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## EMINENT SCIENTIST OF THE YEAR AWARD-2006 AWARDED BY THE ACADEMY



Dr. Mohammad Afzal

Dr. Mohammad Afzal is professor of Zoology at the Aligarh Muslim University, Aligarh. He has worked in applied human genetics and toxicology having wide field, clinical and laboratory experiences. He has reported reproductive behavior selection and morbidity due to consanguinity among north Indian Muslims (Bihar and UP) inbreeding depression in quantitative traits and genetic disorders from hospital referrals. He has published more than 65 research articles conducted major research projects from ICMR, UGC, and MAAS (NGO). He has supervised ten Ph.D theses.



Dr. B. Bharatha Lakshmi

Dr. B. Bharatha Lakshmi, is Professor Head, Department of Zoology, Andhra University. She has contributed in the field of Biodiversity, Wildlife Conservation and Management, Aquaculture. She has received many prestigious awards such as NESA Award with Gold Medal for the year 2003, Albert Schweitzer International Award for the year 2005 etc. She has published more than 85 research and handled research project financed by SAP, UGC. She has successfully guided students for the awards of Ph. D.



Dr. Nafees A. Khan

Dr. Nafees A. Khan has brilliant academic career and obtained merit scholarships at the school and university level. He is a devoted researcher and has significantly contributed in the field of plant hormone physiology, with emphasis on the involvement in the regulation of plant metabolism under Abiotic stresses. He has been recipient of Research Award by the University Grants Commission and Scientist of the Year Award by the NESA. He has edited three books and handled five research projects, guided thirty theses for Ph.D./M.Phil./M.Sc.

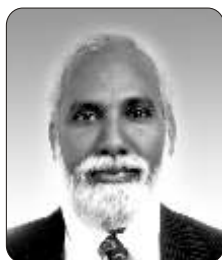


Dr. P.V. Kenchanagoudar

Dr. P.V. Kenchanagoudar is working as Breeder (Groundnut) and Principal Scientist (Tobacco) of University of Agricultural Sciences, Dharwad.

He has significantly contributed in the field of Genetics and Plant Breeding. He has developed and released several varieties of groundnut, castor, sunflower, soybean, cotton, and tobacco. He has published more than 50 research papers and has successfully guided 8 M.Sc (Agri) students in and has handled several research projects financed by CAD A, GOK, DST etc and has been awarded with Fellowship Award from I S of O R, Hyderabad in 2003 etc.

### Dr. Agoramoorthy appointed as Brand Ambassador for the Academy



Prof. Govindasamy Agoramoorthy is Professor at the Dept of Pharmacy, Tajen University, Taiwan. He has contributed much in the field of Wildlife and Environmental Conservation. He has published several scientific papers related to wildlife and environmental conservation over the last 25 years. He is the convenor of regional chapter of NESA for the Taiwan also. He has been appointed as the Brand Ambassador for the Academy. • Email: agoram@mail.tajen.edu.tw

### MEMBER OF THE ACADEMY INVITED AT INT CONF ON PHYTO-CHEMISTRY AT CAMBRIDGE



Dr. (Mrs.) Seema Akbar is visiting Churchill College, Cambridge, United Kingdom to attend the 50 Years of the Phytochemical Society of Europe Celebration and attend an International Conference is being sponsored and administered by Elsevier, the published as a dedicated issue of Phytochemistry. Her trip is sponsored by AYUSH, Ministry of Health & Family Welfare, GOI, New Delhi.

### SCIENTIST OF THE YEAR AWARD-2006 AWARDED BY THE ACADEMY



Dr. K.S. Jagadeesha is a Professor in the Dept. of Agril. Microbiology, UAS, Dharwad.

He has significantly contributed in the field of Environmental Microbiology. He has developed efficient microbial consortia which have not only decolorized spentwash (50% diluted) but also reduced COD and degraded phenols. Recently, his team of 5 scientists has been sanctioned Rs. 1.66 crores by the State Govt. for establishing a Pesticide Residue Analysis Lab in the University.

