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Editor :
Ajit Kembhavi
(akk@iucaa.ernet.in)

Editorial Assistant :
Manjiri Mahabal
(mam@iucaa.ernet.in)

Jayant@75



Professor Jayant Vishnu Narlikar, Founder Director of IUCAA, completed 75 years of age on July 19, 2013. To celebrate this milestone, a meeting was organized at IUCAA during July 18-19, 2013.

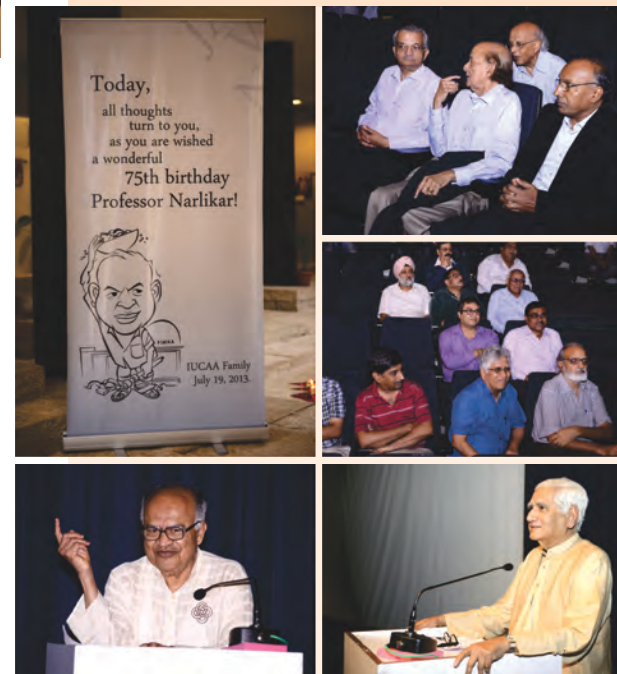
The first two sessions of the meeting were devoted to the main areas of Professor Narlikar's scientific work on cosmology and gravitation. There were lectures delivered by some of his former students, and senior and young colleagues from various institutions and universities. The speakers in these sessions were Narayan Banerjee, Dawood Kothawala, S. Mukherjee, Mohammad Sami, T. R. Seshadri, Sanjeev Dhurandhar, Pankaj Joshi, Tarun Souradeep, D. Narasimha, and Kandaswamy Subramanian. The third,

and the last session of the meeting was devoted to the theme "**Science and Society**", which has been very close to Professor Narlikar's heart. The only scientific talk in this session was by Professor Narlikar, who gave a very impassional and interesting lecture on **How well do we know our universe?** The others who spoke on various topics connected to the theme were S. M. Chitre, Govind Swarup, N. Mukunda, S. K. Pandey and R. Ramachandran.

The scientific meeting was followed by a very well attended public meeting in Chandrasekhar Auditorium, IUCAA. Talks covering Professor Narlikar's life and times, his influence on the intellectual life of the country and the setting up of IUCAA by him were given

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by S. M. Chitre, Anil Kakodkar, Charles Correa, and N. K. Dadhich. Short talks were given by Arvind Paranjpye,



Prakash Tupe and Ketaki Dave, who represented Jyotirvidya Parisanstha of Pune. Professor Narlikar and



Smt. Mangala Narlikar were felicitated during the meeting, after which Professor Narlikar gave a brief talk, wherein he said that he was not fond of the Big-Bang Theory and Chitale's Bakarwadi, for which Pune is so famous.



Gravitational Wave Physics and Astronomy Workshop - UPDATES

As announced earlier, the next Gravitational Wave Physics and Astronomy Workshop (GWPAW) will be hosted by IUCAA during December 17 – 20, 2013. This workshop is one of the special events being hosted by IUCAA to mark 25 years of its existence.

The organizers have put together an exciting programme, which focuses on what physics and astrophysics can be derived from gravitational wave observations in the era of advanced detectors, and what data analysis challenges must be addressed to facilitate that process. The programme includes the following list of topics:

- * **Advanced Gravitational Wave Detectors**
- * **Gravitational Wave (GW) Source**
- * **Electro-magnetic (EM) or particle counterparts of GW sources**
- * **Prospects for joint GW - EM/particle observations**
- * **GW waveform simulations**
- * **Data analysis challenges in the advanced detector era**
- * **GW detector-characterization challenges in the advanced detector era**
- * **Tests of general relativity**

We invite contributions for talks and posters in the above areas to supplement talks by the invited speakers. An up-to-date list of invited speakers is being maintained in the programme section of the workshop website <<http://www.iucaa.ernet.in/~gwpaw>>. Posters will be given

prominence: Blocks of time will be set aside for poster viewing. Additionally, every contribution that is selected for a poster will be allotted 90 seconds of talk-time in the main session.

