INDIAN JOURNAL OF NATURAL SCIENCES (IJONS) BIMONTHLY INTERNATIONAL JOURNAL

Editor-in-Chief Dr.S.Vijikumar

Published by

TAMILNADU SCIENTIFIC RESEARCH ORGANISATION 39,MURA BHAVAN,KOODAL NAGAR,RAJAGOPALAPURAM POST, PUDUKKOTTAI, TAMIL NADU, INDIA. ijonstnsro@gmail.com,editorijons@gmail.com-www.tnsroindia.org.in

Editor-in-Chief, Editorial Board and Publisher take no responsibility for inaccurate, misleading data, opinion and statements appeared in the articles and advertisements published in this journal. It is the sole responsibility of the contributors and advertisers. No part of this journal can be reproduced without the written permission of the Editor-in-Chief who also holds the copyright © of the "Indian Journal of Natural Sciences (IJONS)".

Indian Journal of Natural Sciences (IJONS) Editorial Committee Members (ECM)

	Dr.S.Vijikumar
Editor-in-Chief	Director TamilNadu Scientific Research Organisation
	Pudukkottai-622003, Tamil Nadu. India.
	Editorial Committee
	Prof. Dr.V.Ramaiyan Marine Biologist
Honorable Chief Advisor	Research Advisor
	Sri Venkateswara College of Arts & Science. Peravoorani, Thanjavur. Tamil Nadu. India.
	Dr.C.Anandharamakrishnan
	Director,
Honorable Chief Advisor	Indian Institute of Food Processing Technology (IIFPT)
Tionorable Chief Advisor	Ministry of Food Processing Industries (MoFPI), Govt. of India
	Pudukkottai Road, Thanjavur - 613005, Tamil Nadu, India
	Dr. B. Vaseeharan
Honorable Chief Advisor	Professor and Head, Department of Animal Health and
	Management, Alagappa University, Karaikudi – 630003
	Prof.Mahdi Vatan Parast
	Chancellor & Professor,
Honorable Chief Advisor	Islamic Azad University,
	Quchan Branch,Quchan-Khorasan Razavi- Iran.
	Prof.Dr.Hamid Saremi
Honorable Chief Advisor	Vice- Chancellor,
	Islamic Azad University,
	Quchan branch, Quchan-Iran.
	Dr. Sr.D.Victoriya Amalorpava Mary, FBS
Honorable Chief Advisor	Principal, Bon Secours College for Women,
	Vilar bypass road, Thanjavur - 613 006. Tamilnadu, South India.
	Prof.Dr. B.A. ASBI
Honorable Chief Advisor	Vice President Research,
	Management & Science University(MSU), University drive off persiaran olahraga,
	40100 shah alam selangor , MALAYSIA.
	Dr. N. Jayabalan
Honorable Member	Professor & Head, Dept. of plant Science, School of life Sciences
	Bharathidasan University, Tiruchirappalli. Tamil Nadu. India.
	Dr. T.S. Saravanan
	Professor of Biotechnology cum Research Co-ordinator
Honorable Member	Dr.M.G.R Educational and Research Institute University
	Periyar E.V.R High Road, Maduravoyal, Chennai-600095.
	Dr.S.P.Subramaniyan
Honorable Member	Asst.Controller of Patents and Designs (Govt.of India)
	Patent Office, IPR Building, GST Road, Guindy, Chennai 600032

Honorable Member	Er. Abdul Samad. M. Kamdod Assistant Professor,Department of Civil Engineering Bharat Institute of Science & Technology for Women Mangalpally, Renga Reddy Dist. Andhra Pradesh, India
Honorable Member	Dr. Hina kousar Assistant Professor, Department of Environmental Sciences, Kuvempu University, Shankaraghatta, Shivamogga – 577 451, Karnataka ,India
Honorable Member	Mr.B.Rajesh Manager (Tech. Services Env.) Grass Roots Research & Creation India (P) Ltd Noida – 201301,Uttar Pradesh,India
Honorable Member	Mr. K.Ramanathan Head, Department of Bioinformatics, Thanthai Hans Roever College Perambalur, TamilNadu, India.
Honorable Member	Dr. K.Gurunathan Prof & Head, Department of Nano science & Technology, Alagappa University, Karaikudi, TamilNadu, India.
Honorable Member	Dr. Rajashekhar O, Patil Assistant Professor, Department of Environmental Management Sant Gadge Maharaj College of Commerce & Economics, Mumbai 400004, India
Honorable Member	Dr.M.Ravichandran Prof.& Head Department of Environmental Management Bharathidasan University, Tiruchirappalli. Tamil Nadu. India.
Honorable Member	Dr.M.Krishnan Prof.& Head,Department of Environmental Biotechnology Bharathidasan University, Tiruchirappalli. Tamil Nadu. India
Honorable Member	Dr.K.Kumarasamy Prof.& Head,Department of Geography Bharathidasan University, Tiruchirappalli. Tamil Nadu. India
Honorable Member	Dr.A.Sathya, Assistant professor – III, School of Civil Engineering, SASTRA University, Thanjavur – 613401, TamilNadu, India.
Honorable Member	Dr.G.G.Hammad Ahmad Shadab Senior Assistant Professor, Department of Zoology Aligarh Muslim University, Aligarh-202002, Uttar Pradesh
Honorable Member	Dr.H.Syed Jahangir Assistant Professor, P.G. and Research Department of Botany Jamal Mohamed College(Autonomous) Trichirappalli-620020,TamilNadu,India.

Honorable Member	Mrs.A.Indumathi Asst.Professor,Department of Biotechnology, Bon Secours College for Women,Vilar bypass road, Thanjavur Tamilnadu, South India
Honorable Member	Dr. P. Santhanam Assistant Professor, Department of Marine Science, School of Marine Sciences,Bharathidasan University, Tiruchirappalli. Tamil Nadu. India
Honorable Member	Dr.B.Parimala Devi Additional Director, Veeramani Mohana Centre for Quality Life Engineering Research, Periyar Maniyammai University, Vallam,Thanjavur ,TN. India.
Honorable Member	Dr. M. Lekeshmanaswamy Associate professor PG and Research Department of Zoology Kongunadu Arts and Science College G.N. mills (PO), Coimbatore-641 029, TamilNadu, India.
Honorable Member	Dr. P.Udaya Kumar Principal D.K.T College of Education, 1/341, Near Amaravathipalayam, Peruntholuvu (PO), Tirupur - 641 665,TamilNadu,India.
Honorable Member	Dr.Syed Mohamed Asst. Prof. Dept. of Zoology,Jamal Mohamed College Tiruchirappalli, TamilNadu, India
Honorable Member	Dr. Komalavalli Narayanaswamy Associate Professor, PG and Research Department of Botany H.H. The Rajah's College (Autonomous) Pudukkottai – 622 001, Tamil Nadu, India.
Honorable Member	Mis.S.Muthu Bharathi Asst.Professor,Department of Chemistry, Bon Secours College for Women,Vilar bypass road, Thanjavur Tamilnadu, South India
Honorable Member	Mrs.Sujatha Ilangovan Assistant Professor, Department of Biochemistry Holy Cross College, Tiruchirapalli-620002. TamilNadu, India.
Honorable Member	Dr.C.Kathirvelan Assistant Professor, Department of Animal Nutrition Veterinary College and Research Institute (TANUVAS) Namakkal -637002. TamilNadu, India.
Honorable Member	Professor.G.Ganesan Professor, Department of Mathematics Adikavi Nannaya University,Rajahmundry-533105 Andhra Pradesh, India.

