

# CSIR in Media



*75 Years of*  
**CSIR Touching Lives**

**A Daily News Bulletin**  
**16<sup>th</sup> June 2017**



## Time is money, insists official clock keeper

CSIR-NPL

15<sup>th</sup> June 2017



*ISRO, which needs nanosecond-level precision, will now have to pay NPL for time-keeping services*

The National Physical Laboratory (NPL), part of the Council of Scientific & Industrial Research, is host of the most accurate clocks in the country, and the only agency in India authorised to maintain Indian Standard Time (IST). The NPL maintains accuracy of  $\pm 20$  nanoseconds through the Primary Time Scale, an ensemble of five caesium clocks and one hydrogen maser. The rest of the world connects to these via tele-clocks, satellite links, and Network Time Protocol services (which, for example, reflect in laptops' clocks).

Airports, Parliament, banks, the Indian Space Research Organisation (ISRO), in fact anyone who needs to synchronise their computers, connect to a hierarchy of servers that link back to that of the NPL, which provides accurate time — down to milliseconds — for free. Until now, that is. “We are in the process of signing a Memorandum of Understanding with the Indian Space Research Organisation [ISRO],” Dinesh Aswal, Director, NPL, told *The Hindu*. “I cannot disclose the amount, but it will be an important revenue source.”

Unlike the rest of us, who are happy if our watches and devices are accurate to the second, the ISRO launches rockets and tracks satellites, which requires precision at the nanosecond level. “Only the NPL is equipped to provide that level of accuracy,” Mr. Aswal said. NPL is also discussing similar deals with the Air Force, SBI, Indian Railways, and the National Informatics Centre.

## Fund crunch

Why has NPL decided to start charging for this service? Its parent, the CSIR, has a funds crunch. Out of its Rs. 4,000 crore budget, only 10%–15% is revenue. CSIR wants to increase that to 25% this year, and 50% by 2020, as The Hindu has previously reported, and has directed its labs to start generating more revenue.

The NPL is also looking at other ways to assert its monopoly. IST can be sourced from similar organisations such as the United States' National Institute of Standards and Technology, but with varying degrees of accuracy. Earlier this year, the NPL asked government to mandate that Indian organisations exclusively set their time to NPL's clocks. "All countries require their computer infrastructure to synchronise to their local times," Mr. Aswal had told The Hindu in an earlier conversation "It would be a landmark service if Indian computers were also mandated to do so."

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## Genetic study conducted in India, Pakistan confirms Parsis migrated to India from Persia

CSIR-CCMB

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**New Delhi:** Parsis are among the smallest ethno-religious minority in India. Now a new genetic study has confirmed that members of this community indeed migrated to India from ancient Persia, which is present-day Iran. The study involved analysis of genetic data of Parsis in India and Pakistan as well as biological remains of members of the community excavated from Sanjan in Gujarat which had early settlements of Parsis in India. The study involved analysis of genetic data of Parsis in India and Pakistan as well as biological remains of members of the community excavated from Sanjan in Gujarat which had early settlements of Parsis in India.

The results have shown that Parsis are genetically closer to ancient Neolithic Iranians, followed by present-day Middle Eastern populations (Iranian and Caucasian). This provides evidence of sex-specific admixture and prevailing female gene flow from South Asians to the Parsis, according to results of the study published in journal *Genome Biology* on Wednesday. The international team of scientists was led by Dr Kumarasamy Thangaraj from Centre for Cellular and Molecular Biology, Hyderabad and scientists from India, Estonia, United Kingdom and Pakistan.

“We have done extensive analysis using mitochondrial, Y-chromosomal and autosomal DNA markers to trace the origin of the Parsi population of the Indian subcontinent and found that they have genetically admixed with the Indian population about 1200 years ago, suggesting that the first Zoroastrian might have arrived India about the same time period,” explained Dr Kumarasamy Thangaraj.

The results are consistent with the suggested migration of the Parsi populations to South Asia 8 to 10 centuries ago and in agreement with their assimilation with the local South Asian population. It also shows that Parsis of both India and Pakistan come from the same original group who landed in Sanjan.

“This is the first successful ancient DNA study from India which has analysed maternal DNA composition of ancient remains excavated in Sanjan. Interestingly, 48 percent South Asian indigenous lineages among the ancient Parsi samples was observed, which is likely due to the assimilation of local females during the initial settlement,” pointed out Dr Gyaneshwer Chaubey, first author and a senior researcher at the Estonian Biocentre, Tartu, Estonia.

Historical evidence shows that Parsis — whose present population is just about 57,000 individuals — trace their origins to Persia. Their fertility and mortality rates have steadily declined over the past century, thus making them vulnerable to possible extinction. Besides reconstructing population history of Parsis, the study also shows a major impact of population rearrangements in West Asia due to Islamic conquest, felt Dr Veena Mushrif-Tripathy, one of the authors and a bioanthropologist at Deccan College, Pune.

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## CSIR's Ayurvedic drug a boon for diabetic patients

CSIR-NBRI, CIMAP

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*The medicine has found a place among the top 20 recommended drugs in an AIOCD survey (Thinkstock)*

In the wake of an increasing acceptance of Ayurvedic medicines among patients, an anti-diabetic Ayurvedic drug, BGR-34, developed by the Council of Scientific and Industrial Research (CSIR) — the research wing of the Science & Technology Ministry — is helping patients to control and treat diabetes.

The medicine has found a place among the top 20 recommended drugs in a survey conducted by the All Indian Origin Chemists and Distributors (AIOCD). It is the only Ayurvedic drug to have found a place among these top 20 drugs.