The registration fee is INR 8,000 until November 1 which is also the final registration as well as the abstract submission deadline. Information about accommodation options, along with deadlines on special rates for hotels, travel, and other workshop related matters can be found at the above mentioned website.

Welcome to ...

Sumanta Chakraborty, Kabir Chakravarti, Shaikh Shabbir Isak, Nikhil Mukund K., Labani Mallick, Sk Javed Rana and Shakti Rathod, who have joined as **Research Scholars**.

... Farewell to

Surajit Paul, who has joined the Department of Physics, University of Pune as DST-INSPIRE Faculty

Sujoy Kumar Modak, who has joined UNAM, Mexico, as a Post-doctoral Fellow

Nishant Kumar Singh, who has joined NORDITA, Stockholm, as a Post-doctoral Fellow.

Welcome to the IUCAA Family

IUCAA is happy to announce the selection of the Twenty-fourth Batch (2013) of Visiting Associates. The Visiting Associateship is for a tenure of three years, beginning August 2013.

New Visiting Associates

Debbijoy Bhattacharya, Manipal University
Raghavendra Chaubey, BHU, Varanasi
Atri Deshamukhya, Assam University
S. Dev, HNBG Central University, Uttarakhand
Sukanta Dutta, University of Delhi
Rupjyoti Gogoi, Tezpur University
Sk. Monowar Hossein, Aliah University, Kolkata
Ngangbam Ibohal, Manipur University
L.N. Katkar, Shivaji University, Kolhapur
Dawood Kothawala, IIT Madras, Chennai
Rajesh S.R., S.D. College, Alappuzha
L. Sriramkumar, IIT Madras

Extension of term to the Twenty-first batch of Visiting Associates

Farooq Ahmad, University of Kashmir, Srinagar
G. Ambika, IISER-Pune
Tanwi Bandyopadhyay, Shri Shikshayatan College, Kolkata
Narayan Banerjee, IISER-Kolkata
Pavan Chakraborty, Indian Institute of Information
Technology, Allahabad
Subenoy Chakraborty, Jadavpur University
B. C. Chauhan, Cental University of Himachal Pradesh,
Dharamshala
Himadri Sekhar Das, Assam University, Silchar
Sushant G. Ghosh, Jamia Millia Islamia, New Delhi
K.P. Harikrishnan, The Cochin College, Kochi
K. Indulekha, Mahatma Gandhi University, Kottayam
Sanjay Jhingan, Jamia Millia Islamia, New Delhi
S.N.A. Jaffrey, University College of Science, Udaipur
Kanti R. Jotania, The M.S. University of Baroda, Vadodra
M. M. Kalam, Aliah University, Kokata
Nagendra Kumar, M.M.H. College, Gaziabad
B.S. Kushvah, Indian School of Mines, Dhanbad
Pran Nath Pandita, North Eastern Hill University, Shillong
Madhav K. Patil, SRT Marathwada University, Nanded
Anirudh Pradhan, Hindu Post-Graduate College, Zamania
Harinder Pal Singh, University of Delhi
Biplab Raychaudhuri, Visva Bharati University, Santiniketan
Anjan Ananda Sen, Jamia Millia Islamia, New Delhi
Anirban Saha, West Bengal State University, Barasat
PK. Samal, Utkal University, Bhubaneswar
Paniveni Udayshankar, NIE Institute of Technology, Mysore
Anisul Ain Usmani, Aligarh Muslim University

Seminars

Listed below are the seminars given at IUCAA during July - October 2013.

