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Team CSIR



IMTECH gives Worldwide Licensing Rights to Nostrum Pharmaceuticals for Clinical Development of the Small Molecule Caerulomycin and Its Proprietary Derivatives for Their Novel Indication of Immunosuppression

Nostrum Pharmaceuticals, LLC, a privately-held company based in Edison, New Jersey, USA, has obtained a worldwide license from the Institute of Microbial Technology (IMTECH), Chandigarh, to develop and commercialize Caerulomycin A and its proprietary derivatives and analogues ("Caerulomycin") for their novel indication of immunosuppression. An agreement to this effect was signed by Dr Girish Sahni, Director, IMTECH and Dr Nirmal Mulye, President and Founder of Nostrum, on 23 February 2009 at CSIR Headquarters, New Delhi. The function was attended by Shri Kapil Sibal, Minister of Science & Technology and Earth Sciences, Government of India, and Prof. Samir K. Brahmachari, Director General, CSIR and a large number of Scientists.



After signing the agreement between IMTECH & Nostrum (from left) are:
Dr Girish Sahni, Director, IMTECH,
Prof. Samir K. Brahmachari, DG, CSIR,
Shri Kapil Sibal,
Minister of Science & Technology
and Earth Sciences and
Dr Nirmal Mulye, President and Founder of Nostrum



In his remarks on the occasion, Shri Sibal observed that the “Caerulomycin agreement was once again a new first whereby IMTECH and CSIR have been able to license for clinical development of a small molecule for therapeutic purposes.” He praised and congratulated Director IMTECH and the scientific teams at IMTECH that developed the Caerulomycin compound. He also congratulated Dr Mulye and Dr Prashar for their prior commitment to take forward the collaboration between Nostrum and IMTECH for SMRX11 and expressed confidence that the same commitment would be shown by Nostrum to carry forward this new collaboration on Caerulomycin. He expressed “hope and confidence that Nostrum and its Symmetrix subsidiaries will nurture the Caerulomycin project well and develop it into a blockbuster drug.”

Congratulating Dr Mulye and Dr Sahni for the growing partnership between Nostrum and CSIR, Prof. Brahmachari, called the relationship as an outstanding example of public-private partnership that will help an organization like CSIR achieve its basic mandate to carry out research that ultimately benefits mankind. Prof. Brahmachari also complimented the scientific teams at IMTECH for developing the immunosuppressant Caerulomycin molecule.

The IMTECH Director Dr Girish Sahni said, “Licensing of Caerulomycin to Nostrum is a proud

achievement for IMTECH, especially for the scientific teams led by Dr Javed Agrewala, Dr R. M. Vohra, Dr Arvind Singla and Dr R. S. Jolly, that developed Caerulomycin over several years of meticulous research which led to the filing of patent applications for the technology. This is the second molecule that IMTECH has under license with Nostrum, the first being a novel thrombolytic clot-buster protein known as SMRX11. While SMRX11 was the first patented recombinant DNA based biopharmaceutical molecule licensed to a foreign pharmaceutical company by any institution in India, Caerulomycin is the first small molecule being licensed by IMTECH to a foreign company, and it is a proud achievement for IMTECH and CSIR.”

Nostrum’s President Dr Nirmal Mulye expressed his appreciation for the continued efforts by IMTECH and Nostrum’s Symmetrix subsidiaries to pursue development of novel biopharmaceutical therapeutic protein drugs, including Caerulomycin and a clot busting protein known as Clot Specific Streptokinase obtained earlier pursuant to license from IMTECH. Dr Mulye stated that “our collaborative work with IMTECH in the clinical development of these therapeutic proteins has been ongoing since 2006 and offers a substantial commercial potential for these products in the market worldwide.”

Dr Yatindra Prashar, President

and CEO of Nostrum’s subsidiary Symmetrix Pharmaceuticals, LLC, based in Edison, NJ, and parent of Singapore-based Symmetrix Biotech Pvt. Ltd (collectively “Symmetrix”), was principally responsible for reaching the new license agreement with IMTECH. Dr Prashar emphasized that “This novel bioactivity of Caerulomycin has shown remarkable promise in immunosuppression of both T-cells and B-cells in both *in-vitro* experiments and in rodent animal model studies. In addition, preliminary studies carried out by IMTECH also show a lack of toxicity in the rodent experiments. Based on these observations made by IMTECH’s scientists, Caerulomycin has a potential to develop into a blockbuster drug to be used to prevent organ transplant rejection and diseases such as certain autoimmune disorders where immunosuppression is the key to the mitigation of the disease symptoms”.

Nostrum is involved in the development and commercialization of products using novel drug delivery systems for generic and innovative pharmaceutical products in the United States and abroad. Relatedly, Symmetrix’s core capability aims at establishing a pipeline of novel, patented biopharmaceutical therapeutic protein drugs by identifying emerging technologies worldwide. Located on a 25 acre campus in Chandigarh, IMTECH is a research institute for basic and applied biomedical and microbiological research.

NTAF's Support to ISRO's Launch Vehicle Programmes

The National Trisonic Aerodynamic Facilities (NTAF) of the National Aerospace Laboratories (NAL), Bangalore, is the main collaborator and supporting agency for all the Aerodynamic characterization tasks related to ISRO's launch vehicle programmes.

During 2008-09, nearly 900 blowdowns, which is about 80% of the total blowdowns in a year, have been conducted on the following configuration of ISRO.

- PSLV XL (Extended strap-on motor) configuration – 3 campaigns.
- RLV (Reusable Launch Vehicle) configuration – 3 campaigns.

