

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)

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

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.Kalpna 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, SVUCS,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, Gnanaganaganagar,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.Vasanthi 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, Kudumiyamalai,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, Kudumiyamalai,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	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, Srengapuram -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, Srengapuram -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 Kudumiyamalai – 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. Kudumiyamalai – 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 Raghuv eer 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	<p>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</p>
Honorable Member	<p>CH.V.Satyanarayanaraju Scientist, Research Centre Imarat, DRDO Hyderabad, Telangana, India</p>
Honorable Member	<p>Dr. Vickram A S Associate Professor, Department of Biotechnology Saveetha School of Engineering Saveetha Institute for Medical and Technical Sciences Chennai, Tamilnadu, India</p>
Honorable Member	<p>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</p>
Honorable Member	<p>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</p>
Honorable Member	<p>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.</p>
Honorable Member	<p>Dr. Saikat Sen Associate Professor Faculty of Pharmaceutical Sciences Assam down town University, Panikhaiti, Guwahati, Assam - 781026, India</p>
Honorable Member	<p>Dr.E.Selvarajan Research Assistant Professor Department of Genetic Engineering School of Bioengineering SRM Institute of Science and Technology Kattankulathur-603203, Chennai,Tamilnadu, India</p>
Honorable Member	<p>Dr.V.Shanmuga Sundaram Assistant Professor & Head Department of Statistics Mahendra Arts & Science College (Autonomous) Kalippatti, Namakkal-637501. Tamilnadu, India.</p>

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

Indian Journal of Natural Sciences (IJONS)

Volume IX (9)		April 2019
CODEN: IJONS (53) (2019)	ISSUE 53	ISSN: 0976 - 0997

S. No.	CONTENTS	Page No.
	Editorial	
01	Diversity of Aquatic Algae in the Nakhon Nayok Canal of Thailand Jai Shanker Pillai H P, Grace Calugan-Bangasan and Felicitas Calugan-Boleyley	16947-16957
02	Virulence Factors Detection for some Dermatophytes Isolated from Human Skin Infections Dania Mohammed Aydah, Abdulkareem Jasim Hashim and Kholod Abbas Ali	16958-16964
03	Morphometrical Study of Small Intestine in the Adult Guinea Fowl (<i>Numidia meleagris</i>) Fatimah Swadi Zghair and Iman Mousa Khaleel	16965-16974
04	Studies on Root Morphology in Bhendi and Cluster Bean on Onetime Application of Postmethanated Distillery Spentwash M.P.Sugumaran and R.Suganthi	16975-16978
05	Development and Validation of RP-HPLC Method for Determination of Methyl and Propyl Paraben in Bulk and Marketed Sterile Dosage Forms S.M.Bagde and V.S. Rabade	16979-16987
06	An Inventory Control Model for Deteriorating Items and Break-Ability Consideration without Shortage Cost Abdullah.M.A.Alshami and Aniket .A.Muley	16988-17004
07	Effect of ZrO ₂ on Mechanical Strength, Antibacterial, and Anti Fungal of Epoxy Adhesive Noor Ameer and Seenaa Ibreheim Hussein	17005-17012
08	Effect of Different Molar Ratio and Temperature on the Hydrophobic and Structural Properties of Nanoporous Silica Cryogels Mohammed Aziz Jadaa and Wesam A A Twej	17013-17019
09	Approximate Solution for the System of Nonlinear Volterra Integral Equations of the Second Kind by Taylor Series Expansion Rostam K. Saeed and Chinar S. Ahmed	17020-17029
10	Some Pathogenic Bacteria Isolated from Cockroaches in Baghdad Maysoon S. Abbas, Noor A. Al-Taai and Khalil N.K.	17030-17033
11	Evaluation of Maize Germplasm against Stem Borer <i>Chilo partellus</i> (Swinhoe) Under Natural Condition S.Suganya kanna	17034-17038
12	Social & Cultural Impact of FM Radio in Pakistan Muhammad Umair Chaudhary and Sajjad Ahmad Paracha	17039-17052
13	Laser Power Effect of Pulsed Laser Deposition (PLD) on Optical Energy Gap of Diamond Like Carbon Thin Films Abdul Kareem Abdul-Hussein and Raad M. S. AL-Haddad	17053-17058
14	Physical Stress Manifestation in Gestation: Assessing Physical Stress Symptoms and Levels Sadaf Ahmed, Hina Hazrat and Shamoon Noushad	17059-17068
15	Effect of Supplementation of Rumen Protected Fat on Postpartum Uterine Involution in Crossbred Cows	17069-17073