- | | |
|------------|---|
| 04.07.2013 | Sujoy Kumar Modak on <i>Classicality and particle creation in our Universe.</i> |
| 04.07.2013 | Surajit Paul on <i>Nature of energy and density evolution in a forming galaxy cluster.</i> |
| 11.07.2013 | Luke Chamandy on <i>How to build magnetic arms with large-scale dynamos.</i> |
| 11.07.2013 | Dipanjan Mukherjee on <i>Probing magnetic fields on accreting neutron stars.</i> |
| 12.07.2013 | Shruti Tripathi on <i>Study of spectral variations in Iras 18325-5926.</i> |
| 16.07.2013 | Jnan Maharana on <i>Duality symmetry and excited stringy states.</i> |
| 16.07.2013 | Sibasish Laha on <i>A study of the warm absorbers in Seyfert galaxies.</i> |
| 22.07.2013 | Soumen Basak on <i>A needlet lhc analysis of WMAP 9-year data.</i> |
| 23.07.2013 | Vinay Kashyap on <i>Avalanche of flares.</i> |
| 24.07.2013 | Vikram Khaire on <i>Cosmic UV background and its implications.</i> |
| 24.07.2013 | M. Vivek on <i>Time variability studies of low ionization broad absorption line quasars</i> |
| 12.08.2013 | Vikram Soni on <i>Magnetars : Maximum stars; A laboratory for new physics</i> |
| 20.08.2013 | Shiva Kumar Malpaka on <i>Inverse cascade of magnetic helicity in forced and decaying 3d-Mhd turbulence</i> |
| 22.08.2013 | Ruta Kale on <i>Diffuse radio emission in galaxy clusters: Ongoing radio surveys and new detections</i> |
| 19.09.2013 | Anvar Shukurov on <i>Realistic models of the Interstellar medium driven by supernova explosions</i> |
| 20.09.2013 | Helen Mason on <i>The coronal iron ions: A journey from the visible to the X-rays</i> |
| 26.09.2013 | Yogesh Mann on <i>Tomographic studies of pulsar radio emission cones</i> |
| 27.09.2013 | Richard Green on <i>The quasar luminosity function – Then and now</i> |
| 27.09.2013 | Philip Hinz on <i>Direct imaging of debris disks and exoplanets: Probing atmospheres and system architectures</i> |

Welcome ...

Girijesh Gupta

Girijesh Gupta did his Ph.D. from Indian Institute of Astrophysics, Bangalore as part of Joint Astronomy Programme (JAP) of Indian Institute of Science, Bangalore, and worked under the guidance of Dipankar Banerjee. After finishing Ph.D., he joined Max Planck Institute for Solar System Research, Lindau, Germany, as a Post-Doctoral fellow. Recently, he has joined IUCAA as a Non-IUCAA-funded Post-Doctoral Fellow under the INSPIRE Faculty Scheme of the Department of Science and Technology (DST).

During his Ph.D., he has investigated the nature of propagating MHD waves in different parts of the solar atmosphere. Based on his analysis, he has found that interplume regions in the polar Sun are preferred channels for the acceleration of fast solar wind. He has also reported the presence of torsional Alfvén wave and sausage wave modes in the coronal loop regions. During his post-doctoral work, he has investigated the nature of propagating disturbances in the solar corona either in terms of propagating slow magneto-acoustic waves or high speed up-flows.

His present research interests include study of MHD turbulence in the solar and astrophysical plasmas, solar spectroscopy and time series analysis.



Mandar Patil

Mandar Patil did his Ph.D. at the Tata Institute of Fundamental Research, Mumbai working under the guidance of Pankaj Joshi. He has joined IUCAA as a Post-Doctoral Fellow.

During his Ph.D. he has investigated the process of high energy collisions of particles in the curved spacetime geometries. He has showed that under specific conditions, it would be possible to have ultra-high energy collisions of particles around naked singularities, black holes as well as in the regular spacetimes offering a unique probe of particle physics and quantum gravity. He has also investigated gravitational lensing and accretion from the perspective of distinguishing naked singularities from black holes.

His present research interests include various aspects of general relativity, gravitational waves and cosmology.



Haritma Gaur

Haritma Gaur did her Ph.D. from Aryabhata Research Institute of Observational Sciences, Nainital, working under the guidance of Alok C. Gupta on "X-ray and Optical Studies of Blazars". She has joined IUCAA as a Post-Doctoral Fellow.

During her Ph.D., she has searched for the intra-day variability and the possible Quasi-Periodic Oscillations in the XMM-Newton light curves of high-energy peaked blazars, and has estimated their central super-massive black hole masses. She has also studied the optical flux and spectral variability of different classes of blazars (including FSRQs, HBLs and LBLs) and has found that HBLs show comparatively less optical variability as compared to LBLs. In addition, BL Lacs follow bluer-when-brighter trend, while opposite is followed by FSRQs. Cross-correlated variability of FSRQ has been studied and found the correlations confirming the existing models for gamma-ray and X-ray emissions.