Honorable Member	Mis D.Kalpana Asst.Professor,Department of Chemistry, Bon Secours College for Women,Vilar bypass road, Thanjavur TamilNadu, South India
Honorable Member	Dr.C.Balusami Assistant Professor, Department of Livestock Production and Management College of Veterinary and Animal Sciences Pookode-673576.Kerala, India.
Honorable Member	Dr.P.Kavitha Assistant Professor, Department of Zoology and Biotechnology AVVM Sri Pushpam College (Autonomous) Poondi,Thanjavur, TamilNadu, India.
Honorable Member	Dr.Vasudevan Ayyappan Department of Biology, Delaware State University, Dover, Delaware - 19901
Honorable Member	Mrs.A.Amargeetha Asst.Professor,Department of Chemistry, Bon Secours College for Women,Vilar bypass road, Thanjavur TamilNadu, South India
Honorable Member	Mrs.N.Rajarajeswari Asst.Professor,Department of Physics, Bon Secours College for Women,Vilar bypass road, Thanjavur TamilNadu, South India
Honorable Member	Dr.V. Rajendran Dean i/c Vanavarayar Institute of Agriculture Manakkadavu – 642 103. Pollachi Taluk, TamilNadu,India.
Honorable Member	Dr.C.Thamaraiselvi Assistant Professor, Dept. of Biotechnology Mother Teresa Women's University Kodaikanal-624101,TamilNadu,India.
Honorable Member	Dr. K.Madhava Chetty Plant Taxonomist, Assistant Professor,Department of Botany, <i>SVUCS</i> ,S.V. University,Tirupati-517 502,Andhra Pradesh, India.
Honorable Member	Dr.S.Ramesh Kumar Assistant Professor, Department of Horticulture, Vanavarayar Institute of Agriculture, Manakkadavu-642103,Pollachi,TamilNadu,India.
Honorable Member	Dr. S. Balasubramanian Assistant Professor Department of Mathematics, Government Arts College (A), Karur – 639 005,Tamilnadu,India.

Honorable Member	Dr.G. Rubalakshmi D/o V.P. Govindaraj, #3/41, Nanbargal Nagar,Muthukalipatty, Rasipuram TK, Namakkal DT-637401.Tamilnadu,India.
Honorable Member	Mr.Sridhar Ramachandran Assistant Professor, Department of Biological Science, Gojan College of Teacher Education , Chennai-600 052, TamilNadu, India
Honorable Member	Dr. H. Krishna Ram #11, 1st Main, Opp. to SBM, Gnanaganganagar,Bangalore- 560 056, Karnataka, India.
Honorable Member	Dr.S.Senthil Murugan Assistant Professor, Department of Animal Nutrition, College of Veterinary and Animal Sciences, Pookode, Wayanad, Kerala, India.
Honorable Member	R.Muthukrishnan Assistant Professor Department of Soil Science and Agricultural Chemistry Vanavarayar Institute of Agricultural Manakkadavu, Pollachi-642- 103, TamilNadu, India
Honorable Member	K.Ashokkumar Senior Research Fellow Dept of Agricultural Microbiology, Tamil Nadu Agricultural University, Coimbutore-3, TamilNadu, India
Honorable Member	Dr.Subbiah poopathi Scientist-F/Deputy-Director Vector control Research Centre, Medical complex, Indira Nagar,Pondicherry-605006,India
Honorable Member	Dr. Sivalingam Elayabalan Assistant professor 3/33,Eachampatti village Attur(Tk),Salem(Dt)-636107, TamilNadu, India
Honorable Member	Dr. Horne Iona Averal Associate professor of Head Holy cross college (Autonomous), Trichy. TamilNadu, India
Honorable Member	Dr.G.Singaravelu Professor &Head Department of Education Bharathiar University Coimbatore-46 TamilNadu, India
Honorable Member	Dr.Ga.Bakavathiappan Associate Professor in Zoology SBK College, Aruppukottai - 626 101, TamilNadu , India .

Honorable Member	Dr.P.Govindaraj Head & Associate Professor in Chemistry Department of Chemistry SBK College, Aruppukottai - 626 101, TamilNadu , India
Honorable Member	Dr.M.Gopikannan Senior Research Fellow, 15-B3 Paramathi Main Road, S.P.Pudhur, Namakkal(Dt)-637 001, TamilNadu, India
Honorable Member	Dr.K.Samiayyan Dean Agricultural College and Research Institute, TNAU, Eachangkottai, Thanjavur-614902, T.N,India.
Honorable Member	Dr.M.Vasanthy Assistant professor Periyar Illam,(upstairs), No,4,Vayalur Road, Kumaran Nagar, Ramalinga nagar south Extension, Trichy-620017, Tamil Nadu, India
Honorable Member	Dr.N.Vijayakumar Assistant Professor Dept.of Biochemistry & Biotechnology Annamalai University, Annamalainagar-608 002, Tamilnadu, India.
Honorable Member	Dr. S. Umamaheswari Assistant Professor Department of Environmental Biotechnology School of Environmental Sciences Bharathidasan University Tiruchirappalli – 620 024, Tamil Nadu
Honorable Member	Dr. Jai Shanker Pillai H.P. H.D. Ponna swamy Pillai # 644, Ganesh Temple Street Hunsur taluk, Mysore district – 571105, Karnataka, India
Honorable Member	Mr. Nesarajan. J Assitant Professor, Department of Zoology, Bishop Heber College, Trichy-17, Tamil Nadu. India
Honorable Member	Dr. John Abraham Assistant Professor, Department of L.P.M.,College of Veterinary and Animal Sciences Pookode, Wayanad. 673576, Kerala.
Honorable Member	Dr. S. Jayachandran Professor &Head,Dept. of Oral Medicine and Radiology, Tamil Nadu Govt. Dental College and Hospital, Chennai -600003,Tamil Nadu,India.
Honorable Member	Dr.V.M. Srinivasan Assistant Professor (Plant Pathology) Department of Crop Protection Thanthai Roever Institute of Agriculture and Rural Development, Valikandapuram Post, Perambalur - 621115., Tamil Nadu.

Honorable Member	Dr.Ranjith.D Assistant Professor, Department of Veterinary Pharmacology and Toxicology, College of Veterinary and Animal Sciences, Pookode, Wayanad – 673576. Kerala,India
Honorable Member	Daniel Jebaraj,M. C/o Joshuah No.14A, Thendral Nagar New Thillai Nagar, Vadavalli, Coimbatore-641041,TamilNadu,India
Honorable Member	Dr.Sindhu. K Veterinary Officer Department of AH and VS Karnataka, India.
Honorable Member	Dr.Rajesh R Young Scientist, Department of Agricultural Microbiology, Tamil Nadu Agricultural University, Coimbatore 641 003,TamilNadu,India.
Honorable Member	Dr.Jaivel N Post Doctoral Fellow, Department of Agricultural Microbiology, Tamil Nadu Agricultural University, Coimbatore - 641 003,TamilNadu,India.
Honorable Member	Dr.R.Prabhu Research Associate, NADP Cell,CARDS, TamilNadu Agricultural University, Coimbatore - 641 003,Tamil Nadu, India.
Honorable Member	Dr.M.Uma Gowri Research Associate, NADP Cell,CARDS, TamilNadu Agricultural University, Coimbatore - 641 003,Tamil Nadu, India.
Honorable Member	S.Jegan Karuppiah Assistant Professor, Department of Rural Development Science, Arul Anandar College, Karmathur - 625 514, Madurai. Tamilnadu, India
Honorable Member	Dr. Rina Poonia Associate Professor, Department of Physical Education, Faculty of Arts & Law, Manipal University,Jaipur,India.
Honorable Member	Dr.S.Ezhil Vendan Scientist Fellow, Food Protectants & Infestation Control Department, CSIR-Central Food Technological Research Institute, Mysore-570 020,Karnataka,India.