He was awarded the prestigious FAO Fellowship for participating in PG Course on Biotechnology held at the Hebrew University of Jerusalem, Rehovot, Israel, published 43 research papers, handled 6 research projects funded by 3 private companies, State and Central Govt. He has successfully guided six MSc(Agri) students and one PhD student.



Dr. Syed Abdul Sattar is double doctorate; he has awarded first Ph.D. from USA in Computer Science in 2004 and Second Ph.D. from JNTU, Hyderabad in 2006 in Electronics and Communication Engineering. He has published about thirty research Papers

Dr. Sattar And he has about 16 years experience in Industry and Teaching the various subjects.

Dr. Sattar is presently guiding Two Ph. Ds and One M. Phil, for Computer science Students.

**More photographs in the next issue**

## EMINENT SCIENTIST OF THE YEAR AWARD-2006 AWARDED BY THE ACADEMY



**Dr. M.R. Ravikumar**

**Dr. M. R. Ravikumar** is Assistant Professor of the Plant Pathology, at Extension Education Unit, College of Agriculture, Bijapur, University of Agricultural Sciences, Dharwad.

He has significantly contributed in the field plant health, and biological control of plant pathogens. He has developed eight technologies in plant protection for the benefit of the farming community.

Dr. Ravikumar has received Environmentalist of the year Awards 2005 and has published more than 54 research articles and handled two research projects funded by ICAR, etc his name for the SCIENTIS OF THE YEAR AWARDS 2006 as such the academy confers upon him the same today on the 2007.



**Dr. S.N. Dharwadkar**

**Dr. S. N. Dharwadkar** is a Sr. Grade Lecturer in the department of Zoology K.L.E's (DEEMED University), S. Nijalingappa College, Bangalore and has worked on toxic effects of arsenic, selenium detergents and phenolic compounds to fish and it's effects on physicochemical, biochemical, bioaccumulation, biomagnification, antagonism, energetics behavioral studies and protein metabolism. She has published many research papers and has authored 3 books entitled (1) Corals and Coral Reefs.(2)Cor; Diseases and Protection.(3)Toxicology and Bioassay She is an eminent scientist and a recipient of National Award by the Dept of Science and Technology, Ministry of Science and Technology, Govt of India, New Delhi, in training Rural Women in vermicomposting for entrepreneurship.



**Dr. (Mrs.) Seema Akbar**

**Dr. (Mrs.) Seema Akbar** is Research Officer, Drug Standardization Research Unit, RRIUM, the University of Kashmir, Srinagar.

She has significantly contributed in the fields of pesticide toxicity, drug toxicity and phytotoxicity of gaseous air pollutants. She also worked on the mechanism of action of sulfur dioxide on plants. Her work in the field of pesticide and gaseous air pollutant toxicity has been cited extensively. She is presently working on herbal drug toxicity.

She was awarded a research fellowship by Defense Research & Development Agency, Gwalior. She has guided research leading to the; award of Ph.D She has published papers in Journals She has major research projects funded by CCRUM and DST. She has visited Japan and USA for academic pursuits.



**Dr. M.B. Nadoni**

**Dr. M.B. Nadoni** working as Head of the Department of Zoology, SSFG College, Tumkur, since 20 years. He worked on impact of sewage pollution on tropical lentic system. He studied the water quality, water quality index, zooplankton dynamics and composition, diversity index, macrozoobenthos, fish and fisheries in relation to sewage pollution. And also other aspects of environmental sciences. Dr. NADONI is a Fellow of environmental sciences, Dumka, Zoological society of India, Bihar and Member of Indian Academy of Environmental Sciences, Haridwar. He has published more than 30 research articles and also presented several research papers in National and International conferences/symposiums.



**Dr. V.S. Kubsad**

**Dr. V. S. Kubsad** is a Scientist [Agronomy] at Agricultural Research Station, Annigeri, University of Agricultural Sciences, Dharwad [Karnataka]. He has a experience of 12 years in Research and Extension. As a Research Scientist - he has developed the profitable production technologies for safflower, drill sown chilli,

As a Farm Manager, he actively involved in the Breeder, Foundation and Certified seed production of greengram, blackgram, groundnut, Jaydhar cotton, Rabi jowar, chickpea etc., and also in the over all development of the research station. He has published 65 research articles and 11 agricultural folders.