Her present research interest includes the comparative studies of different classes of blazars and multi-wavelength cross-correlated variability of blazars.



Kinjalk Lochan

Kinjalk Lochan, did his Ph.D. at the Tata Institute of Fundamental Research, Mumbai, under the guidance of T.P. Singh. He has joined IUCAA as a Post-Doctoral Fellow.

His Ph.D. research involved studying the implications of quantum gravity schemes towards different scenarios. Through investigating different schemes of canonical quantization of gravity, namely Wheeler-DeWitt quantization, Loop Quantum Gravity and Trace Dynamics, he has studied their relevant implications on aspects of radiation during collapse processes, black hole thermodynamics, and the evolution of the early universe. Relevant parameters of these schemes were constrained in view of the semiclassical and observational wisdom, which was already available with us.

His present research interests include quantum gravity, black hole thermodynamics, and early universe cosmology.



Our Dynamic Sun

On September 19, 2013, Helen Mason, Solar Astronomer from the University of Cambridge, gave an evening public lecture at the Chandrasekhar Auditorium, IUCAA. Mason has worked on many solar space missions like Skylab, Solar Maximum Mission, SoHO, Hinode, and the Solar Dynamics Observatory, and is a collaborator of Durgesh Tripathi at IUCAA. She is very interested in Public Outreach Programmes. Through several high resolution videos and pictures, she shared many details about our Sun, learnt from recent studies. She also clarified the concept of the Solar Maximum to a large audience of around 400. The crowd was very curious and Mason indulged in ample interaction with the audience in the 1.5 hour event.

IUCAA Preprints

IUCAA preprints released during July - September 2013 can be obtained from the IUCAA library (library@iucaa.ernet.in). The preprints can also be freely downloaded from <http://www.iucaa.ernet.in/~library/main.html>.

Workshop on Astronomy and Astrophysics

The University of Rajasthan, Jaipur, had organised a Workshop on Astronomy and Astrophysics, during September 2-4, 2013. The workshop was sponsored by IUCAA. Dev Swarup, Vice-Chancellor, University of Rajasthan, inaugurated the workshop. It was attended by 49 participants, including faculty members and research scholars from various colleges/universities in and around Jaipur. The topics covered at the workshop were the Stars and their parameters, Photometry using CCD detectors, Solid state and photomultiplier detectors, Astronomical spectroscopy, Fermions and Bosons, Quest for the substance of substance, Cosmology, and Data Analysis. The resource persons were Ranjan Gupta and Vijay Mohan from IUCAA; H. P. Singh, Delhi University; Sandeep Sahijpal, Punjab University, Chandigarh; Sudhir Raniwala, Rajasthan University, Jaipur; Sandip Bhattacharyya, Birla Planetarium, Jaipur; and Aalok Pandya, JECRC University, Jaipur. The participants have been demonstrated on how to set up an 11-inch CGEM telescope for photometry. The students were made abreast of latest techniques in observation and data analysis in astronomy through simulated practical sessions, which were arranged by Sandip Bhattacharyya. Ranjan Gupta, keeping in view of the large and up-to-date facilities coming up in the near future in the country, gave a talk on "Careers in Astronomy". The workshop was coordinated by Aruna Bharti and Sandip Bhattacharyya. Ranjan Gupta was the coordinator from IUCAA.



Workshop on Astronomical Techniques and Science with Virtual Observatories



An IUCAA sponsored workshop on Astronomical Techniques and Science with Virtual Observatories was held at the University of Kashmir, Srinagar, during September 23-26, 2013. The main aim of this workshop was to introduce the M.Sc. (Physics) students, research scholars and young college teachers to the excitement in astronomy as well as provide a flavour of the tools and techniques being used

in astronomy research.

Many topics of current interest including Statistics in astronomy, Astronomical observations, Telescopes and detectors, Surveys and data, Machine learning, Citizen science, Radiative processes, Virtual observatories, etc. were covered in the workshop. Besides, some talks of general interest, like Black holes in the

universe, Density functional theory were also included. The hands-on sessions mainly hinged around VO tools, and were very well received by the participants. The resource persons were Ajit Kembhavi, Vijay Mohan, Ranjeev Misra (all from IUCAA), Ashish Mahabal (Caltech), Javid Ahmad (University of Kashmir). Santosh Jagade, Sharmad Navelkar, and Tejas Kale (all from IUCAA) conducted the hands-on sessions.