The aerodynamic data generated on the PSLV XL configuration, culminated in the Historic Launch of India's moon mission – *Chandrayaan*. The enormous amount of wind tunnel data generated for RLV, has given ISRO a high level of confidence in the aerodynamic design of RLV.

The timely support extended by NAL and in particular the team at NTAF in generating the vital aerodynamic data for PSLV XL (*Chandrayaan* Launch) has been well appreciated and acknowledged by ISRO. Dr A.R. Upadhya, Director, NAL, has congratulated the officers and staff of NTAF for their dedicated contributions.

Tata Advanced Materials signs Composites Components MoU with NAL

In the spirit of Public Private Partnership for an accelerated growth of Advanced Composites development and manufacture for national and international aircraft programmes, the Advanced Composites Division of National Aerospace Laboratories (NAL ACD), Bangalore, has signed an MoU with Tata Advanced Materials



Exchange of MoU document between NAL and M/s Tata Advanced Materials Ltd, Bangalore

Ltd (TAML) for a collaborative arrangement. TAML has adopted NAL ACD as its development arm to develop required advanced technologies and products for national and international projects. In turn, NAL ACD has adopted TAML as its production and marketing house for the composites components it has developed. The MoU was signed in the presence of Dr A.R. Upadhya, Director, NAL and Mr. Syamal Gupta and Mr. A.K. Vora, Chairman and Vice Chairman of TAML.

NAL ACD has pioneered the development of advanced carbon fibre composite components and assemblies for aircraft applications in India. It has made significant contribution to prestigious national programmes such as ADA's LCA *Tejas*, NAL's *Saras*, and many other defence and space programmes. It has also rendered repair technology

services to IAF involving metal composite hybrid repairs resulting in extension of operational life of aircraft in the fleet.

Tata Advanced Materials Ltd (TAML) has established modern facilities for manufacture of advanced composites in the country and aims to be a major player in manufacture of advanced composites components for aerospace applications. It is a strategic supplier of composites components to both HAL and ISRO and has commenced exports to international aviation companies. TAML is the only company in India to acquire NADCAP accreditation for aerospace composites.

The agreement is expected to strengthen the advanced composites development and production capability in the country significantly.



HRDC conducts programme on “Valorization of R&D” for Mongolian Academy of Sciences at Ullaanbaatar, Mongolia

The Human Resource Development Centre (HRDC), Ghaziabad, organizes various training, skill upgradation, refresher as well as induction programmes for CSIR personnel as per its mandate. One of the key areas of training is R&D Management.

The Centre, in association with Asian Pacific Centre for Transfer of Technology (APCTT), New Delhi, organized a three-day programme on “Valorization of R&D” for the Scientists and Research Managers of Mongolia at Mongolian Academy of Sciences (MAS), Ullaanbaatar, Mongolia, during 6-8 October 2008.

APCTT is a regional institute of the United Nations Economic & Social Commission for Asia & the Pacific (UNESCAP) servicing the Asia-Pacific region with the objective of facilitating Technology Transfer. HRDC had organized in association with APCTT a similar programme during the month of March 2008 in its premises, which had participation of scientists from Mongolia, Thailand, Nepal, Sri Lanka in addition to senior and middle level scientists from a number of CSIR labs. In the present programme MAS approached APCTT and CSIR to hold a similar training programme in Mongolia for the scientists of Mongolian research institutes, universities and other R&D organizations in Mongolia. The programme was organized as a part of India’s south-south cooperation approach.

The faculty for the programme comprised Dr H.R. Bhojwani,



Dr Naresh Kumar (right) with Prof. B. Chadraa during signing of the joint statement of cooperation between MAS and CSIR

Advisor to Union Minister of Science & Technology; Dr Naresh Kumar, OSD, HRDC; Dr Pradosh Nath, Scientist, NISTADS and Mr. Vinay Kumar, Scientist, HRDC besides Dr K. Ramanathan, Head, UNSCAP-APCTT and Dr Somchari Chatratan of National S&T Development Agency (NSTDA) of Thailand. Forty participants from MAS and various universities and research institutes of Mongolia attended the programme.

The Mongolian Minister of Science, Education and Culture, Dr Yo. Otgonbayar inaugurated the programme and delivered the keynote address in which he mentioned about global developments and challenges being faced by R&D institutes. He emphasized the need to have knowledge networking for true valorization of R&D results. Prof. B. Chadraa, President of MAS, welcomed the faculty and felt that such kind of programmes go a long

way in adding value to the working of R&D institutes.

The major outcome of this training programme was signing of a joint statement of cooperation between MAS and CSIR covering the following areas: Microbial Resource Inventorisation, Genomics and Patent Information, R&D Planning, Prioritization and Project formulation at organization level, Leather Bioprocessing, Medicinal and Aromatic Plants of Mongolia — Assessing and Validating medicinal properties of a select few, etc. Prof. B. Chadraa, signed the statement on behalf of Mongolian Academy of Sciences and Dr Naresh Kumar, on behalf of CSIR.

It is a matter of pride for HRDC that its expertise and quality of training programme has been recognized and helped in earning name for itself outside the country and renewing the cooperation with Mongolia.



Seminar on Holistic Approach to the Management of Health in R&D Organizations

The National Aerospace Laboratories (NAL), Bangalore, organized a seminar on Holistic Approach to the Management of Health in R&D Organizations on 9 January 2009, as a part of NAL Golden Jubilee celebrations. Dr Ranjan Moodithaya, Head, KTMD, welcomed the distinguished gathering and the speakers to the seminar: Dr K. Govinda Babu, Assistant Professor, Kidwai Memorial Institute of Oncology and Dr Prasanna Kumar, Head, Department of Endocrinology, M. S. Ramaiah Medical College. He complimented Dr K.S. Nanjundaswamy, CMO of NAL, for his efforts in setting up of the NAL Health Centre with a number of state of the art facilities like ERBA Smart Lab: a fully automatic biochemistry analyzer, X-ray, Physiotherapy, etc.

