81-940448-9-5.
7. Dhanya Thomas T. T. & Puthur, J. T. (2021). Dual role of UV-B in stress induction and alleviation is dosage dependent in rice. At: *Erudite webinar proceedings Plant Functional Biology* Organized by Sir Syed College, Department of Botany, June 5-7, 2020. ISBN: 978-81-940448-9-5.
8. Akhila Sen & Puthur, J. T. (2021). Ameliorative potential of halo priming in enhancing stress tolerance of *Oryza sativa* L. Vyttila 6 through enhanced gene expression levels of antioxidant enzymes. At: *Erudite webinar proceedings Plant Functional Biology* Organized by Sir Syed College, Department of Botany, June 5-7, 2020. ISBN: 978-81-940448-9-5.
9. Shackira A. M., Sarath, N. G. & Puthur, J. T. (2020). Phycoremediation- A means for restoration of water contamination. At: *Recent Advances in Conservation and Utilization of Water ICRACUW - 2020*, Organized by, Sri Shakthi Institute of Engineering and Technology, August 26-27, 2020. ISBN: 978-93-89631-61-6.
10. Janeeshma E. & Puthur, J. T. (2019). Histochemical changes in roots and leaves of maize seedlings subjected to cadmium stress. At: *International Conference on Exploring the Scope of Plant Genetic Resources*, Organized by Department of Botany, University of Kerala, May 22-24, 2019. ISBN: 978-81-940888-0-6.
11. Sarath N. G. & Puthur, J. T. (2019). Photochemistry associated with phyto-desalinization potential of *Clerodendrum inerme* (L.) Gaertn. At: *International Conference on Exploring the Scope of Plant Genetic Resources*, Organized by Department of Botany, University of Kerala, May 22-24, 2019. ISBN: 978-81-940888-0-6.
12. Sinisha A. K. & Puthur, J. T. (2019). Differential response of two rice varieties towards Zn stress assessed through bioaccumulation and histological changes at *International Conference on Exploring the Scope of Plant Genetic Resources*, Organized by Department of Botany, University of Kerala, May 22-24, 2019. ISBN: 978-81-940888-0-6.
13. Sruthi P. & Puthur, J. T. (2019). Copper induced oxidative stress and antioxidant defense mechanisms in *Bruguiera cylindrica* (L.) Blume. At: *International Conference on Exploring the Scope of Plant Genetic Resources*, Organized by Department of Botany, University of Kerala, May 22-24, 2019. ISBN: 978-81-940888-0-6.
14. Dhanya Thomas T. T. & Jos T. Puthur (2018). Low NaCl Concentration enhances prime physiological features in *Oryza sativa* cv Jyothi, In *Modern*

Trends in Conservation, Utilization and Improvement of Plant Genetic Resources (Eds: Mohanan K.V., Radhakrishnan V.V., Suhara Beevy S., Yusuf A., Gangaprasad A.). Gregor Mendel Foundation, Calicut University, Kerala, India (2018). ISBN: 978-81-935133-1-6. pp.99-109.