The Vice-Chancellor of Kashmir University, Talat Ahmad, took keen interest in the workshop. He presided over the inaugural function, and had a one-to-one meeting with Ajit Kembhavi, Director IUCAA, and also watched the proceedings of the hands-on session with great interest. There were about 60 participants. Six outside state participants also attended the workshop. Ranjeev Misra (IUCAA) and Manzoor Malik (University of Kashmir) coordinated the workshop. ■

JES-IUCAA workshop on Astronomy and Physics for Science Communicators



A JES-IUCAA workshop on 'Astronomy and Physics for Science Communicators' was held at J.E.S.College, Jalna, Maharashtra during September 26-27, 2013. This was the fifth workshop organized by J.E.S. College through the strong academic bonding with IUCAA during the past more than two decades. The workshop was, mainly for Science Communicators from various organizations involved in the Outreach of Science Activities. About 25 participants from various NGOs and academic institutions, including two Ph.D. Scholars and two M.Sc. students, participated in the workshop. In addition to this, about 15 faculty members and 30 M.Sc. Physics students of JES College also attended the workshop.

S. Ananthkrishnan, former Director of GMRT inaugurated the workshop with an appeal of inculcating scientific temper in the society. He also emphasized on the key role of science communicators in this process and the need of educating them through such workshops. E-release of an e-Book, 'JESO: A Small Telescope Observatory' was done by him during the inaugural programme. Ajit Kembhavi (Director, IUCAA) has written the Foreword and it has been edited by the founder of JESO, M. L. Kurtadikar, Vice-Principal S. K. Popalghat and Principal of the College, R. S. Agrawal. It is a monograph of the observational work on Photoelectric Photometry of

Variable Stars, done at J.E.S. Observatory for award of doctoral work of three candidates, submitted to Dr. B. A. M.University Aurangabad, in past 10 years.

Ananthkrishnan talked on 'The Sun', revealing several known and unknown basic facts about the Sun to the Science Communicators. Arvind Ranade of Vigyan Prasara, Noida talked of 'Science Communication' discussing the modes and models used for this purpose. He also talked on 'The Practical Astronomy', in a later session, setting an example of effective science communication. On the following day, he presented several short video clips prepared by Vigyan Prasara, having a high edutainment value, enunciating various activities pertaining to the 'Day Time Astronomy. Samir Dhurde of IUCAA talked on 'What is there in the universe?', revealing the glory of the cosmos, not so much known to a lay man. On the next day, he talked on 'The Tools of Astronomy' while familiarizing various types of telescopes and their characteristics to the audience. He talked on the comet 'ISON', which will be appearing in the sky during October-mid November 2013, which could be seen through a small telescope and by naked eye till the end of December 2013 and even for a couple of months after. Its brightness is expected to be maximum around November 29. This talk on the ever popular topic created enormous excitement amongst the participants. M. L. Kurtadikar explained 'Spectroscopy basics for Astronomers' in a lucid manner. He also gave a flavour of a few concepts of astronomy, significant for a communicator, in his talk on 'Background for Backyard Astronomy'. An observational session of 'Sky Watching' was conducted in the early evening hours on the first day of the workshop by P. M. Kokane and Sachin Pandit of JESO team. Ranjan Garge of Marathi Vidnyan Parishad, Aurangabad concluded the workshop. Samir Dhurde of IUCAA and M. L. Kurtadikar of JES College worked as the coordinators of the workshop. ■

Introductory Workshop in Astronomy and Astrophysics

The Department of Physics, Manipur University, Imphal will be hosting an IUCAA sponsored "Introductory workshop in Astronomy and Astrophysics" during February 10-12, 2014. The purpose of the workshop is to expose and motivate post graduate students with Physics background, young researchers and college/University teachers towards astronomy and Astrophysics. The Workshop will focus on observational astronomy and recent advances.

Tentative Speakers: Ranjan Gupta (IUCAA); H. P. Singh (Delhi University); Vijay Mohan (IUCAA); U.C. Joshi (PRL); Tanuka Chatterjee (Calcutta University); Asoke K. Sen (Assam University); A. Senorita Devi (Assam University); K. Y. Singh (Manipur University); and I. Ablu Meitei (Govt. of Manipur)

Participants will be provided free hospitality and accommodation during this workshop. The total number of participants will be restricted to 40 including 10 outstation participants from neighboring states. Limited travel assistance fund is available to support the outstation participants (up to II A/C) for teachers and second class sleeper/bus for students

on production of ticket copy.