Honorable Member	Dr.K.Shameem Rani Associate Professor and Head, Dept. of Zoology,M.S.S Wakf Board College, Madurai-625020,TamilNadu,India.
Honorable Member	Dr.B.Nagarathnam No.2, New Agraharam, Erode-638001, TamilNadu,India.
Honorable Member	Dr.P.Balaji Assistant Professor (Agricultural and Rural Management), Centre of Excellence in Biofuels, Forest College and Research Institute, Tamil Nadu Agricultural University(TNAU), Mettupalayam- 641 301, Coimbatore Dt., Tamil Nadu.
Honorable Member	Dr.M.Shanthasheela Assistant Professor (Agricultural Extension), Department of Sericulture, Forest College and Research Institute, Tamil Nadu Agricultural University(TNAU), Mettupalayam- 641 301, Coimbatore Dt. Tamil Nadu.
Honorable Member	Dr. N. Balakrishnan Young Scientist, Department of Nano Science &Technology, Tamil Nadu Agricultural University, Coimbatore – 641003, TamilNadu,India.
Honorable Member	Dr.N.Raman Associate Professor, Department of Chemistry, VHNSN College, Virudhunagar-626 001, TamilNadu,India.
Honorable Member	M.Thenmozhi Assistant Professor (Agrl. Engg.), Imayam Institute of Agriculture and Technology, Kannanur, Trichy - 621206, TamilNadu,India.
Honorable Member	K.Kalidas Assistant Professor & Head, Dept. of Social Science, Vanavarayar Institute of Agriculture, Manakkadavu, Pollachi, TamilNadu,India.

Honorable Member	Dr.M.Kumar Assistant Professor(Horticulture), Vanavarayar Institute of Agriculture, Manakkadavu,Pollachi, Coimbatore-642103, TamilNadu,India.
Honorable Member	Dr.T.Pradeesh Kumar Assistant Professor (Agronomy), Vanavarayar Institute of Agriculture,TNAU,Pollachi, Coimbatore-642103,TamilNadu,India.
Honorable Member	Dr.M.R.Nandhakumar Assistant Professor (Agronomy), Kumaraguru Institute of Agriculture (Affiliated to TNAU), Appakoodal,Erode-638315, TamilNadu,India.
Honorable Member	Dr.R.Govindan Assistant Professor (Agronomy), Kumaraguru Institute of Agriculture (Affiliated to TNAU), Appakoodal,Erode-638315, TamilNadu,India.
Honorable Member	Dr.K.Vinoth Kumar Research Associate, Department of Agronomy, Agricultural College and Research Institute, TNAU, Madurai – 625104, TamilNadu,India.
Honorable Member	Dr.S.Sandhya Professor and Head of Department, Department of Pharmacognosy, St.James College of Pharmaceutical Sciences, Chalakkudy, Thrissur,Kerala,India.
Honorable Member	Dr.P.Anbarasan Assistant Professor (Agricultural Extension), Kumaraguru Institute of Agriculture,Tamil Nadu Agricultural University,Sakthi Nagar, Erode-638315, Tamil Nadu, India.
Honorable Member	Dr.N.Muthuselvan Principal, Saiva Bhanu Kshatriya College, Aruppukottai,Virudhunagar,TamilNadu,India.
Honorable Member	Dr.M.Rajasekar Research Associate, Precision Farming Development Center, Agricultural Engineering College and Research Institute, Tamil Nadu Agricultural University, Coimbatore, TamilNadu,India.

Honorable Member	Dr.A.Dinakara Rao Associate Professor, Center for Bioinformatics, School of Life Sciences, Pondicherry university,Puducherry,India
Honorable Member	Dr.K.Sivakumar Associate Professor, Department of Botony,Annamalai University, Annamalai Nagar,TamilNadu,India
Honorable Member	Dr.S.Moghana Lavanya Assistant Professor, Department of Agricultural Economics, Agricultural College and Research Institute, TamilNadu Agricultural University, Madurai,TamilNadu,India.
Honorable Member	Dr.M.Biruntha Assistant Professor, Department of Animal Health and Management, Alagappa University,Karaikudi,TamilNadu,India
Honorable Member	Dr.K.Saravanan Assistant Professor ,PG & Research Dept. of Zoology, Nehru Memorial College (Autonomous), Puthanampatti,Tiruchirappalli TamilNadu,India.
Honorable Member	Dr.A.Kalyana Sundaram Assistant Professor(Entomology), Agricultural College and Research Institute, Tamil Nadu Agricultural University, Eachangkottai,Thanjavur,TamilNadu,India.
Honorable Member	Sirajuddin M.Horaginamani Principal, Sayyid Akbar Husayni Degree College of Arts,Commerce and Science,Kalaburagi,Karnataka,India.
Honorable Member	Dr.P.Ramachandran Director & Head, Trichy Institute of Regenerative Medicine, Thillai Nagar West,Trichy,TamilNadu,India.
Honorable Member	Dr.S.Lingathurai Assistant Professor, Department of Biotechnology, The Madura College, Madurai, TamilNadu,India.
Honorable Member	Dr.P.Manonmani Assistant Professor,Department of Life Sciences, Centre for Research and Development, PRIST University, Vallam, Thanjavur TamilNadu,India.

Honorable Member	Dr. Syed Abrar Research Associate, Department of P.G. Studies & Research in Applied Botany, Kuvempu University,Shivamogga, Karnataka,India.
Honorable Member	Dr.V.Violet Dhayabaran Associate Professor ,Department of Chemistry, Bishop Heber College (Autonomous), Puthur, Tiruchirappalli,TamilNadu,India.
Honorable Member	Dr.H.T.Raghavendra Gowda Haluvalli, Opposite Bus stand, Mallalur,Chikamagalore, Karnataka,India.
Honorable Member	Dr. Goverdhan Rathla K. S Assistant Professor,Department of Physics, Government First Grade College, Birur, Kadur Talluk,Chickmagalore District. Karnataka,India.
Honorable Member	Dr.Ananthnag B Lecturer, Department of Environmental Science, Kuvempu University,Shivamogga, Karnataka,India.
Honorable Member	Dr.M.Ramesh Associate Professor, Department of Biotechnology,Alagappa University, Karaikudi-630003,Sivagangai Dt, TamilNadu,India.
Honorable Member	Dr.S.Yamini Sudha Lakshmi Assistant Professor, Department of Medical Biochemistry, University of Madras,Taramani Campus, Chennai-600113,TamilNadu,India.
Honorable Member	Dr. SA. Ramyabharathi 253/ A37, TNHB Colony, Kollapatti, Animur (PO),Tiruchengode (TK), Namakkal District- 637214, TamilNadu,India.
Honorable Member	Dr.B.Kaleeswaran Assistant Professor, Dept. of Zoology & Biotechnology, A.V.V.M.Sri Pushpam College, Poondi, Thanjavur,T.N.India.
Honorable Member	Dr.A.Radha Assistant Professor,Dept. of Zoology Kunthavai Naacchiyar Govt Arts College for Women, Thanjavur-7,T.N.India.