15. Faseela P. & **Jos T. Puthur** (2014). Chlorophyll *a* Fluorescence Based Analysis of High Light Stress Effects in *Oryza sativa* var. *neeraja* Proc. 26th Kerala Science Congress 28-31 Jan. 2014. Wayanad, Kerala. pp.3219-3224.
16. Jisha K. C. & **Jos T. Puthur** (2014). Hydro and Halo Priming of Seeds Enhances Photochemistry and Mitochondrial Activities in Rice subjected to NaCl and PEG Stress. Proc. 26th Kerala Science Congress 28-31 Jan. 2014. Wayanad, Kerala. pp.3586-3591.
17. Shackira A. M. & **Jos T. Puthur** (2014). Generic delimitation of *Parasopubia* (L.) H.-P. Hofm. & Eb. Fisch. and *Sopubia* Buch.-Ham.: justification through histochemical and biochemical analysis. Proc. 26th Kerala Science Congress 28-31 Jan. 2014. Wayanad, Kerala. pp.3597-3605.
18. K. Anitha, **Jos T. Puthur**, N. Ramani, 2014. Assessment of leaf damage induced by two species of phytophagous mites on the medicinal plant, *Cardiospermum halicacabum* Linn. Proc. 26th Kerala Science Congress 28-31 Jan. 2014. Wayanad, Kerala. pp.3630-3637.
19. Shackira A. M. & **Jos T. Puthur**, 2013. An Assessment of heavy metal contamination in soil sediments, leaves and roots of *Acanthus ilicifolius* L. Proc. of the 23rd Kerala Swadeshi Science Congress held at Mahatma Gandhi University, Kottayam on Nov 6-8, 2013.
20. Anitha K., Ramani N. and **Jos T. Puthur**, 2013. Assessment of leaf damage induced by *Brevipalpus obovatus* donnadieu (acari: tenuipalpidae) on *Ocimum sanctum* L. Proc. of the 23rd Kerala Swadeshi Science Congress held at Mahatma Gandhi University, Kottayam on Nov 6-8, 2013.
21. Vijayakumari, K. & **Jos T. Puthur** (2013). Drought stress related metabolism in prominent varieties of pepper. Proc. 25th Kerala Science Congress 29 Jan-01 Feb. 2013. Thiruvananthapuram. pp.55-57.
22. Shal Chandran, Augusthy P. O, and **Jos T. Puthur**, 2013. Physiological Evaluation of Drought Tolerance Potential of Energy Grasses. In Bioprospecting of Plant Genetic Resources (Dennis Thomas T. and Toji Thomas Eds.). Apex Infotech Publishing Company, Chennai, India. pp.89-95.
23. Szilvia Z. Tóth, Valéria Nagy, **Jos T. Puthur**, László Kovács, Győző Garab, 2010. Ascorbate alleviates donor-side induced photoinhibition by acting as alternative electron donor to photosystem II. Proc. 15th International Photosynthesis Congress 22-27 Aug. 2010. Beijing, China.
24. Shal Chandran, Bibi Annet Baiju and **Jos T. Puthur**, 2010. Selection of potential energy grasses and evaluation of its photosynthetically active light

regime. Proc. 22nd Kerala Science Congress 28-31 Jan. 2010. Peechi. pp. 778-779.

25. Szilvia Z. Tóth, **Jos T. Puthur** and Győző Garab, 2007. Naturally Occurring Alternative Electron Donors of Photosystem II. J.F. Allen, E. Gantt, J.H. Golbeck & B. Osmond (eds.), *In Proceedings of 14th International Photosynthesis Congress, Glasgow, U.K.* Springer Academic Publishers, pp.695-699.
26. Szilvia Z. Tóth, **Jos T. Puthur** and Győző Garab, 2007. Alternative Electron Donors Substitute the Inactivated Oxygen-Evolving Complex in Different Plant Species. *Cell Stress and Chaperones* online 12: 211 (4C-06-P).
27. Alphonsa Jacob and **Jos T Puthur**, 2003. Investigation of light harvest and utilization phenomena in *Piper nigrum* L. with relation to various standards. *In: Proceedings of National conference on recent Trends in Plant Science Research.* pp76-84.
28. **Jos T. Puthur**, K. V. S. K. Prasad, Neeta Pant, P. Sharmila, P. Pardha Saradhi 1997. Salt stress promotes benzylaminopurine induced expansion and phototchemical activities of *Sesbania sesban* cotyledonary leaves: Abstracts of "Photosynthetic membranes: Biogenesis and adaptation" Conference in University of British Columbia, Vancouver, B.C., Canada. July 31 to Aug 2, 1997.
29. P. Pardha Saradhi, Sandeep Arora, Vani B. and **Jos T. Puthur**. (1996). Alteration in NAD/NADH ratio regulates salt stress induced proline accumulation in *Vigna radiata*. *Proceedings-National Academy of Sciences India* 66(B), pp.89-100.

Ph.D. guided and awarded

1. Swapna K. S.-2015

Topic: "Phytoremediation potential of *Chromolaena odorata* (L.) King & Robins. towards various heavy metals"

2. Viji V.- 2015

Topic: "Germination pattern, Storage behaviour, Desiccation and Reserve mobilization of Palm seeds"

3. Jisha K. C.- 2015

Topic: "Studies on the influence of various seed priming methods for abiotic stress tolerance in *Oryza sativa* L. and *Vigna radiata* (L.) Wilczek"

4. Vijayakumari K.- 2016

Topic: "Influence of γ -aminobutyric acid (GABA)/ β -amino butyric acid (BABA)-priming on osmotic stress tolerance potential of black pepper (*Piper nigrum* L.)"

