

Functional Plant Science and Biotechnology

Abbreviation: Func. Plant Sci. Biotech. (FPSB)

Print: ISSN 1749-0472

Frequency and Peer status: Biannual, Peer reviewed

Scope and target readership: *Functional Plant Science and Biotechnology* is an International journal open to papers of merit dealing with both basic and applied aspects and mechanisms underlying plant biology, particularly molecular and cell biology, structural biology, biochemistry, metabolism (photosynthesis and respiration), growth, morphogenesis, ecological and environmental physiology, biotechnology, and plant-microorganism interactions. Papers reporting research at all levels of plant organization are invited (i.e., molecular, subcellular, cellular, whole plant, canopy, ecosystem and global levels). We welcome manuscripts reporting question-based research using hormonal, physiological, environmental, genetic, biophysical, developmental or molecular approaches to the study of plant growth regulation, and productivity. Plant function should thus be analysed by either biochemistry, molecular biology, biophysics, cell or whole plant physiology, physiological ecology, together with structural, genetic, pathological and even meteorological aspects.

To network the different organizational levels of plant biology, *Functional Plant Science and Biotechnology* welcomes papers on aspects of experimental plant biology ranging from molecular and cell biology, biochemistry and biophysics, to ecophysiology from the molecular to the community level, including, *inter alia*:

- 1) Ageing and cell death;
- 2) Biochemistry and metabolism;
- 3) Ecophysiology;
- 4) Photobiology;
- 5) Uptake, transport and assimilation.

Editor-in-Chief

Jaime A. Teixeira da Silva, Kagawa University, Japan

Technical Editor

Kasumi Shima, Japan

Statistics Advisor

Marcin Kozak, Warsaw University of Life Sciences, Poland

Editorial Board and Advisory Panels (Listed alphabetically)

- Emil Alexov, Clemson University, USA
Anne J. Anderson, Utah State University, USA
Christian P. Andersen, US Environmental Protection Agency, USA
Mohammad Anis, Aligarh Muslim University, India
Naser Aziz Anjum, Aligarh Muslim University, India
Ahmet Balkaya, University of Ondokuz Mayıs, Turkey
Chhandak Basu, University of Northern Colorado, USA
Saikat Kumar Basu, University of Lethbridge, Canada
Maristela Sanches Bertasso Borges, Centro Universitário de Rio Preto, Brazil
Dimitris L. Bouranis, Agricultural University of Athens, Greece
Pankaj Kumar Bhowmik, Lethbridge Research Centre, Agriculture and Agri-Food Canada, Canada
Juan Francisco Jiménez Bremont, Institute for Scientific and Technological Research of San Luis Potosi, Mexico
Christophe Brunet, Stazione Zoologica Anton Dohrn, Italy
Santa Olga Cacciola, University of Catania, Italy
Eva Casanova, University of Barcelona, Spain
Vittoria Catara, University of Catania, Italy
Humberto Fabio Causin, Universidad de Buenos Aires, Argentina
Emilio Cervantes, Consejo Superior de Investigaciones Científicas (IRNASA-CSIC), Spain
Jer-Chia Chang, PingTung University of Science and Technology, Taiwan
Suriyan Cha-um, National Center for Genetic Engineering and Biotechnology, Thailand
Abdolkarim Chehregani, Bu Ali Sina University, Iran
Jin-Gui Chen, University of British Columbia, Canada
Prem S. Chourey, USDA-ARS, USA
Pio Colepiccolo, Universidade de São Paulo, Brazil
Tracey Cui, University of Tasmania, Australia
Anath Bandhu Das, Regional Plant Resource Centre, India
Anjali Dash, Banaras Hindu University, India
James F. Dat, Université de Franche-Comté – INRA, France
Antonio Dell'Aquila, Italy
Samir C. Debnath, Atlantic Cool Climate Crop Research Centre, Agriculture and Agri-Food Canada, Canada
Luis A. del Río, Estación Experimental del Zaidín, CSIC, Spain
Alberto Dias, Universidade do Minho, Portugal
Judit Dobránszki, University of Debrecen, Hungary
Jaroslav Ďurkovič, Technical University, Slovak Republic
Florent Engelmann, Institut de Recherche pour le Développement, France
David E. Evans, Oxford Brookes University, UK
Mohd. Faisal, Aligarh Muslim University, India
Esmaeil Fallahi, University of Idaho, USA
Attila Fehér, Biological Research Center of the Hungarian Academy of Sciences, Hungary
Patricia Dias Fernandes, Federal University of Rio de Janeiro, Brazil
Manuel Fernandes-Ferreira, Universidade do Minho, Portugal
Danilo D. Fernando, State University of New York, USA
Harzallah-Skhiri Fethia, Higher Biotechnology Institute of Monastir, University of Monastir, Tunisia
Jorge Fonseca, The University of Arizona, USA
Chakali Gahdab, National Institute of Agronomy, Algeria
Jeroni Galmés, Universitat de les Illes Balears, Spain
Abed Gera, The Volcani Center, Israel
Jürg Gertsch, Swiss Federal Institute of Technology, Switzerland
Ashoke Kumar Ghosh, Bengal School of Technology, India
Jai Gopal, Central Potato Research Institute, India
C. Gopi, K. S. Rangasamy College of Technology, India
Stefano Grego, Università della Toscana, Italy
Mazuru Gundidza, University of Zimbabwe/University of Fort Hare, Zimbabwe/South Africa
Wenwu Guo, Huazhong Agricultural University, China