Honorable Member	Dr.V.L.Madhu Prasad Directorate of Extension, University of Agricultural Science, Hebbal,Bangaluru-560024. Karnataka,India.
Honorable Member	Dr.T.Shanmugasundaram Research Associate, Department of Vegetable Crops, Horticultural College and Research Institute, Tamil Nadu Agricultural University, Coimbatore-641 003 Tamil Nadu,India.
Honorable Member	Dr.V.Sakthirama 3/8,P Block,Sree Dakshaa-Vhiridhaa Bharthiyar University Post,Coimbatore-641046 TamilNadu,India.
Honorable Member	Dr.M.Kiruba 261B/5 Anna Nagar, Kulithalai-639104, Karur(Dt), Tamil Nadu
Honorable Member	Dr.Karpagavalli B Assistant Professor (FSN), RVS Agricultural College, Usilampatti Village,Sengipatti Via, Thanjavur-613402,Tamil Nadu,India.
Honorable Member	Dr.D.Leninraja, Assistant Professor (Soil Science & Agricultural Chemistry) Agricultural College and Research Institute, Tamil Nadu Agricultural University, Kudumiyanmalai,Pudukottai- 622 104,T.N
Honorable Member	Dr.S.Maragatham , Associate Professor (Soil Science & Agricultural Chemistry) Agricultural College and Research Institute, Tamil Nadu Agricultural University, Kudumiyanmalai,Pudukottai- 622 104,T.N.
Honorable Member	Dr.D.Balamurugan Assistant Professor (Soil Science & Agricultural Chemistry) JKK Munirajah College of Agricultural Science, T. N. Palayam, Erode- 638 506,T.N
Honorable Member	Dr.N.Rajesh Nallaiah Assistant Professor (Agronomy) RVS Agricultural College, Usilampatti Village,Sengipatti via, Thanjavur-613402,Tamil Nadu,India.
Honorable Member	Dr.C.N.Hari Prasath Senior Research Fellow D3 Quarters, Forest College and Research Institute, Kothagiri Road, Mettupalayam (Tk), Coimbatore (Dt),Tamil Nadu – 641 301,India.

Honorable Member	Dr.Prantosh K. Paul Department of Computer & Information Science, Raiganj University, Raiganj, West Bengal-733 134, India.
Honorable Member	Dr. Ajay Anil Gurjar Professor & Dean Academics, Sipna College of Engineering & Technology, Amravati(M.S)- 444606,India.
Honorable Member	Dr.Mathews Plamoottil Asst. Professor in Zoology, Govt. College Chavara, Kollam, Kerala,India.
Honorable Member	Dr.Mrs.E.Emimal Victoria Assistant Professor, Department of Zoology Sri Meenakshi Govt. Arts College for Women, Madurai TamilNadu,India
Honorable Member	Dr.C.Kandeepan Asst.Professor and Head, PG Department of Zoology, A.P.A College of Arts and Culture, Palani-624601,Dindigul Dt.T.N.,India.
Honorable Member	Dr.V.E.Nethaji Mariappan Scientist"F" Centre for Remote Sensing and Geoinformatics Sathyabama University,Rajiv Gandhi Road, Sholinganallur,Chennai – 600119,Tamil Nadu
Honorable Member	Dr.K.Nagarajan Associate Professor, Department of Zoology VHN Senthikumara Nadar College, Virudhunagar,TamilNadu,India.
Honorable Member	Dr.D.Sivaraman Scientist-C Department of Pharmacology, Sathyabama University, Jeppiaar Nagar, Rajiv Gandhi road, Chennai- 600 119.
Honorable Member	Dr.N.Mahesh Assistant Professor – III Department of Chemistry & Biosciences SASTRA University Srinivasa Ramanujan Centre, Kumbakonam,Thanjavur Dist,Tamilnadu,INDIA
Honorable Member	Dr.Sumit Kumar Gupta Dean of Science, Department of Physics, Parishkar College of Global Excellence , Jaipur, Rajasthan,India
Honorable Member Honorable Member Honorable Member	VHN Senthikumara Nadar College, Virudhunagar,TamilNadu,India. Dr.D.Sivaraman Scientist-C Department of Pharmacology, Sathyabama University, Jeppiaar Nagar, Rajiv Gandhi road, Chennai- 600 119. Dr.N.Mahesh Assistant Professor – III Department of Chemistry & Biosciences SASTRA University Srinivasa Ramanujan Centre, Kumbakonam,Thanjavur Dist,Tamilnadu,INDIA Dr.Sumit Kumar Gupta Dean of Science, Department of Physics, Parishkar College of Global Excellence , Jaipur,

Honorable Member	Dr.Prakash.M Professor, Department of Genetics and Plant Breeding, Faculty of Agriculture, Annamalai University, Annamalai nagar- 608002. Cuddalore District.
Honorable Member	Dr.B.A.Asbi Prof., Vice President Research, Management & Science University(MSU), University drive off persiaran olahraga, 40100 shah alam selangor. MALAYSIA.
Honorable Member	S.M.Prasad Assistant Professor, Department of Nutrition and Dietetics, Sadakathullah Appa College, Rahmath Nagar,Tirunelveli-627011. T.N.India
Honorable Member	K.Rajendran Research Associate Directorate of CARDS, TNAU,Coimbatore-3
Honorable Member	Dr.Kayalvizhi.K Senior Research Fellow Institute of Agriculture, Kumulur-621712,Lalgude(TK) Trichy. TamilNadu
Honorable Member	Dr.P.Jeyaseelan Associate Prof., Department of Agricultural Extension, Faculty of Agriculture, Annamalai University, Annamalai Nagar – 608 002 Cuddalore
Honorable Member	Dr.Suja George Principal Scientist, Department of Biotechnology, M.S. Swaminathan Research Foundation, Taramani, Chennai 600113.
Honorable Member	Dr.Neelesh Sharma ICAR-International Fellow & NAAS Associate Division of Veterinary Medicine, Faculty of Veterinary Science and Animal Husbandry, Sher-e-Kashmir University of Agri. Sciences & Technology, R.S. Pura, Jammu-181102 (J & K) INDIA.
Honorable Member	Dr.Tapas Ranjan Das Head (Acting), IARI Regional Station, Pusa Samastipur -848125,Bihar, India
Honorable Member	Dr.Muthuraman A., Assistant Professor, JSS College of Pharmacy, JSS University, Mysuru -570 015. Karnataka,India

Honorable Member	Dr.G.Rama Rao Principal Scientist &Head, Dept.of Crop Physiology, RARS Lam, Guntur-522034, ANGR Agricultural University, Andhra Pradesh,India.
Honorable Member	Dr.A.S.Kanagalakshmi Professor, Dept. of Civil Engineering, Panimalar Engineering College Chennai 600123. Tamilnadu,India.
Honorable Member	Dr.M.Ramarao Associate Professor, Department of Mechanical Engineering, Holy Mary Institute of Technology & Science Hyderabad, Telangana 501301, Telangana, India.
Honorable Member	Dr.Y.V. Krishna Reddy Department of Agricultural Engineering, Aditya Engineering College, Surampalem- 533437, East –Godavari, A.P., India
Honorable Member	Dr.Komal Kumar Javarappa Institute of Molecular Medicine Finland, University of Helsinki, Finland, Biomedicum Helsinki 2U, G315b, Finland- 00014.
Honorable Member	Dr.Easwari.S Asst.Professor, J.K.K. Munirajah College of Agricultural Science, T.N.Palayam, Erode Dist.,TamilNadu, India.
Honorable Member	Dr.Manigopa Chakraborty Chief Scientist cum University Professor Department of Genetics & Plant Breeding, Birsa Agricultural University, Kanke, Ranchi, Jharkhand – 834006., India.
Honorable Member	Dr.Arvind Prasad Dwivedi Lecturer, Department of Chemistry, Govt. Sanjay Gandhi Smriti College, Sidhi, Madhya Pradesh, India.
Honorable Member	Dr.M.N.Harisha Guest Lecturer, Department of Wildlife and Management, Kuvempu University, Jnanasahyadri, Shankaraghatta - 577451. Shimoga
Honorable Member	Dr.R.Rajkumar Senior Scientist, Village Resource Centre M S Swaminathan Research Foundation Pudukkottai,TamilNadu,India.
Honorable Member	Dr.Vidyalakshmi G M Division of Veterinary Physiology , CSM Lab, ICAR- IVRI, Izatnagar, Bareilly, Uttar Pradesh – 243 122. India.