How to apply: Interested applicants may write to yugindro361@gmail.com furnishing the following information : Name, Date of Birth, Male/Female, Present Institution, Position (Student/Research Scholar/PDF/Faculty), Address of communication, Contact Mobile Number, Email, Academic Qualifications (from Matriculation Onward), Whether travel support required (Yes/No), a letter of recommendation from research guide/head of department, signature and date.

Last date to receive applications: November 11, 2013.
Notification to the selected participants: November 20, 2013.

Address for correspondence:

K. Yugindro Singh, Convener, Department of Physics
Manipur University, Canchipur, Imphal 795003
Email: yugindro361@gmail.com
Mobile: 08794080823/09862276463

Visitors (July - September 2013)

Sheelu Abraham, Piyush R. Acharya, Kishor Adhav, Shantanu Agarwal, Amir Reza Aghamousa, Farooq Ahmad, Shah Alam, Sk. Saiyad Ali, M. Anandkrishnan, S. Annapurni, H.M. Anita, G.C. Anupama, Shivam Arora, Manjari Bagchi, R.P. Bambah, Dipankar Banerjee, Narayan Banerjee, Srikumar Banerjee, Surabhi Banerjee, Soumen Basak, Swetha Bhagwat, Anupam Bhardwaj, Naseer Iqbal Bhat, Ravindra Bhatia, Vasudha Bhatnagar, K.G. Biju, Elsy Bonifacio, Guido Brusa, A. Raja Byanna, Subenoy Chakraborty, Sabyasachi Chatterjee, Asis Kumar Chattopadhyay, Pradip Kumar Chattopadhyay, Bhag Chand Chauhan, Rabin Chhetri, S.M. Chitre, Johel Contreras, Prathamesh Dalvi, P.K. Das, Ghanshyam Date, Pitambar Datta, Soumi De, Alpana Dey, Jishnu Dey, Mira Dey, Ansell Dietsch, P.P. Divakaran, Debiprosad Duari, Reetika Dudi, Savithri Ezhikode, Ghada Farouk, Taparati Gangopadhyay, Hareesh Gautham, Ritesh Ghosh, Shaon Ghosh, Sushant G., Ghosh, Sambit Kumar Giri, Rupjyoti Gogoi, Aruna Govada, Richard Green, Vishakha Gupta, Mubashir Hamid, M.K. Haris, Philip Hinz, Tanvir Hussain, K. Indulekha, Bala Iyer, Joe Jacob, Sitha K. Jagan, Deepak Jain, Manish Jain, Reju Sam John, Pankaj Joshi, Kanti Jotania, Anil Kakodkar, Aditya Kandaswamy, Swarali Karkhanis, Vinay Kashyap, Dhriti Khanna, Dawood Kothawala, Arun Kumar, Saurabh Kumar, V.C. Kuriakose, Andrew Lobban, Yogesh Maan, Ashish Mahabal, Jnan Maharana, Shiva Kumar Malapaka, Soma Mandal, Helen Mason, Tabasum Masood, Nairwita Mazumder, Goverdhan Mehta, Parita Mehta, Aditi Mittal, Rekhesh Mohan, Aditya

Sow Mondal, S. Mukherjee, N. Mukunda, Sargam Mulay, Pramod G. Musrif, K.C. Nair, D. Narasimha, Rajesh Nayak, Devendra Ojha, S.K. Pandey, P.N. Pandita, M. Parthasarathy, Abhishek Paswan, M.K. Patil, B.C. Paul, Sonu Tabitha Paulson, Pramod Pawar, D.B. Phatak, Ninan Sajeeth Philip, Tabata de Pontes, T.P. Prabhu, V.P. Prajwal, M. Durga Prasad, L. Radhakrishna, M. Xavier James Raj, S.R. Rajesh, R. Ramachandran, Tharanath Ramachandran, G.V. Ramaraju, Shantanu Rastogi, C.D. Ravikumar, Biplab Raychaudhuri, Somak Raychaudhuri, E. Eswar Reddy, L. Resmi, Debraj Roy, Parasuraman S., Sonali Sachdeva, Anirban Saha, Kanak Saha, Sanjay Kumar Sahay, Sunder S. Sahayanathan, P.K. Sahoo, D.J. Saikia, Sameer Tanaji Salunkhe, Prasant Kumar Samantray, M. Sami, Shishir Sankhyayan, Jose Santana, Subrata Sarkar, Rathin Sarma, Seema Satin, Bhim Prasad Sarmah, Saneesh Sebastian, Anand Sengupta, T.R. Seshadri, Amit Seta, Shreya Ninad Shah, Ashu Sharma, Kaushal Sharma, M.M. Sharma, Sanjeev Kumar Sharma, Pankaj Sheoran, Yuri Shtanov, Anvar Shukurov, H.P. Singh, K.P. Singh, Atreyee Sinha, Mark Sirota, Vikram Soni, Satish Sonkamble, P. Sreekumar, Avinash Surendran, Jishnu Suresh, Shruti Tripathi, Pranjal Trivedi, Paniveni Udayashankar, Wahab Uddin, Vivek Kumar Upadhyay, A.A. Usmani, D.B. Vaidya, Vidhya Vaitheeswaran, Nijo Varghese, Alexander Viznyuk, Charithar Vyas, Sanjay Wagh, Naveel Wani, and Urjit Yajnik.