Dr A.R. Upadhya, Director, NAL, in his opening remarks said, "we have had a number of seminars with technical theme of aerospace science and it was very thoughtful of NAL Health Centre to have taken

the initiative to have one for the human body which is the most complicated engineering form built by God. With periodic check-ups and a little extra care one can get the wake up calls from the doctors, but finally it is we who need to take care of ourselves to be in good health and happiness."

Dr K. S. Nanjundaswamy gave an account of the *Importance of Master Health Check-up*. He said that some of the diseases may not manifest clinically even above the age of 35 years. If identified at the initial stage of the onset, doctors can prevent the further complications caused by these diseases. He spoke about what is master health checkup? What investigations will be done? Why master health checkup is necessary? What are the advantages of undergoing master health checkup? What should you do? how will you be benefited? He summed up his lecture saying that with Master Health Checkup one can learn more about his heart, kidney, diabetes and be aware of the

risk factors, and learn to adopt a healthier life style for a healthier heart. This will go a long way in decreasing the chances of heart disease, paralytic stroke and sudden death, etc., and give guidelines for a Scientific Preventive Programme.

Dr K. Govinda Babu gave a brilliant lecture on 'Prevalence of Cancer and Its Prevention in the Indian Population' with statistics. Dr Prasanna Kumar gave a very enlightening talk on 'Diabetes and Its Prevention in the Indian Scenario'. Both the specialists were unanimous in their view that exercise and a healthy balanced diet is a critical component of good health that can lower the risk of cancer, heart disease and diabetes. Both speakers elaborated on what constitutes a healthy balanced diet and quantum of exercise required to keep good health.

Dr D. Amarnarayan proposed the vote of thanks and Dr M. N. Sathyanarayana, Jt. Head, KTMD, compered the programme.

Workshop and Demonstration-cum-Technology Transfer on Rural Technologies for the North Eastern States

A Workshop on Technology Transfer for North Eastern States was organized in All Saints Cathedral Hall, Shillong, Meghalaya, during 19-21 November

2008. Inaugurated by the then Deputy Chief Minister of Meghalaya Mr. Lyngdoh, the workshop had active participation of the following four CSIR laboratories

viz. North East Institute of Science & Technology (NEIST), Jorhat; Institute of Minerals and Materials Technology (IMMT), Bhubaneshwar; Advanced



Foundation Day Celebrations



Dr Donkapur Roy (left) and Mr Lyngdoh (above) being explained the "Samadhan Kendra" software demonstration by IICT Team

Materials and Processes Research Institute (AMPRI), Bhopal; and Indian Institute of Chemical Technology (IICT), Hyderabad; In addition, a host of other participants including government officials, entrepreneurs, NGOs, SHGs, Departments like Rural Development, State S & T Councils of the seven North-Eastern States of India took active part in the workshop. Prof. Samir K. Brahmachari, Director General, CSIR and Secretary,

Department of Scientific and Industrial Research, New Delhi, was the Chief patron of the workshop.

The then Chief Minister of Meghalaya Dr Donkapur Roy visited the workshop on 20 November and evinced keen interest in the products displayed by the four participating CSIR labs.

Dr Donkapur Roy later interacted with the scientists of CSIR and other officials present regarding transfer of technology of the products for the

better quality of life for the rural people of North Eastern States of India.

The stalls put up by the four CSIR laboratories drew large crowds who appreciated the efforts of the scientists coming all the way to improve the lifestyle of the people of Meghalaya and also to impart entrepreneur skills to the youth and to strengthen the hands of the NGOs and the State Government in their efforts for promotion of Science and Technology.

NGRI celebrates Foundation Day

The National Geophysical Research Institute (NGRI), Hyderabad, celebrated its Foundation Day on 15 October 2008. Prof. O.P. Varma, Executive President and Honorary Editor, Indian Geological Congress, Roorkee, delivered the 48th Foundation Day Lecture on 'Geosciences in Schools: A Tune of Confidence to Developing Countries to take on Challenges of the 21st Century'. Prof. Varma in this lecture underlined the need of introducing Geosciences right from the primary level. He stressed the importance of Geosciences and their applications for enabling the scientific community to meet the challenges of the 21st century.

Prof. Varma also distributed mementos to those staff members who had completed 25 years of service in NGRI.

Earlier, Dr V.P. Dimri, Director, NGRI, welcomed the Chief Guest and introduced the speaker to the audience. He reviewed the role of NGRI in the country's socio-economic development.

Dr M.R.K. Prabhakara Rao, Scientist 'F', NGRI, proposed the vote of thanks.



Prof. O.P. Varma delivering the NGRI Foundation Day Lecture



CBRI celebrates Foundation Day

The Central Building Research Institute (CBRI), Roorkee, celebrated its 62nd Foundation Day on 10 February 2009. Shri S. Sreedhar, Chairman and Managing Director of the National Housing Bank (NHB), who was Chief Guest at the Foundation Day Function, in his address pointed out that though there had been about 40% increase in housing loans, the facility remained limited only to the upper and the middle classes and the poor segments of society were still far away from the facility provided by the housing finance companies. The scientists, specially those of CBRI, can make an important contribution in this direction by developing very low-cost techniques of building construction, said Shri Sreedhar.