Honorable Member	Dr.N.Shruthi Division of Animal Biochemistry, ICAR- IVRI, Izatnagar, Bareilly, Uttar Pradesh – 243 122. India.
Honorable Member	Dr.S.Deepa PGT Biology, G.K.Shetty Vivekananda Vidyalaya Junior College, Ambattur, Chennai – 600053. Tamil Nadu, India
Honorable Member	Dr.A.Suganya Research Scholar, Department of Agricultural Science, Tamil Nadu Agricultural University, Coimbatore
Honorable Member	Dr. N. Jeyapandiyan Research Associate, Department of Agricultural Microbiology, Tamil Nadu Agricultural University, Coimbatore.
Honorable Member	Dr.R.Selvaraj Associate Professor, Department of Veterinary Physiology,Centre for Laboratory Animal Technology & Research (CPCSEA approved), Sathyabama University, Chennai – 600 119.
Honorable Member	Dr.V.Karthika Senior Research Fellow, Department of Environmental Science, Water Technology Centre, Tamil Nadu Agricultural University, Coimbatore – 641 003.
Honorable Member	Dr.M.Karthikeyan Assistant Professor (Plant Pathology) Department of Vegetable Crops ,HC&RI Tamil Nadu Agricultural University ,Coimbatore TamilNadu,India
Honorable Member	Dr.K.Rajendran , Research Associate, Directorate of CARDS, Tamil Nadu Agricultural University, Coimbatore, Tamil Nadu,India.
Honorable Member	Dr. V. Janahiraman Assistant Professor (Agricultural Microbiology) Krishna College of Agriculture and Technology, Srirengapuram -625532, Usilampatti, Madurai-Dt Affiliated by Tamil Nadu Agricultural University. Tamil Nadu, India.
Honorable Member	Dr.A.Mahadevan Assistant Professor,Dept. of Horticulture, Krishna College of Agriculture and Technology, Srirengapuram -625532, Usilampatti, Madurai-Dt. Tamil Nadu, India

Honorable Member	Dr.A.Manikandan Principal, Muthayammal Memorial College of Arts and Science, Rasipuram, Namakkal Dist – 637408. Tamil Nadu, India.
Honorable Member	Vijaya Bhaskara Reddy.MUTHA Asst. Prof.Faculty of Public Health, St Theresa International College, 1 Moo 6 Rangsit-Nakhon Nayok Road (Klong 14), Bungsan,Ongkharak – 26120 Nakhon Nayok, Thailand.
Honorable Member	Dr. R.Mary Suja Director, Williams Research Centre, Nagarcoil – 1 Kanyakumari Dist, Tamil Nadu, India
Honorable Member	Dr. P. Chandramani Professor, (Agricultural Entomology), Agricultural College and Research Institute, Tamil Nadu Agricultural University Kudumiyanmalai – 622 104. Pudukkottai Dist., Tamil Nadu, India
Honorable Member	Dr. Hasan S.A. Jawad Animal Production Department, Agricultural Faculty, University of Baghdad, Baghdad,Iraq
Honorable Member	Dr. S. Suganya Kanna Assistant Professor, (Agricultural Entomology), Agricultural College and Research Institute, Tamil Nadu Agricultural University. Kudumiyanmalai – 622 104. Pudukkottai Dist., Tamil Nadu, India
Honorable Member	Dr. D. Balasankar Horticulture Officer, Farmer Training Centre, O/o Joint Director of Horticulture, Udhagamandalam -643001. The Nilgiris, Tamil Nadu, India.
Honorable Member	Dr. Ali Abdel-Hadi Mahoud Alsudani Assistant Professor in College of Science Biology Department, University of Al-Qadisiyah, Iraq.
Honorable Member	Dr. M. Manikandan Senior Research Fellow, Tamil Nadu Agricultural University Coimbatore – 641003. Tamil Nadu, India.

Honorable Member	Neeta Raghuveer Assistant Professor, National College Autonomous, Basavanagudi, Bengaluru Karnataka,India
Honorable Member	Dr. Salam Hussein Ewaid Shatra Technical Institute Southern Technical University, Iraq.
Honorable Member	Dr.S.Prema Associate Professor of Computer Science K.S.Rangasamy College of Arts and Science (Autonomous) Tiruchengode – 637 215, Tamilnadu, India
Honorable Member	Dr.S.Sasikala Associate Professor, Department of Computer Applications, Hindusthan College of Arts and Science, Coimbatore - 641 028, Tamilnadu, India.
Honorable Member	Dr. Ghaidaa Raheem Lateef Al-Awsi Al-Mustaqbal University College, Babylon,Iraq.
Honorable Member	Dr.C.Ravinder Singh Head, PG and Research Department of Botany, Vivekanandha College of Arts and Sciences for Women, Elayampalayam- 637 205, Tiruchengode, Namakkal, Tamil Nadu, India.
Honorable Member	Dr. S. Thenmozhi Assistant Professor (SS & AC) Soil Fertility and Irrigation Water Management Agricultural College and Research Institute, Kudumiyanmalai - 622 104, Pudukkottai – District, Tamil Nadu,India
Honorable Member	Dr. Salwan Ali Abed Department of Environment College of Science University of Al-Qadisiyah, Iraq.
Honorable Member	Dr.G.Rajaraman Assistant Professor & Coordinator School of Agricultural and Processing Sciences Kalasalingam Academy of Research and Education Krishnankoil-626126, Tamilnadu. India.
Honorable Member	Dr.S.Alagumanian Head & Assistant Professor, PG &Research Dept. of Botany H.H. The Rajash's Collage, Pudukkottai, Tamilnadu, India

Honorable Member	Dr. Faiza Kadhim Emran Department of Biology, College of Science, University of Baghdad, Baghdad, Iraq.
Honorable Member	Dr.N.Vasanthakumar Librarian, The American College, Madurai – 625 002, Tamilnadu, India
Honorable Member	Dr.Nagubudi. Varadarajulu Naidu Director of Research, Acharya N.G Ranga Agricultural University, Administrative Office, RARS, Lam, Guntur -522034 Andhra Pradesh, India.
Honorable Member	Dr. Ahmed Mahmood Shukur AL-Nedawi Assistant Professor, Animal Resource Department, Faculty of Agriculture, University of Baghdad, Baghdad, Iraq
Honorable Member	Dr.Thirumal Kumar D Assistant Professor(Jr) Department of Integrative Biology, School of Bio Sciences and Technology Vellore Institute of Technology Vellore – 632014, Tamilnadu, India
Honorable Member	Dr.R.Jayapandi Assistant Professor, Department of Bio Chemistry, The American College,Madurai – 625 002 Tamilnadu, India
Honorable Member	Dr.C.Ravindran Assistant Professor (Horticulture) Department of Fruit Crops Horticulture College and Research Institute Periyakulam – 625 604, Theni District, Tamilnadu, India.
Honorable Member	Wejdan Thamir Mahdi University of Qadisiyah,Iraq
Honorable Member	Dr.K.F.Bharati Assistant Professor, Department of Computer Science and Engineering, JNTUA College of Engineering, Ananthapuramu - 515002, Andhra Pradesh, India.
Honorable Member	Dr.Huda Falah Hasan Radi Alqaraghuli Assistant Professor, College of Veterinary Medicine, University of Baghdad,Baghdad, Iraq.
Honorable Member	Dr.S.V.Sai Prasad Principal Scientist & Head ICAR-IARI, Regional Station, Near Agriculture College, Indore – 452 001, Madhya Pradesh, India