5. Shackira A. M.- 2017

Topic: "Evaluation of heavy metal phytoremediation potential and elucidation of underlying phytotechnology in a halophyte, *Acanthus ilicifolius* L."

6. Mirshad P. P.- 2017

Topic: "Establishment of energy grasses in degraded soils facilitated by VAM fungi"

7. Faseela P.- 2018

Topic: "Functional imprints of high light intensity light and UV-B radiation in selected rice (*Oryza sativa* L.) varieties"

8. Sinisha A. K.- 2019

Topic: "Heavy metal induced variation in photosynthetic features of selected rice (*Oryza sativa* L.) varieties".

9. Sruthi P.- 2020

Topic: "Ecophysiological studies on a mangrove species *Bruguiera cylindrica* (L.) Blume".

10. Dhanya Thomas T.T.-2021

Topic: "Enhancing abiotic stress tolerance of *Oryza sativa* L. by priming seeds and seedlings with UV- B radiation".

11. Akhila Sen- 2022

Topic: "Transgenerational effect of UV-B and halo priming in rejuvenating innate tolerance potential of *Oryza sativa* L. towards abiotic stresses".

12. Janeeshma E.-2022

Topic: "Heavy metal tolerance mechanism in *zea mays* L. and *Oryza sativa* L. associated with arbuscular mycorrhiza".

13. Sameena P. P.- 2022

Topic: "Heavy metal phytoremediation by the bioenergy crop *Ricinus communis* L. and the associated physiochemical and anatomical changes".

Details of PhD students being guided

N o :	Candidate	Title	Date of Registration	Part/ Full time	Nature of fellowship
1	Sarath G. Nair	Physio-Dynamism related to phytoremediation and phytodesalination in <i>Clerodendrum inerme</i> (L.) Gaertn.	11/02/2019	Full Time	KSCSTE Project Fellow
2	Noble Louis	Priming induced epigenetic changes and trans-generational memory related to abiotic stress response in <i>Oryza sativa</i> L.	8-11-2019	Full Time	UGC JRF

3	Aswathi Raj K. P.	The effect of various priming techniques on drought stress tolerance and recovery kinetics of <i>Vigna unguiculata</i> (L.) Walp.	18-02-2020	Full time	UGC-JRF
4	Amritha M. S.	Nanoscale graphite carbon nitride (g-C ₃ N ₄) priming of rice (<i>Oryza sativa</i> L.) for enhancing abiotic stress tolerance	07-09-2020	Full time	CSIR-JRF
5	Veena Mathew	Biofortification of rice (<i>Oryza sativa</i> L.) with zinc through nutripriming of seeds	18.12.2020	Full time	UGC-JRF
6	Riya Johnson	Biostimulants induced nutritional and yield enhancement in rice (<i>Oryza sativa</i> L.)	29.11.2022	Full time	-
7	Joel Joy M.	Nanostructured material mediated enhancement in mycorrhizal association and abiotic stress tolerance in <i>Oryza sativa</i> L.	29.11.2022	Full time	UGC-JRF
8	Anjitha K. S.	Cell wall remodeling under arsenic stress and associated functional biology in <i>Oryza sativa</i> L.	23.12.2022	Full time	CSIR-JRF

M.Phil Dissertations guided and awarded

1. Sudeep Jose- 2011

Topic: "Effect of GABA priming on drought tolerance potential of prominent *Brassica juncea* (L.) Czern varieties"

2. Shackira A. M.-2012

Topic: "Generic Demarcation of *Parasopubia delphinifolia* (L.) H.-P. Hofm. & Eb. Fisch. and *Sopubia trifida* Buch.-Ham.: Justification Through Histochemical and Biochemical Analysis"

3. Faseela P.- 2013

Topic: "The protective role of different osmolytes and polyamines on Photosystem I and II exposed to NaCl in ecotypically varying members of *Acanthaceae*"