Highlighting the achievements of the institute, the Director Dr M.O. Garg mentioned about the newly developed technologies of the



Seated on the dais (from left) are: Shri S.C. Tyagi, Shri M.P. Singh, Shri S. Sreedhar and Dr M.O. Garg

institute which had been patented and about those which were in the pipeline. The scientists of the institute are also engaged in developing techniques of fire safe buildings and building materials. CBRI scientists are also contributing to the construction work for the Commonwealth games to be held in Delhi in 2010, he added.

On the occasion, two scientists of the institute — Dr A.K. Gupta, ex-Scientist 'G' and Dr A.K. Minocha, Scientists 'F' were

honoured with the Diamond Jubilee Director Award for developing gravitational settling chamber technique for pollution control in brick kilns.

CBRI has played a pioneering role in developing low-cost and eco-friendly technology of building construction, with focus on the use of indigenous materials suited to the requirements of the different geo-climatic

regions of the country. The institute has also played a key role in developing earthquake resistant building construction techniques and in the rehabilitation of the earthquake affected people. The programme concluded with the prize distribution to the winners of various competitions organized during the week.

Shri M.P. Singh, Scientist 'G' also spoke on the occasion and Shri S.G. Dave, Scientist 'G', welcomed the guests. Shri S.C. Tyagi, COA, proposed the vote of thanks.

NAL's Footprint at AeroIndia 2009

The seventh edition of the Aero-India was held from 11 to 15 February 2009. The format of first three days for business and the next two days for general public continued into this year as well.

The National Aerospace Laboratories (NAL), Bangalore, had

set up an even bigger stall this year. The stall was based on "open access" concept — the technologies were displayed on the periphery of the stall and a good number of plasmas provided an overview for the casual onlooker. The central area displayed 1:1 scale mock up of the NM5, scaled

version of *Saras*, which turned out to be the biggest attractions.

On the first day, after the inaugural, aerial display began around 10:30 am with fly past of 'small boy' and 'big boy' formations as well as mid-air refuelling configurations. This was followed by



showcasing of military might. From India, the *MiGs* and the *Sukhois* (Su-30 MKI) made their mark while Russians displayed *MiG 35* and other impressive aircraft. In between, *Saras* made its appearance with its newly painted blue belly. On the style quotient, no transport aircraft can match military ones. But, nonetheless, *Saras* made some impressive moves and gave the impression that the pilots were quite enjoying themselves. *Hansa* was displayed in the later editions.

The *Eurofighter Typhoon* and *F18 Super Hornet* flew fast, flew slow, flew upside down, flew straight up and flew in every possible way barring going backwards. *Typhoon* was particularly impressive performing square loops. The

Lockheed Martin *C17* military transport aircraft was superbly agile in spite of its huge size making pretty steep turns at very low altitudes. It also landed using up very little runway and even taxied backwards!

The *Sarang* Helicopter team was very impressive. The peacock painted in gold and blue *ALH* team (in all four of them) performed some deadly formation flying. They flew one above the other, forwards and backwards, and crossed each other in different combination. Their performance overshadowed everything and impressed general public a good deal.

The last edition, as always, was that of *Surya Kirans*. Owing to loss of aircraft and a pilot recently, the fine aerobatic team used only six

aircraft as against their usual 9. As such they lacked some of their moves like the cross over and the heart. However, they did display their signature move, the 'bomb blast'.

As far as the exhibition was concerned, it seemed more like what it was the last time around. Of course, the Americans had a bigger presence this year. Technologies involving avionics, aerial support systems, aircraft components, electronics, linkages, software products, simulators, torpedoes, weapon delivery systems, etc. were on display.

The NAL stall showcased almost all the technologies. They consisted of the Wankel engine, NALFOQA, *Saras* and *Hansa* flight videos, the new Flosolver, radomes, wind



turbine, Drishti, presentations on “Computing Fluid Flows” and flow diagnostics, *Saras EICAS*, etc. A new addition was hands-on smart materials related demonstration. This attracted many, particularly on the general days. A large number of posters derived from the *Suvarna Sadhana* were abundantly displayed. The NAL team was rained down with reporters, particularly on the first day, who wanted to know about the various aircraft projects.

The scaled down version of *Saras*, the mock up of *NM5* and the model of new *RTA* attracted large crowds. On the first three days, people sat in *NM5* and got photographed. On the last two days, the crowd was so big that the *NM5* and *Saras* were clicked constantly.

Indeed NAL has come a long way since its first appearance with *Saras* mockup at the first edition. It is expected that a lighter, better and with new composite wing, *Saras* will provide joy rides to its potential customers next time around. It will be serious business with perhaps the *RTA* knocking on the doors asking for its place in the skies. Whatever the future may hold, the present show underlined that technology is indeed NAL's core vehicle.