Honorable Member	Dr. Intedhar Abbas Marhoon Biology Department, Faculty of Science, University of Al-Qadisiyah, Iraq
Honorable Member	Dr.Omkar Prasad Baidya Assistant Professor, Department of Physiology, ESI-PGIMSR and ESIC Medical College, Joka, Kolkata,West Bengal, India
Honorable Member	Dr.Reem Zuhair Shaker Abdul Rahman Shanshal Assistant Professor in Life Sciences, College of Education for Girls, University of Mosul, Iraq.
Honorable Member	Dr.V.Kavitha Associate Professor, PG and research Department of Computer Application, Hindusthan College of Arts and Science, Coimbatore -28, Tamilnadu, India
Honorable Member	Dr. Preethi Balasundaram Post-Doctoral Fellow, Wieden Group Alberta RNA Research & Training Institute Department of Chemistry and Biochemistry University of Lethbridge, 4401 University Drive Lethbridge, Alberta, Canada T1K 3M4
Honorable Member	Dr. Vikas Sharma Associate Professor/Sr. Scientist (Agronomy) Regional Agricultural Research Station SKUAST-JAMMU, Tandwal-Rajouri, Teh. And District Rajouri, State Jammu and Kashmir, India
Honorable Member	Dr.C.Vijai Assistant Professor, Department of Commerce, St.Peter's Institute of Higher Education and Research, Avadi, Chennai-600 054, Tamil Nadu, India
Honorable Member	Dr. Gopal Muthu Scientist -'C' DHR-Model Rural Health Research Unit ICMR-National Institute of Epidemiology Government of India, Primary Health Centre Campus Kallur-627 010, Tirunelveli District, Tamil Nadu, India
Honorable Member	Dr.N.Revathy Associate Professor, PG and research Department of Computer Application, Hindusthan College of Arts and Science, Coimbatore -28, Tamilnadu, India
Honorable Member	Dr.M.Ananthi Teaching Assistant, Directorate of Planning and Monitoring, Tamil Nadu Agricultural University, Coimbatore – 03, Tamilnadu, India.

Honorable Member	Dr.Pushpa S Murthy Senior Scientist, Department of Spice and Flavor Science AcSIR Associate Professor (Biological Sciences), CSIR - Central Food Technological Research Inst. MYSURU, Karnataka, INDIA
Honorable Member	CH.V.Satyanarayanaraju Scientist, Research Centre Imarat, DRDO Hyderabad, Telangana, India
Honorable Member	Dr. Vickram A S Associate Professor, Department of Biotechnology Saveetha School of Engineering Saveetha Institute for Medical and Technical Sciences Chennai, Tamilnadu, India
Honorable Member	G.Menaka Assistant Professor, Computer Science Cum Deputy Controller of Examinations Vivekanandha College Of Arts & Sciences For Women (Autonomous), Elayampalayam,Tiruchengode, Namakkal (Dist.), TamilNadu, India
Honorable Member	Dr. Karthikeyan Rajamani Senior Research Scientist (Biomarker) ICMR Centre for Advanced study in Air pollution, Department of Environmental Health Engineering, Sri Ramachandra Institute of Higher Education and Research, Porur-600116, Chennai, TamilNadu, India
Honorable Member	Dr. P.Yasodha Assistant Professor (Agrl. Entomology) Anbil Dharmalingam Agricultural College & Research Institute, Tamil Nadu Agricultural University, Navalur Kuttapattu 620 027, Tiruchirappalli, Tamil Nadu, India.
Honorable Member	Dr. SAIKAT SEN Associate Professor Faculty of Pharmaceutical Sciences Assam down town University, Panikhaiti, Guwahati, Assam - 781026, India
Honorable Member	Dr.E.Selvarajan Research Assistant Professor Department of Genetic Engineering School of Bioengineering SRM Institute of Science and Technology Kattankulathur-603203, Chennai, Tamilnadu, India
Honorable Member	Dr.V.Shanmuga Sundaram Assistant Professor & Head Department of Statistics Mahendra Arts & Science College (Autonomous) Kalippatti, Namakkal-637501. Tamilnadu, India.

Honorable Member	Dr. J. Rajangam Professor and Head, Department of Fruit Crops, HC & RI, Periyakulam,Tamilnadu, India
Honorable Member	Dr.R.R.Saravanakumar Librarian & Head Department of Library and Information Science Sadakathullah Appa College (Autonomous) Rahmath Nagar, Tirunelveli, Tamilnadu, India
Honorable Member	Dr. Shivendu Ranjan Senior Research Associate Faculty of Engineering & Built Environment University of Johannesburg, Johannesburg (Auckland Park Kingsway Campus) South Africa
Honorable Member	Dr.Nagubudi.Varadarajulu Naidu Director of Research, Acharya N.G Ranga Agricultural University, Administrative Office, RARS, Lam, Guntur -522034, Andhra Pradesh, India
Honorable Member	Dr.I.Muthuvel Associate Professor (Horticulture), Department of Fruit Crops, Horticultural College and Research Institute, Periyakulam – 625 604, Theni Dist. Tamil Nadu, India
Honorable Member	Subburaj. M Deputy Director Food Safety and Standards Authority of India Ministry of Health and Family welfare, Govt. of India Benfish Tower, 31 GN Block, Sector V, Salt lake city Kolkata -700091, India
Honorable Member	Dr.Bhagyalakshmi Rajaram Associate Professor, Department of Management Studies, PSNA College of Engineering & Technology, Dindigul, TamilNadu, India
Honorable Member	Dr.S.Annapoorani Assistant Professor in Biotechnology, Dr.Umayal Ramanathan College for Women Karaikudi, Sivaganga (Dt), TamilNadu, India
Honorable Member	Dr Bhasker Sharma Homoeopathy Doctor Sharma Homoeopathy Chikitsalya and Research Center Itwa Bazaar, Dist-Siddharth Nagar, Pin-272192 Uttar Pradesh, India
Honorable Member	Dr.R.Parimalan Scientist (Agrl. Biotech) & Hon. Faculty (QAAFI, UQ), Division of Genomic Resources, ICAR-National Bureau of Plant Genetic Resources, PUSA Campus, New Delhi-110012

	Dr.P.Sivakumar
	Assistant Professor (Biotechnology)
Honorable Member	Agricultural College and Research Institute
	Tamil Nadu Agricultural University,
	Eachangkottai, Thanjavur, Tamil Nadu, India

Indian Journal of Natural Sciences (IJONS)