BGR- 34, a low cost anti-diabetic Ayurvedic drug, stands for Blood Glucose Regulator, and the numeral represents 34 vital derivatives found in six herbs — Daruharidra, Giloy, Vijayar, Gudmar, Majeeth and Methika — which are used to develop the drug. The AIOCD, which represents over six lakh chemists and druggists across the country, had surveyed 6,367 drugs launched in the last two years from the house of top Indian as well as foreign pharmaceutical companies.

"Patients are extremely happy with the results. People are voluntarily opting for the medicine. Those who are taking it have shared great reports. The sugar levels are going down, they just need to maintain their diet," said Dr Vidula Gujjarwar, Medical Superintendent, Chaudhary Brahm Prakash Ayurved Charak Sansthan, a Delhi government run Ayurvedic clinic in Najafgarh. Touted as the country's first Ayurvedic drug to treat Type-II diabetes,

BGR-34 was jointly developed by two research institutes backed by the Council for Scientific and Industrial Research (CSIR) — National Botanical Research Institute (NBRI) & Central Institute of Medicinal & Aromatic Plants (CIMAP).

The drug, with each tablet that costs Rs 5, is said to have brought about a significant reduction in blood sugar levels in diabetic patients during clinical studies.

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# महामहिम के लिए 5 टेक्नोक्रेट

■ अजय तिवारी

नई दिल्ली। एसएनबी

राष्ट्रपति पद पर जब सर्वसम्मत उम्मीदवार के लिए सत्ता पक्ष और विपक्ष बतिया रहे हैं, तब देश को उल्लेखनीय सेवाएं दे चुके 5 टेक्नोक्रेट के नाम भी चर्चा में आ गए हैं। दिलचस्प ये है कि इन सभी को पद्मविभूषण से सम्मानित किया जा चुका है। ये 70 से लेकर 91 वर्ष के उम्रदराज हैं पर उनकी सेहत उन्हें और काम करने की इजाजत देती है। इन नामों में एमएस स्वामीनाथन, अनिल काकोदकर, आरए माशेलकर, एनआर नारायणमूर्ति और ई श्रीधरन शामिल हैं।

गैर राजनीतिक नामों की चर्चा इसलिए गर्म है क्योंकि विपक्ष ने साफ कर दिया है कि उसे आरएसएस और भाजपा पृष्ठभूमि के नेता को समर्थन देने में हिचकिचाहट है। बताया जा रहा है कि बुधवार को जब सत्ता पक्ष की ओर से विपक्ष से राष्ट्रपति पद के उम्मीदवार को लेकर चर्चा शुरू की गई तो संकेत दिए गए कि कोई टेक्नोक्रेट भी उम्मीदवार हो सकता है। इस क्रम में 73 वर्षीय परमाणु वैज्ञानिक अनिल काकोदकर का नाम भी लिया गया। परमाणु ऊर्जा आयोग के प्रमुख रहे काकोदकर की पोखरण परीक्षण में खासी भूमिका थी। सुबह फोन किए जाने पर मुंबई में रहने वाले काकोदकर ने अपना नाम राष्ट्रपति उम्मीदवार के लिए चलने पर आश्चर्य जताया। वह बोले कि उन्हें नहीं पता कि सत्ता पक्ष या विपक्ष में कहीं उनके नाम का उल्लेख हुआ। पृष्ठने पर उन्होंने बताया कि उनसे अभी किसी ने बात नहीं की। चेन्नई निवासी कृषि वैज्ञानिक



अनिल काकोदकर



एमएस स्वामीनाथन



आरए माशेलकर



एनआर नारायणमूर्ति



ई श्रीधरन



## राष्ट्रपति चुनाव

पद्मविभूषण पाए इन प्रतिष्ठित व्यक्तियों ने देश की प्रगति में खूब दिया है योगदान

स्वामीनाथन, काकोदकर, माशेलकर, नारायणमूर्ति और ई श्रीधरन के नाम लिए जा रहे हैं

एमएस स्वामीनाथन का नाम भी राजनीति गलियारों में लिया जा रहा है। हालांकि अब वह 91 वर्ष के हो चुके हैं। हरित

क्रांति के जनक स्वामीनाथन ने भारत को खाद्यान्न के मामले में आत्मनिर्भर बनाया। टाइम पत्रिका उन्हें 20वीं सदी के 20 सबसे प्रभावशाली व्यक्तियों में शामिल कर चुकी है। स्वामीनाथन का नाम इसलिए चर्चा में है कि क्योंकि उनके नाम पर सोनिया गांधी समेत विपक्ष को मनाना सबसे आसान होगा। पृष्ठने पर स्वामीनाथन कोई जवाब नहीं देते। 74 वर्षीय रघुनाथ अनंत माशेलकर वैज्ञानिक और औद्योगिक अनुसंधान परिषद के प्रमुख रहे हैं।

माशेलकर को आरएसएस के भीतर भी परसंद किया जाता है। पुणे में रहने वाले माशेलकर अपनी उम्मीदवारी को लेकर अभी कुछ नहीं बोलना चाहते। इन्फोसिस जैसी आईटी कंपनी को खड़ा करके दुनिया में भारत का नाम ऊंचा करने वाले कर्नाटक के एनआर नारायणमूर्ति का नाम भी चर्चा में है। आरएसएस और भाजपा की तरफ झुकाने की वजह से कांग्रेस 73 वर्षीय नारायणमूर्ति के नाम पर सहमत होगी, यह कहना अभी जल्दबाजी होगा। जब सर्वसम्मत उम्मीदवार की बात चल रही है तो बहुसंख्यक को 85 वर्षीय ई श्रीधरन का नाम भी लिया जाने लगा।

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