Credit for the successful participation of NAL in the show goes to *KTMD* and all the other concerned divisions. Mr. C. V. Giri Raj toiled hard with excellent help from what may now be termed as his Exhibition Team which has been going around various places

displaying NAL's technologies. Complements must also go to NAL's air operation team involving *Saras* pilots namely Wg. Cdr. Praveen, Wg. Cdr. Sunit Krishna, Wg. Cdr. Shah, Wg. Cdr. G. D. Singh, Sq. Ldr. Jaswal and Sq. Ldr. Ilayaraja (IAF, *ASTE* Team) with ground support team led by Mr. P. Radhakrishnan and *Hansa* pilot – Air Vice Marshal A. S. Lamba and ground support team with Mr. Shijo K. Francis and his team in the lead. Mr. Kamaleshaiah and his team deserve high praise for excellent models. *Of these, Wg. Cdr. Praveen, Wg. Cdr. Shah, and Sq. Ldr. Ilayaraja, while test flying the same aircraft on 6 March, most unexpectedly and unfortunately died in the aircraft crash (see p. 96)*





NBRI organizes Chrysanthemum and Coleus Show

The National Botanical Research Institute (NBRI), Lucknow, organized the Annual Chrysanthemum and Coleus show on 6-7 December 2008. The objective to organize these flower shows is to promote floriculture industry and develop awareness about the floriculture among the masses. The present show provided an opportunity to public to develop interest and gain knowledge on the cultivation practices of chrysanthemum and coleus and to witness the entire diversity of flower colours, types and shapes. A total of 122 exhibitors from Lucknow and outside, with 885 entries, participated in the show. Four new varieties of chrysanthemum, viz. 'Little King', 'Little Kusum', 'Little Hemant' and 'Little Orange' were released this year.

NBRI is maintaining more than 250 germplasm collections of chrysanthemum. R&D activities on chrysanthemum and coleus pursued at NBRI were explained to the visitors. New varieties developed through different traditional and modern methods were displayed and commercial exploitation of chrysanthemum flowers by programmed blooming was explained. The public got a unique opportunity to interact with scientists of NBRI working on chrysanthemum and get first hand information on agro-technology, techno-economics, commercial cut flower varieties and many other cultivation practices.

The show was organized at the

Central Lawn of the institute. The fresh and dainty coleus displayed multi coloured foliage. Besides the potted plants, the cut flowers and special flower arrangements of chrysanthemum were also organized. The ubiquitous site of different varieties of flowers elated the visitors from all age groups.

A total of 337 prizes (107 First, 105 Second and 125 Commendation) in addition to 23 running challenge cups, shields and trophies were awarded to the successful competitors. Shri Awanish Kumar Awasthi, IAS, Managing Director, U.P. Power Corporation, Shakti Bhawan, Lucknow, who was the Chief Guest and Smt. Malini Awasthi distributed the prizes/shields/cups to the winners.

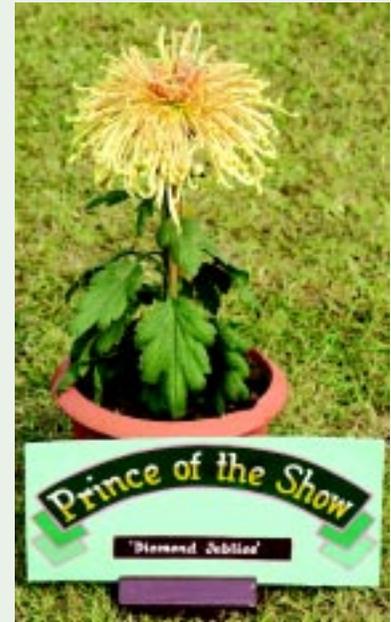
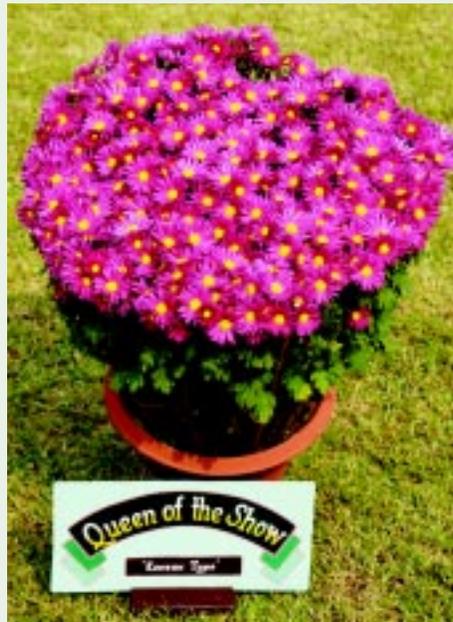
This year, entries received from Assistant Engineer, Shakti Bhawan, Ashok Marg, Lucknow, won five running trophies/ challenge cup/shields, viz. Nabi Mohd. Running Challenge Cup for the highest score in specimen pots of chrysanthemum in Class-A (A-1 to A-3); M.Y. Khan Running Challenge Trophy for the highest score in chrysanthemum cut-flowers in Class-A (A-7 to A-9); Smt. Krishna Devi Memorial Running Trophy for a collection of four pots of different varieties of spider type large flowered chrysanthemum in Section E-7; Qazi Syed Hasan Memorial Running Challenge Trophy for the highest score in Class-F colour photographs of chrysanthemum; and Devi Shankar Sinha Memorial Running Challenge Trophy for the

best artistic group of large flowered chrysanthemum in Class G-1.

Headquarters, Central Command, Cantt, Lucknow, also bagged five trophies/shields/cups, viz. Indian Explosives Ltd. (Fertilizer Division) Running Trophy for the highest score in the specimen pots of chrysanthemum (D-1 to D-24); Percy-Lancaster Challenge Cup for a collection of nine pots of different varieties of Korean type chrysanthemum in Section E-1; Quazi Syed Masood Hasan Running Challenge Trophy for 'Prince of the Show' for a specimen pot of spider bearing single bloom in Section E-4; Smt. Madhuri Rai Challenge Shield for a set of two specimen pots of chrysanthemum large and small flowered type trained in one each of attractive styles in Section E-5; and Vikramajit Singh Running Cup for Highest Scorer in the Show.