4. Aparna Mohan- 2016

Topic: "High temperature stress alleviation potential of rare earth elements (Ce^{3+} & La^{3+}) in *Brassica juncea* (L.) Czern"

5. Dipija A. P. - 2017

Topic: "Analyzing the plasticity of plants in adapting to low and high light as assessed by morphological, physiological and biochemical features"

6. Sarath G. Nair-2018

Topic: "High temperature induced physiochemical changes in *Vigna unguiculata* L. var. PGCP6"

7. Anjana Ajith-2019

Topic: Physiochemical evaluation for the prospective utility of *Synedrella nodiflora* L. Gaertn., an invasive weed for the phytoremediation of nickel.

8. Riya Johnson-2020

Topic: Biostimulant priming in *Oryza sativa* L. reprograms the functional biology under nutrient deficient soil condition

M.Sc. Dissertations guided

1. Sateesh P. R.- 2003

An investigation into the relationship between light utility and crop productivity in *Vanilla planifolia* Andr.

2. Alphonsa Jacob- 2003

Investigation of light harvest and utilization phenomena in *Piper nigrum* L. with relation to various standards

3. Joby Joseph- 2004

A study on the effect of high light on photochemistry and the associated changes in *Vanilla planifolia* Andr.

4. Saritha K. Peter- 2004

Characterization of somaclonal variants of *Musa paradisiaca* L. for drought tolerance.

5. Ranjumol Joseph- 2005

Altitudinal variation in photochemistry and associated changes in *Elettaria cardamomum* Maton.

6. Prassana P. Rajan- 2005

Photosynthetic characteristics and antioxidant mechanism in *Vanilla planifolia* Andr. exposed to varying intensities of solar radiation.

7. Rajani C. Nair- 2006

The response of sciophytes and heliophytes exposed to the high PFD and its recovery kinetics.

8. Shal Chandran P.- 2006

Physiological Characterization of *Vanilla planifolia* Andr. Variants for Light and Drough Conditions

9. Biby Annet Baiju- 2009

Selection of potential energy grasses and evaluation of its suitability for marginal lands.

10. Kala S.- 2009

Comparitive analysis of thylakoid polypeptides of chloroembryos and leaves of two leguminaceous species and a halophyte.

11. Shackira A.M.-2010

Studying clonal progenital variations of *Syzygium cuminii* L. using morphological, physiological and biochemical Indices.

12. Vijila P.-2010

Study on the cadmium stress tolerance potential of *Brassica juncea* (L.) Czern. varieties.

13. Pravisya P.-2011

Alternative electron donation of ascorbate to photosystem II (PS II) during various abiotic stresses in *Brassica juncea* (L.) Czern.

14. Anjali A. R.-2012

Effects of Temperature and NaCl on Antioxidant Enzymes in Ecotypically Varying Members of Acanthaceae.

15. Sinisha A. K.- 2012

The Impact of Heavy Metal Accumulation on Stress Related Metabolism in Common Road side Medicinal Plants.

16. Simsha P.- 2013

"Agrocare" Induced Physiological and Biochemical Responses of *Brassica juncea* (L.) Czern. Subjected to Osmotic Stress

17. Sameena P. P.- 2013

Interaction of NaCl with Zinc/Cadmium on Stress Related Metabolism of *Brassica juncea* (L.) Czern.

18. Jusna Fairouz P. K.- 2014

Nutritional and NaCl stress alleviation potential of Lanthanum (La) in *Zea mays* L.

19. Thasniya T. C.-2014

Exogenously applied putrescine imparts NaCl tolerance to *Zea mays* L. Seedlings.

20. Janeeshma, E.- 2015

Arbuscular Mycorrhizal Mediated Phytostabilization and Cd²⁺ / Zn²⁺ Stress Alleviation of *Zea mays* L.

21. Mohammed Irfan T. K.-2016

Phytochemistry and antioxidation mechanisam in *Oryza sativa* L.cv 'neeraja' subjected to high temperature stress.

22. Reshmi C. -2016

Evaluation of high temperature tolerance potential of *Oryza sativa* L. cv 'aathira,

23. Navya Patrick- 2017

Physiochemical analysis of recalcitrance in the seeds of *Artocarpus heterophyllus* Lam.