	Ani S.Das , Metilda Joseph , Shibu Simon, Shyama K., Muhammad Aslam M.K., Jith John Mathew and Niyas E	
16	Association of Body Mass Index with Cardiovascular Parameters and Serum Cortisol Level in Gestation Sadaf Ahmed, Hina Hazrat and Shamooun Noushad	17074-17081
17	Study of Histopathological Changes in Sample of Iraqi Women with Uterus Cancer Hajer S. Hameed, Jabbar H. Yenzeel, Inaam N.Ali and Nazar Abdulhasn Alwakeel	17082-17088
18	Quality and Shelf Life Attributes of Carabeef Treated with Curd, Lemon Juice and Blade Tenderization Neethu Divakar, Renuka Nayar ² , Chetan, S. Khanapur., Kavitha Rajagopal, Solomon Rajkumar,R., Magna Thomas, and Sunanda, C.	17089-17096
19	Is Osteoprotegerin Gene Polymorphism g.27522G>A Protective SNP in Type 2 Diabetic Women Forqan F.Abd Al-Hassan, Shaima Z. Nada, Haidar A N Abood and Hasan M. H. Alkutubi	17097-17103
20	Changes in Immunohistochemical Expression of Leptin Receptors in the Neurons of Dentate Gyrus of Hippocampus in Pregnant Rat Bakr Ali Jawad and Huda Rashid Kareem	17104-17112
21	The Expression of TLR3 in Ovarian Benign and Malignancy Tissues Kareem Hamed Ghali, Nuha Alaa Hamza and Hameed Naeem Mousa	17113-17118
22	Effect of the Training of Sakio in Some Physiological and Biochemical Variables According to the Lines of Play for the Players of Wasit University Football Team Fadhil Daham Mansour, Ahmed Murtada Abdulhussein and Khalid Mohammed Ridha	17119-17129
23	Knowledge and Prescribing Practices of Clinicians Regarding Typhoid Fever in Pakistan Yusra Saleem , Sadaf Ahmed and Shamooun Noushad	17130-17135
24	<i>Leishmania</i> Spp Isolated in Patients by Microscopy, Culture and PCR Magda A. Ali , Ali Khamesipour , Abdulsadah A. Rahi , Mehdi Mohebali , Ahmad Akhavan, Alireza Firooz and Hossein Valian Keshavarz	17136-17141
25	Profile of Malignant Disease in Wasit Province, Iraq Safa A. Faraj, Laith S. Mahdi , Raghad A Sabri	17142-17146
26	The Effect of Training using Training Aids in Some Biomechanical Variables and Accuracy of the Performance of Remote Correction of Basketball Jumping Mohamed Abdul Nabi Mohamed Hewitt and Nour Abdul Nabi Mohamed Hewitt	17147-17152
27	Isolation of Leishmania Species Causative Agent of Cutaneous Leishmaniasis from Patients in Endemic Areas of Iraq: Identification and Genotyping using Molecular Methods Magda A.Ali, Ali Khamesipour, Abdulsadah A.Rahi, Mehdi Mohebali, Amir Ahmad Akhavan, Alireza Firooz and Valian Keshavarz	17153-17161
28	Eco Friendly Technologies for Finishing: Cutting Waste and Gaining Benefits Pooja Choudhary and Ekta Sharma	17162-17170
29	Analyzing the Financial Deficit with in US Cities: a Case Study of Rock Hill Abdullah Alshrari	17171-17176