Lt. Gen. H.S. Panag, Command House, Lucknow Cantt, bagged the second position by winning the G.O.C-in-C. Central Command Running Challenge Cup for the highest score in specimen coleus plants (D-42 to D-50); Smt. Ranjit Singh Memorial Trophy for 'Queen of the Show' in Section E-3; and Smt. Kumud Rastogi Memorial Running Challenge Trophy for the best specimen coleus pot plant of the Show in Class E, Section E-10.

Shri Mahmood Ahmad Mullakhel, Shahjahanpur, won the Savitri Devi Memorial Challenge Trophy in Class C-1 for 12 pots of different varieties of large flowered chrysanthemum; Ranjit Singh



Shri Awanish Kumar Awasthi, IAS, Managing Director, U.P. Power Corporation.
Shakti Bhawan, Lucknow, Smt. Malini Awasthi along with prize winners.



Memorial Trophy for 'King of the Show' in Section E-2; and Syed Shaheer Hasan Memorial Running Challenge Cup for the best specimen pot of a reflex type large flowered chrysanthemum in Section E-9.

Director, Central Institute of Medicinal and Aromatic Plants (CIMAP), Lucknow, was recipient of the Mahfooz Ali Memorial Running Challenge Trophy for the best artistic group of small flowered chrysanthemum in Class G-2; and R. V. Sitholey Memorial Running Challenge Cup for the best artistic group of coleus in Class G-3.

Syed Shabbir Hasan, Rangin Chaupal, Shahjahanpur, won Mohammad Mullick Memorial Running Challenge Trophy in Class-C, Section C-2 for six pots of six different varieties of large flowered chrysanthemum; and the Mehboob Ali Memorial Running Challenge Trophy in Class-E, Section E-8 for a collection of six pots of different varieties of incurved type large flowered chrysanthemum.

Major General B.K. Bhatt, Hazarat Mahal Road, Lucknow Cant. won the Shri Govind Prasad Memorial Challenge Trophy in Class C-4 for 12 pots of 12 different varieties of small flowered chrysanthemum; Hindalco Industries Ltd, Ranukoot, Sonabhadra, Uttar Pradesh, bagged the Begum Saeeda Khatoon Running Challenge Trophy in Class-D (D-25 to D-31) for the highest score in cut blooms in large flowered chrysanthemum, and Divisional Railway Manager, North Eastern Railway, Ashok Marg, lifted the Ram Kishore Sharma Memorial Trophy for the 'Flower of the year - Pink Clout' for a specimen pot of large flowered chrysanthemum with single plant bearing single bloom in Section E-6.

Besides the above winners, Headquarters, Central Command, won a total of 27 prizes (13 First, 3 Second and 11 Consolation) and bagged the first place; Assistant Engineer, Headquarters, Shakti Bhawan, Ashok Marg, Lucknow, won a total of 24 prizes (11 First, 8 Second and 5 Consolation) and occupied the second position; and Lt. General H.S. Panag, Command House, Cantt, Lucknow; won a total of 17 prizes (7 First, 9 Second and 1 Consolation) and occupied the third position.

On this occasion, the Chief Guest Shri Awanish Kumar Awasthi also released the NBRI's in-house Hindi magazine 'Vigyanvaani'. Earlier, Dr S.P. Singh, Senior Most Scientist, NBRI, introduced the Chief Guest and highlighted the various floricultural activities being pursued by NBRI.

Shri Awasthi in his address appreciated the efforts of NBRI scientists for developing and releasing improved varieties for the benefit of public.

CIMAP organizes CIM-Utsav and Kisan Mela

The Central Institute of Medicinal and Aromatic Plants (CIMAP), Lucknow, organized 'CIM-Utsav' along with *Kisan Mela* on 31 January 2009 in which hundreds of farmers and entrepreneurs participated. The *Kisan Mela* was inaugurated by an aged farmer and a woman participant, representatives from industry and senior scientists of CIMAP.

Dr P. S. Ahuja, Director, CIMAP, who could not attend, expressed in his message that the event would provide two-way interaction — it would enable the scientists to make the farmers aware of the new S&T findings that are relevant to the farmers' field application and at the same time, understand the farmers' S&T needs and problems that they face in raising and processing of medicinal and aromatic plants. The scientists, Dr Ahuja said in his message, would also acquaint, the participants with the latest policy and other initiatives of CSIR, National Medicinal Plants Board (NMPB), Joint Forest Management (JFM), and other departments that have ongoing plans and proposals for expanding the medicinal and aromatic plants sector.

Dr Ahuja further said that availability of quality planting material is the immediate limitation emerging in this sector. He suggested the farmers to take up registration for producing quality planting material. CIMAP is also responsible for providing quality analysis services at a reasonable cost to the growers of MAPs.

On this occasion senior scientists of CIMAP Dr U.C. Lavania, Dr A.H.A. Farooqi and Dr Ashok Kumar Singh addressed the guests and the participants. The leaders from essential oil industry Prof. S.C. Varshney and Shri Shailendra Jain praised the efforts made in organizing *Kisan Mela*



Glimpses of *Kisan Mela*



and said that such interaction between farmers and scientists should be organized regularly.

Dr A.K. Singh, Head, Technology and Business Development, apprised about the CIMAP's activities and presented the programme details.

A meet was organized on cultivation and marketing of medicinal and aromatic plants in which the farmers, scientists and industry people discussed the problems faced in extension and production of these plants. The scientists attended to the queries of the farmers. Dr Ashok K. Singh, Dr S.P. Singh, Dr V.K.S. Tomar, Dr M. Alam, Dr Alok Kalra, Dr D. Singh, Dr Saudan Singh, Dr J. Singh and Dr Sanjay Kumar took active part in the meet.