S. Dutta Gupta, Indian Institute of Technology Kharagpur, India
 Geoff Gurr, Charles Sturt University, Australia
 Armin Hallmann, University of Bielefeld, Germany
 Faouzi Haouala, Institut Supérieur Agronomique de Chott Mariem, Tunisia
 Pranab Hazra, Bidhan Chandra Krishi Viswavidyalaya, India
 Xinhua He, University of California, Davis, USA
 Kathleen Hefferon, Cornell University, USA
 Luke Hendrickson, Australian National University, Australia
 Hossein Hokmabadi, Pistacchio Research Institute, Iran
 Jarmo Holopainen, University of Kuopio, Finland
 Hashem Hussein, Cairo University, Egypt
 Domingo J. Iglesias, Instituto Valenciano de Investigaciones Agrarias, Spain
 Abdelbagi M. Ismail, International Rice Research Institute, Philippines
 Sladjana Jevremovic, Institute for Biological Research "Siniša Stanković", Serbia
 PR Jeyaramraja, Hamelmalo College of Agriculture, The State of Eritrea
 Liwen Jiang, Chinese University of Hong Kong, China
 Shuangxia Jin, Huazhong Agricultural University, China
 Puthiyaparambil Josekutty, SCION, New Zealand
 Nirmal Joshee, Fort Valley State University, USA
 Roya Karamian, Bu Ali Sina University, Iran
 Natchimuthu Karmegam, VMKV Engineering College/Vinayaka Missions University, India
 Aisha Saleem Khan, Kinnaird College for Women, Pakistan
 Muhammad Azim Khan, NWFP Agricultural University, Pakistan
 Ara Kirakosyan, The University of Michigan, USA
 Zbigniew J. Koltowski, Research Institute of Pomology and Floriculture, Poland
 Robert W. Korn, Bellarmine University, USA
 Igor Kovalchuk, University of Lethbridge, Canada
 Marcin Kozak, Warsaw University of Life Sciences, Poland
 Jana Krajnakova, University of Udine, Italy
 Vladimir V. Kuznetsov, Russian Academy of Sciences, Russia
 Carlos A. Labate, Escola Superior de Agricultura Luiz de Queiroz, Brazil
 Christophe Laloi, ETH Zurich, Switzerland
 Maurizio Lambardi, Istituto per la Valorizzazione del Legno e delle Specie Arboree, Italy
 Gérard Jean-Paul Ledoigt, Blaise Pascal University, France
 Luiz Fernando Carvalho Leite, EMBRAPA, Brazil
 Shao-ping Li, University of Macau, China
 Xinxian Li, Aohata Corp., Japan
 Ji-Hong Liu, Huazhong Agricultural University, China
 Albino Maggio, University of Naples Federico II, Italy
 Moahammad J. Malakouti, Tarbiat Modares University, Iran
 Ezaz A. Mamun, University of Sydney, Australia
 Bikash Mandal, Indian Agricultural Research Institute, India
 Giovanni P. Martelli, Università degli Studi/Centro di Studio del CNR sui Virus e le Virosi delle Colture Mediterranee, Italy
 Pavol Mártonfi, P. J. Šafárik University, Slovakia
 Ákos Máthé, Szent István University, Hungary
 Sean Mayes, University of Nottingham, UK
 Sisir Mitra, Bidhan Chandra Krishi Viswavidyalaya, India
 Reda Moghaieb, Cairo University, Egypt
 Norimoto Murai, Louisiana State University, USA
 Adele M. Muscolo, Mediterranean University, Italy
 P.K. Nagar, Institute of Himalayan Bioresource Technology, India
 Madhugiri Nageswara Rao, University of Florida, IFAS, USA
 Sanjib Nandy, Lethbridge Research Centre, Agriculture and Agri-Food Canada, Canada
 Paraskev T. Nedialkov, Medical University-Sofia, Bulgaria
 Gustavo Nolasco, Universidade do Algarve, Portugal
 Takuhito Nozoe, National Agriculture Research Center, Japan
 Christopher Ochieng Ojiewo, The World Vegetable Centre, Tanzania
 Mary M. Peet, North Carolina State University, USA
 Suprasanna Penna, Bhabha Atomic Research Centre, India
 Edouard Pesquet, John Innes Centre, UK