30	Role of <i>mir-let-7a</i> Expression in Breast Cancer Diagnosis and Prognosis Jawdat N. Gaaib and Abdul Hussein M. AL-Faisal	17177-17184
31	Typhoid Relapse, Trends and Management Practices in Pakistan Yusra Saleem , Sadaf Ahmed , Saima Khan and Shamooun Noushad	17185-17189
32	Modified Decomposition Method for Analytic Treatment of Non-linear Volterra- Fredholm-Hammerstein Integral Equations of the Second Kind Chinar S. Ahmed	17190-17195
33	A Study on Effects of Compounds from <i>Alpinia ocinarum</i> Hance on Antiviral Activity Santi Sakdarat, Tipaya Ekalaksananan, Chamsai Pientong and Sujittapron Sittiso and Bunkerd Kongyingyoes	17196-17204
34	Pre & Post Stress Evaluation in Coronary Angiography and Angioplasty Patients in Tertiary Care Hospital of Karachi - Pakistan Jawwad Ali Naqvi, Sadaf Ahmed, Saima Khan, Yusra Saleem and Shamooun Noushad	17205-17210
35	Object Detection Algorithm Using Deep Learning Bassim Abdul Baki Jumaa, Samman H. Ameen and Duha Hassan Mnaty	17211-17223
36	Psychophysiological Consequences of Mobile Phone Addiction; A Study on Mobile Phone Usage and Sleep Quality Amas Nadir, Amber Ayaz Memon, Faryal Abbas Abdi, Akasha Shahid, Areeba Haque, Areeba Iqbal, Bismah Nadeem, Salman Sheikh and Sadaf Ahmed	17224-17230
37	Short-Range Correlation Effect on the Elastic Charge Form Factors and Charge Densities of ^{64, 66, 68} Zn and ^{76, 78, 80, 82} Se Nuclei Adel K. Hamoudi and Mahmoud A. Abbas	17231-17240
38	Knowledge and Practices of Health Care Providers for Medication Non- Adherence in Pakistan Sadaf Ahmed, Yusra Saleem, Saima Khan and Shamooun Noushad	17241-17249
39	An Overview of Photonic Crystal Fiber (PCF) Hassan Falah FakhruLdeen, Ali Z. Zahid, Russul M. Jaafar, Ataya Abdulkareem and Qammar M. Mahdi.	17250-17256
40	Argon Characteristics of an AC Driven Atmospheric Pressure Non-Thermal Plasma Jet using Two Electrodes Riam A. Hammoodi , Ahmed K. Abbas and Mohammed K.Khalaf	17257-17263
41	Risk Factors for Hysterectomy among Patients with Placenta Previa Totalis Maysoon Mahde saleh	17264-17271
42	Morphological and Morphometrical Features of Testes and Penis in Indigenous Tom Cat Mohammed S. Dawood, Ahmadsaad Al-Aaraji, Lamees Ezaldeen Mohammed and Dhyaa Ab. Abood	17272-17277
43	Enlightening Women Health using Machine Vision Technique for Cervical Cancer Detection C.Thirumarai Selvi, M.Muthu Krishnan and P.Ramachandran	17278-17284
44	An Evaluation of the Relationship between the Theory of Planned Behavior and Plagiarism: An Academic Investigation Kaneez Fatima Mamdani and Farva Bhutto	17285-17293
	Instruction to Author(s)	17294-17298

45	Prediction of Soil Properties Using Image Processing with ANN (Artificial Neural Network) for Crop Cultivation Shanthi Palaniappan, Pathur Nisha S, Muthu Kumar M, Sreehari K and Swasthik V K	17299-17308
46	Impact of KAP on Spinal Stenosis Patients in Ongkharak, Thailand Sasikala P, Rattanathorn Intarak and Pornthip Layanant	17309-17312
47	Genetic Association of Adiponectin Gene Polymorphism rs2241766 (+45T/G) SNP and Dyslipidemia in Coronary Heart Disease Patients Zaman Dakhil Kamil, Majid K. Hussain and Ahmed H. Almayali	17313-17320
48	Knowledge Attitude and Practices of Diabetic Patients in Ongkharak, Thailand Sasikala P, Tewelde G. Foto, Samrong Koonawoot and Prasert Laobusnanant	17321-17324
49	Profile of Diabetes Mellitus Type One in Pediatrics, the Experience of a Single Institute Haider Nadim Abd al jabar, Nasseer A. Mohamed and Jabbar J. AL -Yasseri	17325-17329

Editorial Notes.....

World Veterinary Day – Protect our Animals



For nearly 20 years, World Veterinary Day has been an opportunity to celebrate the contributions of veterinarians to the health of animals and society. Each year, the World Veterinary Association that has undertaken activities that best embodies the annual theme of the

World Veterinary Day Award. The 2019 World Veterinary Day will celebrate the Value of Vaccination. Vaccines are one of the most valuable tools in any veterinarian's arsenal. These medicines protect the health of animals and the livelihood of farmers.

The World Veterinary Association will co-host the 2019 World Veterinary Day Award with Health for Animals, the global animal medicines association. The Award is open to all WVA Veterinary Associations who may submit evidence of any activities that demonstrate their support of the value of vaccination. This could include local vaccine campaigns for animals, educational seminars for the public, media campaigns, new research, or anything else that promotes the value of vaccination. The Award value has increased to USD \$2500. Funds will be provided directly to the Association, which may use it for activities, reward hard-working staff, provide scholarships, support their community, etc. The award is an opportunity to showcase your Association's diligent efforts to the global veterinary community.

Vaccination is an essential tool for preventive veterinary medicine, promotion of animal health and welfare, and reducing the risk of human exposure to many zoonotic pathogens. Historically, immunization practices and vaccination protocols have contributed to significantly reduce the prevalence of many life-threatening diseases. The risks of not vaccinating can be significant to individual animals and populations, and can have consequences on livelihoods of rural livestock producers in economically developed and emerging regions.

Effective vaccination programs, broadly implemented, are likely to reduce the need for antimicrobials, which in turn can help reduce the risk of emergent antimicrobial resistance. The WVA and Health for Animals believe it is essential for the global veterinary profession to educate the public, particularly animal owners and producers, about the benefits of vaccination for animal, human, and public health. IJONS also encouraging the veterinary students, researchers and clinicians are involving the promotional activities of animal health. Further details, veterinary associations please contact: <http://www.worldvet.org/>

S.Vijikumar
Editor in Chief