About 100 farmers involved in aroma biovillage project being undertaken by CIMAP in Sultanpur and Raebareilly districts and 50 farmers from Barabanki, Sitapur and Lucknow districts involved in seed biovillage project of CIMAP also participated in the mela.

Demonstration of rose water making using CIMAP's mini and



portable distillation unit CIM-Asvika, was demonstrated.

A large number of women were trained in making fragrant *agarbatti*. A DBT project at CIMAP pertains to empowering women in Chandrika Devi temple and Dewa Sharif area. The women who had been trained earlier, told that they are able to earn Rs 25 to Rs 40 per day through *agarbatti* making under CIMAP's technical guidance.

The farmers showed keen interest in the improved planting material of the medicinal and aromatic plants. The bulletins and other literature published by CIMAP in an easy to understand

language were also a centre of attraction. Different herbal products developed by CIMAP were also displayed.

Like previous years this year too the *Kisan Mela* proved to be a unique meet of farmers-industry-scientists. It provided a very fruitful interaction between farmers and scientists. The farmers could get new information while scientists got in touch with farmers' needs and plan their future research based on these needs.

Dr Anil Kumar Singh conducted the day-long programme, while Dr Ashok Kumar Singh proposed the vote of thanks.



Thai Princess Her Royal Highness Maha Chakri Sirindhorn visits NEIST

Her Royal Highness Princess Maha Chakri Sirindhorn of Thailand paid an official visit to the North East Institute of Science & Technology (NEIST), Jorhat, on 3 February 2009. She was accompanied by about 20 officials comprising delegations from her Royal Entourage, Ministry of Foreign Affairs of Thailand, Royal Thai Embassy, Indian Ambassador in Thailand Ms Latha Reddy, besides the Deputy Commissioner of Jorhat District Ms L. S. Changsan, SP-Jorhat district Sri Dipak Chawdhury, the Security Officials and others.

The Thai Princess was accorded a warm welcome by the Director Dr P. G. Rao and senior officials of NEIST. Dr Rao introduced his officials and senior scientists to the visiting guest and briefed her about the activities of the laboratory. A video film on the activities of the laboratory was also screened. It was followed by formal release of a brochure titled, *Arunachal: Aspiration & Achievements* by the visiting Princess. The publication

documents the various activities of the Itanagar Branch of the laboratory for the economic and societal upliftment of rural masses of Arunachal. The princess then visited the exhibition organized on the occasion, highlighting the R&D activities and the technologies developed by the institute. The exhibition also showcased the NEIST services to the North Eastern region.

The princess then visited different divisions of the institute starting with Quality Control division followed by the Geosciences division. Outside the Geosciences division she was shown a Citronella oil distillation unit and a sample Bamboo hut with banana fibre roofing, the technologies of which have been generated by NEIST.

The Princess was then taken to the Biotechnology Division where she inaugurated the newly formed Bioinformatics Centre. The Centre has been set up for providing advanced information to researchers, students and others for computational works in Biosciences. Thereafter the Princess visited the experimental farm of Medicinal, Aromatic and Economic Plant division where she saw the cultivated plants of *Jatropha*, *citronella*, *lemongrass*, etc. The Princess showed keen interest in the aromatic plant cultivation and enquired about the cultivation from the NEIST scientists.



HRH Thai Princess releasing the brochure titled "*Arunachal: Aspirations and Achievements*" of NEIST, Jorhat

The Director Dr P. G. Rao presented a set of NEIST publication, a NEIST plaque and a memento to the Princess and to other delegates. The princess met with some members of the ladies club of NEIST. The ladies club Secretary Mrs Ottochi Choudhury presented the princess with a bouquet of flowers and a memento.

Concluding the visit, the princess commented "It has been a very informative visit and hope that we can have more collaborations in the future".



HRH Thai Princess discussing with NEIST Director Dr P. G. Rao during her visit to the Exhibition of NEIST



HRH Thai Princess inaugurating the Bioinformatics Centre of NEIST, Jorhat

In appreciation of NMITLI and TNBD

Being coordinated by the Technology Networking and Business Development Division (TNBD) of CSIR, the New Millennium Indian Technology Leadership Initiative (NMITLI) seeks to build, capture and retain for India a leadership position by synergising the best competencies of publicly funded R&D institutions, academia and private industry. It is based on the premise of consciously and deliberately identifying, selecting and supporting potential winners. NMITLI has carved out a unique niche in the innovation space and enjoys an unprecedented brand image. The accomplishments under the programme include: Triple-play Broadband Technology; Integrated Software/Hardware System for monsoon and weather prediction; Novel molecular diagnostic kit for eye diseases; *SofComp* and *Mobilis*; Softwares — *BioSuite*, *Geno-Cluster* and *Gene 'D'cfer*, *Proteome calculator*, *Seapath*, New plant varieties, e.g. 'CIM-Indus' of *Mentha piperita*; Pilot Plants for production of Cellulose ester from bagasse and Lactic acid from Sugarcane; Healthcare Products — anti-psoriasis formulation, a new TB molecule and a bio-therapeutic anti-bacterial molecule, *Lysostaphin*.

In his letter of 31 January 2009 to Director-General, CSIR, Dr B.V. Ravi Kumar, Chairman and Managing Director of XCyton Diagnostics, has recorded their appreciation for the NMITLI support to Industry.