Visitors Expected

October 2013: Bobomurat Ahmedov, Nuclear Institute of Physics, Uzbekistan; Ayan Banerjee, Jadavpur University, Kolkata; Sumita Banerjee, Adamas Institute of Technology, West Bengal; Tomaso Belloni, INAF, Brera, Italy; Gour Bhattacharya, Presidency University, Kolkata; Koushik Chakraborty, Government Training College, Hooghly; Arnab Chakravarty, Burdwan University, West Bengal; S. Chandrasekaran, Jawaharlal Nehru University, New Delhi; Jishnu Dey, Presidency University, Kolkata; Mira Dey, Presidency University, Kolkata; Debashish Ghoshal, Jawaharlal Nehru University, Delhi; Abdullo Hakimov, Nuclear Institute of Physics, Uzbekistan; Bala Iyer, Raman Research Institute, Bangalore; Reju Sam John, Pondicherry University, Pondicherry; Kanti Jotania, The M.S. University of Baroda, Vadodara, Indrani Karar, Saroj Mohan Institute of Technology, West Bengal; Shilpa Kastha, Visva-Bharati, Santiniketan; Ravindra Keskar, Mumbai; Rishi Khatri, MPA-Garching, Germany; Badam Singh Kushvah, Indian School of Mines, Dhanbad, Bihar; Soma Mandal, Taki Government College, West Bengal; Sowgat Muzahid, University of Pennsylvania, USA; Pradip Mukherjee, Barasat Government College, West Bengal; Ashok Kumar Pal, Indian School of Mines, Dhanbad, Bihar; Sanjay Puri, Jawaharlal Nehru University, Delhi; Farook Rahaman, Jadavpur University, Kolkata; B.S. Ratanpal, The M.S. University of Baroda, Vadodara; Amir Sinha Roy, Barasat Government College, West Bengal; Anirban Roy, Burdwan University, West Bengal; Soumendra Nath Ruz, Kalyani University, West Bengal; Anirban Saha, West Bengal State University, Howrah; Subrata Sarker, Visva-Bharati, Santiniketan; Kiran Shanker, University of Allahabad, Allahabad; Ranjan Sharma, P.D. Women's

College, Jalpaiguri; Sanjar Shaymatov, Nuclear Institute of Physics, Uzbekistan; Douglas Singleton, California State University, USA; and Amarjit Tamang, University of North Bengal, Siliguri.

November 2013: Sofiqul Islam, Jadavpur University, Kolkata; Shashi Kanbur, Suny Oswego, USA; Ram Kishor, Indian School of Mines, Dhanbad, Bihar; Devendra Pareek, B.N.P.G. College, Udaipur; K.D. Patil, B.D. College of Engineering, Wardha; Annegreat Ritter, Germany; and R.G. Vishwakarma, Universidad Autonoma de Zacatecas, Mexico.

December 2013: Gazi Ameen Ahmed, Tezpur University, Assam; Sk. Saiyad Ali, Jadavpur University, Kolkata; Samarpita Bhattacharya, Bengal Engineering and Science University, West Bengal; K.G. Biju, WMO Arts and Science College, Wayanad, Kerala; Goutami Chattopadhyay, University of Calcutta, Kolkata; Surajit Chattopadhyay, Pailan College of Management and Technology, Kolkata; Ujjal Debnath, Bengal Engineering and Science University, West Bengal; Glennys Farrar, New York University, USA; Carlos Frank, University of Durham, United Kingdom; Yousuke Itho, Japan; Joe Jacob, Newman College, Kerala; Alain Lecavelier, IAP, Paris, France; Ashish Mahabal, California Institute of Technology, USA; Smita Mathur, Ohio State University, USA; Asokaran Rajh, University of Kwazulu-Natal, Durban, South Africa; Chayan Ranjit, Seacom Engineering College, Howrah; Sujata Kundu Ranjit, Narula Institute of Technology, Kolkata; Pushpender Singh Rao, B.N.P.G. College, Udaipur; Subharthi Ray, University of Kwazulu-Natal, Durban, South Africa; Saito, Japan; David Smith, University of Kwazulu-Natal, Durban, South Africa; and Hirotaka Takahashi, Japan.