24. Sruthi P.- 2017

Effect of halopriming and osmopriming in enhancing the viability of *Artocarpus heterophyllus* Lam. Seeds.

25. Hiba Habeeb-2018

Drought and zinc induced physiochemical changes and the associated compositional variation in secondary metabolites of *Plectranthus amboinicus* (Lour.) Spreng.

26. Riya Johnson-2018

A comparative account of the tolerance responses of *Vigna unguiculata* L. var. KBC IV towards various abiotic stresses.

27. Fathima Beevi A. I.-2019

Enhancement of Zinc phytoremediation potential of *Gossypium hirsutum* L. using Brassinosteroid

28. Hrudya A. A.- 2019

Zinc toxicity buffering function of *Gossypium hirsutum* L. cotyledonary leaves is enhanced by cytokinin treatment

29. Riya Rafeeqe C. K.- 2019

Exogenous application of gibberellic acid influences the heavy metal buffering potential of cotyledonary leaves in cotton seedlings

30. Anjitha K. S.- 2020

Functional aspects of plant secondary metabolites in metal stress tolerance and their importance in pharmacology

31. Sherin George- 2020

Photosynthetic functions in plants subjected to stresses are positively influenced by priming

32. Famiha N. B.- 2022

Structural and functional modulations in *Gossypium hirsutum* L. subjected to cadmium stress

33. Arya K. Vinod- 2022

Zinc stress induced functional and structural modulations in *Gossypium hirsutum* L.

Extension Lectures Delivered

- 1) **Dr. Jos T. Puthur**, Vimala College, Thrissur, Kerala, Nov 19, 2009. Topic: "Biofuels".
- 2) **Dr. Jos T. Puthur**, delivered guest lecture to the refresher course for college teachers in Life science at Academic Staff College, Kerala University, 2-8-2010.
- 3) **Dr. Jos T. Puthur**, Govt. Brennan College, Thalassery, Kerala, Dec 15, 2010. Topic: "Bioethanol and related issues".
- 4) **Dr. Jos T. Puthur**, St. Marys College, Thrissur, Kerala, July 12, 2012. Topic: "Bioethanol and related issues".
- 5) **Dr. Jos T. Puthur**, Academic Staff College (UGC short term programme for science research scholars), Calicut University, March, 2013. Topic: "Managing research projects".
- 6) **Dr. Jos T. Puthur**, Academic Staff College (UGC short term programme for science research scholars), Calicut University, Nov 7, 2013. Topic: "Opportunities for fresh PhD graduates".
- 7) **Dr. Jos T. Puthur**, Academic Staff College (UGC short 86th orientation programme for college teachers), Calicut University, Oct 14, 2014. Topic: "Research projects and funding".
- 8) **Dr. Jos T. Puthur**, Invited lecture in Life Sciences Department, Central University of Tamil Nadu, Thiruvarur, TN on Oct 16, 2014. Topic: "Abiotic stress tolerance of plants in relation to climate change".
- 9) **Dr. Jos T. Puthur**, Delivered keynote address in connection with Botany Research centre inauguration held on 05-03-2014 at SN College, Nattika, Kerala.
- 10) **Dr. Jos T. Puthur**, Delivered a talk on the Topic: "Writing research proposals and funding agencies" during the orientation workshop for the newly engaged Assistant Professors of KVASU on 06-02-2014.
- 11) **Dr. Jos T. Puthur**, Delivered a talk on the Topic: "Future Prospects and Opportunities in Biological Sciences". St. Marys College, Thrissur, Kerala, March 10, 2015.
- 12) **Dr. Jos T. Puthur**, Academic Staff College (UGC 2nd refresher course in Biotechnology for college teachers), Calicut University, Sept 08, 2015. Topic: "Molecular mechanisms of antioxidation".
- 13) **Dr. Jos T. Puthur**, "Ozone depletion-UV irradiation driven stress in plants and cellular mechanism of antioxidation" in the KSCSTE sponsored seminar coinciding with the Observance of Ozone day in MES Asmabi college, P. Vemballur, Thrissur. Sept 30, 2015.
- 14) **Dr. Jos T. Puthur**, "Key strategies for student success" in Dept. of Botany, Govt. Arts and Science college, Kozhikode on 23-08-2016.