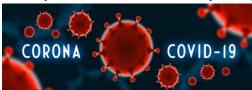
Volume 2 CODEN:		pril 2020 0976 - 0997
S. No.	CONTENTS	Page No.
	Editorial	
95	An <i>In-silico</i> Investigation of Phytochemicals from <i>Brassica juncea</i> (Mustard) as Antibacterial Agent against Diarrhoea S.Chhotaray, I. Pattnaik, S. Jal and Dipankar Bhattacharyay	18939-18943
96	<i>In-silico</i> Molecular Docking Studies and Activity of Anthraquinone in <i>Chrysopogon zizanioides</i> (Vetiver) Against Sepsis Caused by <i>Staphylococcus aureus</i> S.Chhotaray, S. Jal and Dipankar Bhattacharyay	18944-18948
97	Evaluation of Phytochemical Compounds from <i>Curcuma longa</i> (Turmeric) as a Potential Drug against Sinusitis: An <i>In-silico</i> Approach S. Chhotaray, P.Pallavi, K.V.D.Prakash, S.K.Jha and S. Jal	18949-18953
98	Evaluating the Effectiveness of Phytochemicals from <i>Curcuma longa</i> (Turmeric) against Diarrhoea through <i>In-silico</i> Approach S. Chhotaray, S. Jal and Dipankar Bhattacharyay	18954-18958
99	<i>In silico</i> Molecular Docking Studies of Phytochemicals Screened from <i>Ocimum</i> <i>tenuiflorum</i> against Enoyl-Acyl Carrier Protein Reductase of <i>Streptococcus</i> <i>pneumoniae</i> Causing Sinusitis S.Das, D.Das, P.Panda, S.Jal and Dipankar Bhattacharyay	18959-18963
100	Analysis of Binding and Interaction of Phytochemicals from <i>Curcuma longa</i> (Turmeric) against Ulcer: An <i>In silico</i> Virtual Screening Approach S.Chhotaray, M. Tripathy, S. K. Jha, K.V.D.Prakash and S. Jal	18964-18968
101	<i>In-silico</i> Molecular Docking Studies and Anti-Microbial Activity of Phytochemicals from <i>Jasminum sambac</i> against Gingivitis P. Sahoo, S. Chhotaray, K.V.D. Prakash, S.K. Jha, S.Jal	18969-18973
102	An <i>In silico</i> Analysis of Phytochemicals as Antimicrobial Agents from <i>Pogostemon cablin</i> against Eczema P.Sahoo, M. Tripathy, S.K.Jha, K.V.D.Prakash and S. Jal	18974-18978
103	<i>In silico</i> Molecular Docking Studies of Phytochemicals from <i>Chrysopogon zizanioides</i> (Vetiver) against Malaria Parasite Chhotaray. S, Tripathy.M, Mohapatra. A, Mishra. MP and Dipankar Bhattacharyay	18979-18982
104	Anti-Malaria Activities of Phytochemicals from <i>Theobroma cacao</i> : An <i>In silico</i> Study S.Sahoo, S.Palei, S.Gouda, S.Dash and Dipankar Bhattacharyay	18983-18987
105	<i>In silico</i> Analysis of Phytochemicals from <i>Tinospora cordifolia</i> against <i>Neisseria gonorrhoeae</i> Causing Gonorrhea Mohapatra. A, Routray. A, Das. D, Mishra. MP and Dipankar Bhattacharyay	18988-18992
106	<i>In silico</i> screening of Antidiarrheal Phytochemicals from <i>Coriandrum sativum</i> A.Mohapatra, J.Sahu, A.Routray and Dipankar Bhattacharyay	18993-18997
107	<i>In silico</i> Molecular Docking Studies of Phytochemicals from <i>Withania somnifera</i> against Shikimate 5-Dehydrogenase of <i>Helicobacter pylori</i> Causing Peptic Ulcer Mohapatra. A, Chhotaray.S, Mishra. MP and Dipankar Bhattacharyay	18998-19001

108	<i>In silico</i> Analysis of Phytochemicals from <i>Withania somnifera</i> against 3- Hydroxyacyl-CoA Dehydrogenase Type-2 of <i>Mycobacterium avium</i> Causing Pulmonary Infections Mohapatra. A,Tripathy. M, Chhotaray. S, Mishra. MP and Dipankar Bhattacharyay	19002-19005
109	Computer-Aided Investigation of Phytochemicals from <i>Cuminum cyminum</i> against <i>Staphylococcus aureus</i> based on Molecular Docking Studies P.Jena, S. Behera, J. Sahu, S.Dash and Dipankar Bhattacharyay	19006-19010
110	Phytochemical, <i>In silico</i> Evaluation on <i>Chrysopogon zizanioides</i> (Vetiver) for Treatment of Urinary Tract Infection (UTI) S.Chhotaray, S.Dash and Dipankar Bhattacharyay	19011-19015
111	<i>In silico</i> Molecular Docking Studies of Phytochemicals Screened from <i>Nardostachys jatamansi</i> against Acetoacetyl CoA Reductase of Candida tropicalis Causing Candidiasis Atasi Routray, Sharbani Bahali, Susmita Chakrabarty and Dipankar Bhattacharyay	19016-19020
112	<i>In silico</i> Molecular Docking Studies of Phytochemicals Screened from <i>Tagetes</i> <i>erecta</i> against Isocitrate Dehydrogenase Enzyme of <i>Staphylococcus aureus</i> Causing Conjunctivitis Atasi Routray, Abhinas Mohapatra, Sushsreesusmita Palai, Susmita Chakrabarty and Dipankar Bhattacharyay	19021-19025
113	<i>In silico</i> Molecular Docking Studies of Phytochemicals Screened from <i>Curcuma</i> <i>longa</i> (Turmeric) against Homoserine Dehydrogenase of <i>Staphylococcus aureus</i> Causing Eczema S. Chhotaray, S. K. Jha and S. Chakrabarty	19026-19030
114	<i>In silico</i> Analysis of Phytochemicals from <i>Foeniculum vulgare</i> against Alkaline Phosphatase of <i>Prevotella intermedia</i> Soumyashree Behera, Sushree Susmita Palei, Mukundjee Pandey and Dipankar Bhattacharyay	19031-19036
115	<i>In silico</i> Analysis of Effects of Phytochemicals from <i>Linum usitatissimum</i> against <i>Helicobacter pylori</i> Causing Peptic Ulcer Runki Priyadarsani Samal, Atasi Routray, Prajna Priyadarsini Sethi, Mukundjee Pandey and Dipankar Bhattacharyay	19037-19040
116	<i>In silico</i> Analysis of Phytochemicals from <i>Cymbopogon citratus</i> against Shikimate Dehydrogenase of <i>Haemophilus influenzae</i> Causing Sore Throat Kabyashree Diptimayee Swain, Sonu Priya Sahu, Mukundjee Pandey and Dipankar Bhattacharyay	19041-19044
117	<i>In silico</i> Analysis of Phytochemicals from Marigold against Sterol 14-Alpha Demethylase of <i>Trichophyton sp</i> Causing Jock Itch Sunanya Das, Sarita Mishra, Madhumita, Mukundjee Pandey and Dipankar Bhattacharyay	19045-19048
118	<i>In silico</i> Analysis of Phytochemicals from <i>Glycyrrhiza glabra</i> (Mulethi) against Alcohol Dehydrogenase of <i>Helicobacter pylori</i> Causing Ulcer Debika Tripathy, Sarbani Bahali, Mukundjee Pandey and Dipankar Bhattacharyay	19049-19053
119	<i>In silico</i> Analysis of Phytochemicals from <i>Myristica fragrans</i> against Superoxide Dismutase of <i>Porphyromonas gingivalis</i> Causing Periodontitis Kabyashree Diptimayee Swain, Prajna Priyadarshini, Mukundjee Pandey and Dipankar Bhattacharyay	19054-19057