The letter says:

"XCyton Diagnostics Private Limited is a company primarily focused on development of diagnostic products for critical infections. We had developed many immunodiagnostic kits for the serious public health threats such as HIV, Hepatitis, Neurocysticercosis, Japanese encephalitis and Dengue. All these kits were developed in collaboration with many prestigious academic institutes such as Indian Institute of Science, National Institute of Mental Health & Neurosciences, International Centre for Genetic Engineering & Biotechnology and AIIMS.

In 2004 we started a program on molecular diagnostics for critical infections and our first product we began work was a DNA Micro-Chip for Eye Infections. It was a Public Private Partnership Program in which Centre for Cellular & Molecular Biology, Sankaranetralya, L.V. Prasad Eye Institute, AIIMS and we XCyton Diagnostics Pvt. Ltd. participated to make a diagnostic test for all treatable eye infections involving 14 different pathogens. This test for the first time pioneered the concept of syndrome based diagnostics in which all pathogens causing eye infections are simultaneously investigated in a single test in a single sample within 7 hours after the sample is taken from a patient.

This kit was launched on 22nd, September 2007 and had been awarded the Best Bio-product of the year by Bio-Spectrum.

It was unthinkable for a small company of our size to take up a project of this size and financial magnitude but for a novel scheme such as NMITLI. We are immensely thankful that such a project had been conceived and implemented true to its original spirit of promotion of original Research & Development in the Industry.

The program is executed in a mission mode and is managed extremely well by Dr Yogeswara Rao, TNBD, CSIR and his team. They are very responsive to the needs of the investigators and the companies involved. At the same time they are strict with time lines, objectives and deliverables. They appreciate the value of time in an industry setting. Even the selection of the projects is done in a transparent way and the whole process is completed in less than nine months which is remarkable. Through this letter we intend to place our gratitude and appreciation, for all their hard work and hand holding that they did throughout the project, on record."

Saras Prototype Crash

It is with immense sorrow that CSIR News records the crash of a Prototype of *Saras* — the country's first multi-purpose 14-seater civil aircraft being developed by the National Aerospace Laboratories (NAL), Bangalore, on 6 March 2009, killing all the three Indian Air Force pilots on board. The ill-fated aircraft, which took off from Bengaluru's HAL Airport, was being piloted by Wing Commander K. Praveen, 35, of Bengaluru, Dipesh Shah, 34, of Mumbai, and assisted by the aircraft test engineer, Squadron Leader S. Ilayaraja from Villupuram and was on a test flight when it crashed at Sheshagiri halli, about 30 km from Bengaluru, near Bidadi, at around 1540 hrs. These three IAF officers had flown the same aircraft at the recently held Aero India 2009, and were widely applauded [see 'NAL's Footprint at AeroIndia 2009', p 87-89].

Shock over the unexpected crash and condolences are being expressed all over, e.g:

In his mail to CSIR family, Prof. Samir K. Brahmachari, Director General, CSIR, wrote:

"I am to inform with a very heavy heart the tragic crash at 1550 hrs of the Prototype II of the SARAS Aircraft developed at NAL, Bangalore. The aircraft was on its 49th test flight and was undergoing inflight engine relight test at low altitude.

Our heartfelt condolences go to the bereaved families of Wg. Cdr. Praveen, Co-pilot Wg. Cdr. Dipesh Shah and flight test engineer Sqn. Ldr. Ilayaraja of the Airborne Systems Testing Establishment (ASTE).

In this hour of grief, we are all with the Director NAL and bright scientists of NAL who have put their best efforts in



designing and developing this aircraft. We are with them and shall continue to support their endeavour."

Roddam Narasimha, an eminent aerospace scientist and a former director of NAL, said, *"It is terrible, most unexpected. I am surprised."* Dr T. K. Chakraborty, Director, CDRI, said, *"It is a terrible thing to happen. My heartfelt condolences to the members of the bereaved families."*

In fact this is the sentiment being expressed by the whole CSIR family.

Unfazed by the crash, the *Saras* Team will go ahead with the *Saras* project to develop the country's first indigenous plane

Prof. Brahmachari, Director General, CSIR, who met scientists at NAL and relatives of the deceased pilots on 7 March, said that father of one of the pilots told him that completion of the project would be a fitting tribute to his son.

*"The *Saras* project will continue, we will not shelve it,"* said Prof. Brahmachari, who held discussions with officers of the Indian Air Force and Civil Aviation authorities after the accident.

"There will be setbacks. We have to move forward," said M.S. Chidananda, Project Director of *Saras* at NAL.

The Air Force is slated to be the first customer for *Saras*. According to a report, the IAF, which has indented for 15 *Saras* aircraft and may consider a further order for 30, is perusing the detailed project report. The IAF will drive the programme through an Integrated Project Management Team headed by the commandant of the Aircraft and Systems Testing Establishment, and with members from Hindustan

Aeronautics Limited (HAL), the NAL, a few connected Defence Research and Development Organisation laboratories and the Centre for Military Airworthiness and Certification.

The IAF is keen that the *Saras* supplement and possibly even replace its 23-strong *Dornier* (Do) 228 fleet. The *Dorniers* perform a variety of roles including transporting men and material to the remotest parts, VIP transport, navigational training, target towing, high-altitude operations, paratropping and parajumping.

The Indian Navy also continues to evince keen interest in the aircraft.

Another boost to the Rs. 183-crore *Saras* programme is the HAL decision to manufacture the aircraft in Kanpur. The company earlier said it would not associate with the *Saras*.

The Union Cabinet has already approved additional funds for the project as well as for developing a 70-seater passenger aircraft. NAL proposes to design and develop the 70-seater passenger plane called the RTA-70 for regional transport, in association with HAL.

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