**Dr. N.K. Pawar**

**Dr. K. N. Pawar** is a Senior Scientist, University of Agricultural Sciences, Dharwad. He has significantly contributed in the field of Agricultural Sciences and developed Five Technology in Crop Physiology for the benefit of the farming community. He has recommended Technology for zone 3 of North Karnataka are seed hardening techniques in sunflower.

He has published more than 55 research articles He has handled two research project financed by and ICAR New Delhi. He has contributed more than 20 television programmes telecasted by ETV on Kannada for farming community on use of plant growth regulators.



**Dr. Mohd. Aqil**

**Dr. Mohd. Aqil** has contributed significantly in the field of pharmaceutical and environmental sciences. He has worked in the area of Transdermal Drug Delivery, Drug Utilization Review and Pharmacovigilance. He has about 40 research articles at his credit He has also filed 4 Indian patents. Currently he is handling two research projects one each from UGC and DST. Recently he has been conferred Best paper Award by The Muslim Association for the Advancement of Science for his paper published in European Journal of Pharmaceutics and Biopharmaceutics. He been selected as a Visiting Scientist to UK during 2006-07 under "International Collaboration."



**Dr. Y.M. Somaskhera**

**Dr. Y. M. Somaseis** an Associate Prof. [Nematologist, AICRP(N)] in the University of Agricultural Science Bangalore. He has significant contribution in the field of Agricultural Sciences in teaching research and extension. He has got 12 years of working experience has published more than 50 research papers in the field of fungus plant pathology. He has completed 2 major research project on Epidemiology and Management of Pomegranate Wilt (Ceralocystis fimbriata, Lutin American group). He has received many prestigious awards and is a member of 5 Academic societies of India.



**Prof. K.K. Sharma**

Ph. D. Post-Doctorate (Germany). Presently working as Professor and Head Department of Zoology, MDS University, Ajmer. The main area of research is limb tissue engineering and sound based taxonomic identification and monitoring of Biodiversity. Recipient of National Scholarship Study Abroad (HRD, India), Heinrich Hertz Scholarship (Germany), Swarni Jayanti Award of National Academy of Sciences India.

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## New Technique A low cost automated recycling distillation technique- saves gallons of water and gives better results.

**Prof. K.K. Sharma**  
Head, Dept. of Zoology, MDS University, Ajmer, Rajsthan  
E-mail: kksmds@yahoo.com

Glass distillation is commonly used in almost all the laboratories in the world for preparation of distilled water, plant extraction and in many pharmaceutical processes. In the process of distillation vapors passing through the condenser tube are cooled and condensed by water flowing through condenser tube in the condenser unit of the apparatus. In almost all laboratories the water used for cooling the condenser tube is coming from the water supply tap near the wash basin. The precious water after circulating through the condenser tube is left into the drain as wastewater. It has been observed that about 40 liters of water is required for cooling for making 500 ml of distilled water. The water after cooling is generally left to go into the drain.

In a simple biological science laboratory about 2.5 liter of distilled water is used in a day which is a modest consumption. Approximately 200 liter water is required in cooling unit of distillation plant for this purpose. If this requirement is calculated for 25 working days in a month, the quantity of water wasted by one user in a month comes to about 5000 liters. In a big research laboratory or a unit of an institution or in a small industry where nearly 100 users are there, the amount of water wasted for cooling the condenser unit is estimated about 5,00,000 liters in a month. This is a big loss of potable water. In the present scenario of severe scarcity of drinking water all over the globe, we can not afford to waste such a large quantity of water during the process of distillation. Due to uncontrolled use and removal of ground water and insufficient rains in many parts of the world water is becoming day by day as an important natural resources. To overcome this problem of water loss in cooling during distillation Sharma (2004) invented a technique called recycling distillation technique in which water from the outlet tube of condenser unit is collected, cooled and re-circulated again in the condenser unit. The technique not only saves gallons of water but also produce better results as far as condensation of vapors is concerned.