120	<i>In silico</i> Analysis of Phytochemicals from Tomato Flakes against Peroxiredoxin of <i>Staphylococcus aureus</i> Causing Eczema Swatiprava Panda, Prerana Jena, Mukundjee Pandey and Dipankar Bhattacharyay	19058-19061
121	<i>In silico</i> Analysis of Phytochemicals from <i>Polianthes tuberosa</i> against <i>Staphylococcus aureus</i> Causing Skin Disease Sujata Prusty, Krutanjali Rout, Chinmayee Naik, Mukundjee Pandey and Dipankar Bhattacharyay	19062-19067
122	<i>In silico</i> Analysis of Phytochemicals from <i>Ocimum tenuiflorum</i> against Shikimate Dehydrogenase of <i>Haemophilus influenzae</i> Causing Sore Throat Kabyashree Diptimayee Swain, Babita Das, Mukundjee Pandey and Dipankar Bhattacharyay	19068-19071
123	<i>In silico</i> Analysis of Phytochemicals from <i>Azadirachta indica</i> against Cinnamyl- Alcohol Dehydrogenase of <i>Helicobacter pylori</i> Causing Ulcer Kabyashree Diptimayee Swain, Sunanya Das, Abinash Mohapatra, Mukundjee Pandey and Dipankar Bhattacharyay	19072-19076
124	<i>In silico</i> Analysis of Phytochemicals from <i>Boswellia serrata</i> against Diarrhoea Chinmayee Naik, Krutanjali Rout, Sujata Prusty, Sitaram Swain and Dipankar Bhattacharyay	19077-19081
125	<i>In silico</i> Analysis of Phytochemicals from <i>Boswellia serrata</i> against Dysentery Krutanjali Rout, Chinmayee Naik, KVD Prakash, Dipankar Bhattacharyay	19082-19086
126	<i>In silico</i> Analysis of Phytochemicals from Flaxseed against Bronchitis Prajna Priyadarsini Sethi, Atasi Routray, Runki Priyadarsini Samal, Sitaram Swain and Dipankar Bhattacharyay	19087-19091
127	<i>In silico</i> Analysis of Phytochemicals from <i>Nardostachys jatamansi</i> against <i>Candida tropicalis</i> Causing Candidiasis Atasi Routray, Sharbani Bahali, KVD Prakash and Dipankar Bhattacharyay	19092-19095
128	<i>In silico</i> Analysis of Phytochemicals from <i>Hedychium spicatum</i> against <i>Escherichia</i> <i>coli</i> Causing Diarrhea Runki Priyadarsani Samal, Nibedita Jena, KVD Prakash and Dipankar Bhattacharyay	19096-19099
129	<i>In silico</i> Analysis of Phytochemicals from <i>Lagerstroemia speciosa</i> against Malaria Ipsita Aparajita Mohapatra , Subhadra Manjari Parida , Poonam Pradhan, KVD Prakash and Dipankar Bhattacharyay	19100-19104
130	<i>In silico</i> Analysis of Phytochemicals from Malkangni (Celastrus <i>paniculatus</i>) against Glutamate Racemase of <i>Streptococcus pyogenes</i> Causing Throat Infection Anwesha Aparamita Nayak, Biswajit Jena, Bidyashree Tripathy, KVD Prakash and Dipankar Bhattacharyay	19105-19110
131	<i>In silico</i> Analysis of Phytochemicals from <i>Rauvolfia serpentina</i> against Enoyl- [Acyl-Carrier Protein] Reductase of <i>Vibrio cholerae</i> Causing Cholera Geetanjali Rana, Prerana Jena, KVD Prakash, KVD Prakash and Dipankar Bhattacharyay	19111-19115
132	<i>In silico</i> Analysis of Phytochemicals from <i>Rauvolfia serpentina</i> against Alcohol Dehydrogenase of <i>Entamoeba histolytica</i> Causing Dysentery Soumyashree Behera, Sunanya Das, KVD Prakash and Dipankar Bhattacharyay	19116-19120
133	<i>In silico</i> Analysis of Phytochemicals from <i>Tinospora cordifolia</i> against Laccase <i>Trichophyton rubrum</i> of Ringworm Causing Skin Disease Debika Tripathy , Kabyashree Diptimayee Swain, KVD Prakash and Dipankar Bhattacharyay	19121-19126

134	<i>In silico</i> Analysis of Phytochemicals from <i>Tinospora cordifolia</i> against <i>Helicobacter pylori</i> Causing Ulcer Runki Priyadarsani Samal, Debasmita das, KVD Prakash and Dipankar Bhattacharyay	19127-19130
135	<i>In silico</i> Analysis of Phytochemicals from <i>Vaccinium corymbosum</i> (Blue berry) against Sore Throat Anindita Jena, Diptiprajnya Sahoo, Minati Nayak KVD Prakash and Dipankar Bhattacharyay	19131-19135
136	<i>In silico</i> analysis of Phytochemicals from <i>Alpinia galanga</i> against Bronchitis Seema Suvadarshini , Sonali Parida, Sutapa Nayak, Sitaram Swain and Dipankar Bhattacharyay	19136-19140

Editorial ... We hope this communication finds you safe and healthy.....



COVID-19 is a disease caused by a new strain of corona virus. Symptoms can include fever, cough and

shortness of breath. In more severe cases, infection can cause pneumonia or breathing difficulties. These symptoms are similar to the flu (influenza) or the common cold, which are a lot more common than COVID-19. The virus is transmitted through direct contact with respiratory droplets of an infected person (generated through coughing and sneezing). We are learning more about how COVID-19 affects people every day. Older people, and people with chronic medical conditions, such as diabetes and heart disease, appear to be more at risk of developing severe symptoms. There is no currently available vaccine for COVID-19. There are several clinical trials that are being conducted to evaluate potential therapeutics for COVID-19. Public health measures are everyday preventive actions that include: 1. Staying home when sick; 2. Covering mouth and nose with flexed elbow or tissue when coughing or sneezing. 3.Dispose of used tissue immediately; 4. Washing hands often with soap and water; and 5. Cleaning frequently

touched surfaces and objects. The outbreak of coronavirus disease (COVID-19) has been declared a Public Health Emergency of International Concern (PHEIC) and the virus has now spread to many countries and territories. While COVID-19 continues to spread it is important that communities take action to prevent further





STAY SAFE. STAY HOME.

transmission, reduce the impacts of the outbreak and support control measures. It is important to remember that COVID-19 does not differentiate between borders, ethnicities, disability status, age or gender. Today, children and young people are global citizens, powerful agents of change and the next generation of caregivers, scientists, and doctors. Any crisis presents the opportunity to help them learn, cultivate compassion and increase resilience while building a safer and more caring community. Education can encourage students to become advocates for disease prevention and control at home, in school, and in their community by talking to others about how to prevent the spread of viruses. As we go forward in our situation, it is important that we continue to pay attention and abide by the "Stay Home" directive from the Government and its Department of Health. We will get through this, but it will take all of us doing our part and doing the right things. Considering the seriousness of COVID-19, it's about time we step up against this deadly disease. For the sake of lives lost and the rest of humanity, let us all pledge to beat Corona back. IJONS request to all young researchers are doing and accelerating their research for controlling COVID 19 under the guidance of your guide and teachers. We fight against this disease and create healthy world.

Vijikumar Sahadevan Editor in Chief, IJONS Source:WHO