Long Term Visitors : P. C. Agrawal; Haeun Chung; Sanjeev Dhurandhar; Pushpa Khare; and Gopal Krishna

Know Thy Birds-3

— Chaitanya Rajarshi

Hello friends,

I hope that my last two articles must have amplified your interests in birds and you would have started loving them and contributing towards their conservation. This time, I present before you the story of the most unique and efficient scavenger bird.

I am not going to talk about their description, distribution and habitat but about their endangered status, consequences we are facing because of their extermination and the ongoing conservation efforts.

During 90's, India had largest population of vultures in the world. We used to see them in large number around dumping grounds, fields, railway lines. In the last 15-20 years, population of these magnificent birds has declined by more than 99%. It is estimated that out of about 80 million vultures in the 90's, only 4-5 thousand are remaining now.

About nine species of vultures can be found in India, but today most of them are on the verge of extinction. Four species of vultures in Asia are already classified by the IUCN as Critically Endangered. These species are Oriental white-backed or white-rumped vultures (*Gyps bengalensis*), Long-billed vultures (*Gyps indicus*), Slender-billed vultures (*Gyps tenuirostris*), Red-headed or King vultures (*Sarcogyps calvus*)

What is the Problem?

Pick up any pain relief gel or spray at your home and read the composition, you will find Diclofenac. Diclofenac is a veterinary (anti-inflammatory) drug used for treatment of cattle. Vultures die of kidney failure when they eat the carcass of an animal treated with Diclofenac. One's medicine is another's poison!

The scientists discovered the cause in 2003 and the Indian government banned Diclofenac in 2006. However, it is still sold and used illegally because of its low cost. Its substitute, Meloxicam, is safe for vultures, but is costly.

Without vultures

For centuries, vultures have been nature's guardian for cleanliness. They

(A very good film on this subject "The Vanishing Vultures" by Mike Pandey is available on YouTube - A Must Watch Film.)

Vultures - The Master of Skies



A Long billed vulture

(Photo Courtesy : Umesh Vaghela)

play a vital role in keeping our environment clean and disease free by eating dead animals. The strong stomach acids of the vultures help them digest the rotting carcasses full of pathogens that would be lethal to human beings.

In the absence of vultures now:

- * The carcasses in the jungle and in the village lie for weeks and is the cause for water contamination.
- * Other species like stray dogs, crows, kites, rats have replaced vultures. These scavengers unlike vultures are carriers of rabies, anthrax, plague, etc. and are directly or indirectly responsible for thousands of human deaths. Indian government spent millions of US dollars for controlling dog population, sterilization and medical treatment of diseases. The cattle owners have to pay huge money for carcasses buried or burnt.
- * Apart from environmental and economic consequences, we are facing cultural impacts also. The traditional sky burials of human dead bodies of some Himalayan and Parsi communities cannot be carried out.

What is being done and what should be done

- * Many organizations like Haryana



A Long billed vulture

(Photo Courtesy : Mayuresh Khatavkar)

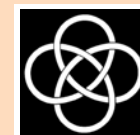
forest department, Bombay Natural History Society, and SAVE are working for the conservation of vultures. They have started vulture breeding centers around India and the results are good.

- * A complete ban on Diclofenac and harsh punishment for the illegal sale or use.
- * Awareness among farmers, villagers, veterinary doctors is required.
- * The substitute drugs for Meloxicam should be made cheap.

More about vultures in my next article.

"Dear friends, we should also contribute in saving these graceful birds by spreading awareness among our relatives and friends. We would like to watch them soaring high up in the skies." ■

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We welcome your responses at the following address :
IUCAA, Post Bag 4,
Ganeshkhind, Pune 411 007, India.
Phone : (020) 25691414; 25604100
Fax : (020) 25604699
email : publ@iucaa.ernet.in
Web page : <http://www.iucaa.ernet.in/>