 S. Reza Pezeshki, University of Memphis, USA
 Gopi K. Podila, The University of Alabama in Huntsville, USA
 Valentin Popa, Technical University of Iasi, Romania
 Majeti Narashima Vara Prasad, University of Hyderabad, India
 Ksenija Radotić, Institute for Multidisciplinary Sciences, Serbia
 Aluri Jacob Solomon Raju, Andhra University, India
 Moshe Reuveni, The Volcani Center, Israel
 Salehi Jouzani Gholam Reza, Agricultural Biotechnology Research Institute of Iran, Iran
 Nedeljka Rosic, University of Queensland, Australia
 Shyamal K. Roy, Jahangirnagar University, Bangladesh
 Youssef G. Roupheal, Lebanese University, Lebanon
 Hossein Sabouri, Gorgan University of Agricultural Sciences & Natural Resources, Iran
 Mohammad Jamal Saharkhiz, Shiraz University, Iran
 Ivan Yu. Sakharov, Lomonosov Moscow State University, Russia
 Ivan Salamon, Presov University, Slovak Republic
 Blanca San Segundo, Centre for Research in Agricultural Genomics (CRAG), CSIC-IRTA-UAB, Spain
 Sanjai Saxena, Thapar University, India
 Shigeru Satoh, Kyoto Prefectural University, Japan
 Sergey Shabala, University of Tasmania, Australia
 Junjie Shan, Beijing Institute of Pharmacology & Toxicology, China
 M. Mehdi Sharifani, Gorgan University of Agricultural Sciences & Natural Resources, Iran
 Pradeep Sharma, Tohoku University, Japan
 Nathan Sharon, Weizmann Institute of Science, Israel
 Neeta Shrivastava, B. V. Patel Pharmaceutical Education and Research Development (PERD) Centre, India
 Zamin Shaheed Siddiqui, University of Karachi, Pakistan
 Luke Simon, The Queen's University of Belfast, UK
 Harminder Pal Singh, Panjab University, India
 Rudra P. Singh, Potato Research Centre, Agriculture and Agri-Food Canada, Canada
 Zora Singh, Curtin University of Technology, Australia
 Iryna Smetanska, Institute for Vegetable and Ornamental Crops, Germany
 Alan Smith, University of Minnesota, USA
 Christine Stone, NSW Department of Primary Industries, Australia
 Angelina Subotić, Institute for Biological Research "Siniša Stanković", Serbia
 Sivaramakrishnan Sudhakaran, AIMST University, Malaysia
 James T. Tambong, Agric & Agri-Food Canada, Canada
 Karen Tanino, University of Saskatchewan, Canada
 Judith Thomas, North Carolina State University, USA
 Lining Tian, Southern Crop Protection and Food Research Centre, Agriculture and Agri-Food Canada, Canada
 Kin-Ying To, Academia Sinica, Taiwan
 Ilias S. Travlos, Benaki Phytopathological Institute, Greece
 Leena Tripathi, International Institute of Tropical Agriculture, Uganda
 Rong Tsao, Agriculture & Agri-Food Canada, Canada
 David Twell, Leicester University, UK
 Ernő Tyihák, Plant Protection Institute, Hungarian Academy of Sciences, Hungary
 Jaap M. van Tuyl, Wageningen University and Research Center, The Netherlands
 Rajeev K. Varshney, International Crops Research Institute for the Semi-Arid Tropics, India
 Boris B. Vartapetian, Timiryazev Institute of Plant Physiology, Russian Academy of Sciences, Russia
 Selvakumar Veluchamy, North Carolina State University, USA
 Sher Singh Verma, Chaudhary Charan Singh Agricultural University, India
 Aiming Wang, Agriculture and Agri-Food Canada/The University of Western Ontario, Canada
 Anand K. Yadav, Fort Valley State University, USA
 Teferi Yeshitela, OMNIA FERTILIZER Pty., LTD, South Africa
 Adnan Younis, University of Agriculture, Pakistan
 Hao Yu, National University of Singapore, Singapore
 David Zlesak, University of Minnesota, USA