- 15) **Dr. Jos T. Puthur**, "UV irradiation and tolerance mechanisms in plants " in the KSCSTE sponsored seminar coinciding with the Observance of Ozone day in Carmel College, Mala, Thrissur. Sept 29, 2016.
- 16) **Dr. Jos T. Puthur**, "Future prospects in Biological Sciences" on Aug 14, 2017, St. Marys College, Thrissur, Kerala.
- 17) **Dr. Jos T. Puthur**, Delivered an invited lecture on the topic "Plant Physiology in relation to abiotic stresses" to the participants of refresher course in life sciences sponsored by RUSA at Human Development Centre, University of Kerala on Nov 13, 2017.
- 18) **Dr. Jos T. Puthur**, Gave a radio talk in AIR, Kozhikode on the topic "New trends in the sphere of bio Science", broadcasted on Jan 08, 2018.
- 19) **Dr. Jos T. Puthur**, Delivered key note lecture coinciding with the inauguration of two day workshop on molecular biology techniques and bioinformatics held at Sree Narayana College, Nattika, thrissur on Jan 17, 2018.
- 20) **Dr. Jos T. Puthur**, Delivered an invited lecture on the topic " potential areas for future research in plant physiology" as part of Guru-Guruvandanam, coinciding with the golden jubilee celebrations of Dept. of Botany, St. Thomas College, Thrissur on Feb 12,2018.
- 21) **Dr. Jos T. Puthur**, Gave a radio talk in AIR, Kozhikode on the topic "Contributions of eminent biologist Dr. Kamaljit S. Bawa, the first indian to win the Linnean medal" broadcasted on July 16, 2018.
- 22) **Dr. Jos T. Puthur**, "Future prospects in Biological Sciences" on Oct 15, 2018, NSS College, Manjeri, Kerala.
- 23) **Dr. Jos T. Puthur**, "Future prospects for students of Masters in Botany" on Oct 30, 2018, Vimala College (Autonomous), Thrissur, Kerala.
- 24) **Dr. Jos T. Puthur**, "Ozone depletion and UV-B stress to plants" on June 27, 2019, St. Mary's College, Thrissur in connection with world environmental day.
- 25) **Dr. Jos T. Puthur**, "The art of scientific writing and publishing" on September 26, 2020. St. Thomas College (Autonomous), Thrissur.
- 26) **Dr. Jos T. Puthur**, "Future research prospects for biology graduates"on Jan 11, 2021. CPA College of Global studies, Puthanathani, Malappuram, Webinar series INSPIRON 2K21.
- 27) **Dr. Jos T. Puthur**, "Physiological responses in plants encountered with abiotic stresses" in the webinar series Liliun 2021, Nov 09, 2021. Dept of Botany, PSMO College, Thirurangadi, Malappuram, Kerala.
- 28) **Dr. Jos T. Puthur**, "The effects of abiotic stresses in plants and mechanisms to tolerate" in the webinar series of the refresher course in Botany, October 10, 2022, Refresher course in Academic Staff College, University of Madras, Chennai.

References:

1)Dr. James Jacob

Managing Director,
Plantation Corporation of India
Government of Kerala, India
Phone: +91-04812353323
Fax: 91-481-2353327
E-mail: pappan@scientist.com, james@rubberboard.org.in

2)Dr. Ashwani Pareek

Executive Director
National Agri-Food Biotechnology Institute, Mohali, Punjab, India
Phone: +91-9818487723
E-mail: ashwanipareek@gmail.com

3)Dr. Om Parkash Dhankher

Stockbridge School of Agriculture
University of Massachusetts Amherst, USA
Phone: +1 (413) 687-2177
E-mail: parkash@umass.edu

4)Dr. G. M. Nair

Director, CLIF
Professor (Retd.) & Former Head
Department of Biotechnology
Professor of Botany (Retd.)
Chairman Board of Studies in Botany, Biotechnology
University of Kerala
E mail: gmnair@rediffmail.com; gmnair51@gmail.com
Formerly: Director, Tropical Botanic Garden & Research Institute, Palode
Trivandrum 695 581, Kerala
Phone: Telefax 0471-2308778
Res: 0471-2417003
Cell: 9447089285