#### Recycling water technique (Sharma, 2004)

The technique is based on a simple principle that is recycling water in condenser Unit. Sharma(2004) made some modifications in the existing distillation technique by introducing a collection, cooling and pumping devices to recycle water in the condenser tube again and again. The technique is low cost and very effective (fig.1). The water was cooled first by a simple indigenous cooling technique before it was allowed to enter again in condenser unit (recycling). Cooling technique involved collecting water from the outlet tube of the condenser unit in an earthen pot of about 50 litre capacity put on a cement container filled with wet sand. Once the water is filled in the earthen pot about ¾ of its capacity from the condenser unit it gets cooled. Then it is lifted to a reservoir tank of about 60 litre capacity placed at a height of 4 feet from the earthen pot, with the help of a small submersible motor placed in the earthen pot. (fig.1). The water lifting system has been made automatic by connecting an automatic water level controller with two relays in series. This has made the recycler fully automatic means whenever water level reaches to a definite height in the earthen pot, the submersible motor switches on automatically by the water level controller. Reservoir tank can be used as plastic or earthen material depending on convenience. Cooling is more effective if reservoir tank is also an earthen pot. By this method hot water coming from condenser tube cool down in the earthen pot before it is lifted by submersible motor tank. The process of recycling water in the

condenser tube goes on continuously and automatically.

This technique saves gallons of water of condenser cooling unit which otherwise go waste in the drain pipe. There is no effect in the quality of distilled water because cooling water in the condenser unit never comes in contact with water vapors. For a small distilled water apparatus (2-5 litre capacity flask) about 50 litres water initially filled in the reservoir tank for cooling the condenser unit can be used again and again for years by recycling it. One of the advantages of this design is that existing distillation apparatus can be used for the installation of recycling unit and the total cost involved for this purpose comes to about Rs.300/- The technique is so simple that any user can install it with the existing distillation unit without any problem. Another important application of this technique is that the distillation apparatus can be placed any where in the laboratory because this system does not require water supply from a tap of washbasin. Such water condenser water recycling device can also be attached to other plants/units such as distilleries, pharmaceutical industries etc where water is left in drain pipes after cooling the condenser unit. The user can modify this technique as per the requirement for example connecting cooling earthen pot in series or connecting more than one distillation units with one recycling unit or fast cooling water in the earthen pot using ice cubes. Many researchers have found that by



**Fig.1 A low cost automated recycling distillation technique Arrows indicate direction of flow of water**

controlled cooling of circulating water by adding ice cubes in the earthen pot it has become possible to do Ether based plant extraction and other similar processes. According to them this was not possible earlier because water from the plastic tanks placed in open at the roof of building used to get very hot particularly during the summers. This used to decrease efficiency during the condensation.

#### Advantages of Condenser water recycling Technique

(i) The first and most advantageous aspect of his technique is to prevent waste of a precious natural resource particularly in those places where natural water supply is going down every year and drinking water is not available to meet out the supply of human beings. (ii) The second advantage is that user is not dependent on tap water supply for cooling in condenser unit as in many laboratories particularly during summers tap water supply may not be

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Cont. From page 3 col 1

available regularly and if water stops going to condenser tube through the tap it may over heat the condenser unit and can damage it. (iii) Third advantage is that, during summers, tap water coming from the regular supply from overhead tank is very hot and it fails to cause effective cooling in condenser tube. This reduces speed of distillation. Since water collected in earthen pot place on moist soil filled in cement container, gets cooled before it is lifted to the condenser unit, the speed of condensation is enhanced even in summer months. (iv) After attachment of recycling unit with condenser tube it is not needed to prepare distilled water near wash basin/sink or drain pipe. The modified distillation apparatus can be placed in any room without tap water supply or sink/wash basin or drain pipe. (v) With this technique now it is possible to do Ether based plant extraction and other similar processes by supplying pre cooled water to the condenser unit. (vi) Since efficiency of the system is enhanced, the modified technique saves lot of electrical energy.

Sharma K.K. (2004) Modification of distillation processes in laboratories and industries to conserve water. *Ind J. of Env. Sci.* 8:108-116.

Sharma K.K. (2005) Improved method of distillation enhances efficiency of the process and saves gallons of pure water. *ANUSANDHAN-The Innovative J. of Natural Sciences* 1:99-101.

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##### Prof. T R C Sinha, Chief Editor,

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