



IISc AANA Newsletter

Volume 5, Issue 1, March 31, 2017

Indian Institute of Science Alumni Association of North America, Mountain View, CA, www.iiscaana.org

Message from AANA Co-Chairs

There have been several exciting alumni-related activities during the last four months that we are happy to share with you. The first major one is the first Annual IISc Alumni Day event, on campus December 16-18, 2016. This will be an annual event held on the third weekend in December. As we have mentioned before, AANA was a strong proponent of holding such an annual event on campus to bring the alumni to our alma mater. Several AANA members participated in this event (see page 5).

The other major news is that preparations for the 2017 AANA National Meeting in Gaithersburg, Maryland June 4, 2017 are going very well. IISc Director Prof. Anurag Kumar will address the alumni along with several eminent speakers from NASA, NIH, and other organizations (details on page 8). The local organizing committee has been working very diligently to make this event a grand success. AANA is planning to inaugurate a new AANA chapter in the Washington DC area at this event. We strongly encourage all alumni, especially those on the east coast, to participate in this meeting.

Gaj Birur and Sunil Kumar

INSIDE THIS ISSUE

Message from AANA Co-Chairs	1
IISc AANA Membership	2
IISc Alumnicle: Sunil Kumar	3
IISc's first Alumni Event	5
IISc's Undergraduate Team wins	6
IISc Ranked Eight on THE	7
Announcements	8

VISIT AND REGISTER ON ODA A WEBSITE

<http://alumni.iisc.ernet.in>

Register for the 2017 IISc AANA National Conference at:

<https://iiscaana2017.eventbrite.com>

IISc Alumni Association of North America (IISc AANA)

897 Independence Avenue, 4C
Mountain View, CA 94043
Phone: (650) 965-2500

E-mail: info@iiscaana.org

Chair: Dr. Sunil Kumar
Co-Chair: Dr. Gajanana Birur
Editor: Srinivasan Kasturi

Editorial Board:

Srinivasan Kasturi (1964)
Abhinav Dey (2011*)
Gajanana (Gaj) Birur (1971)
Guneet Walia (2010)
Mrinalini (Meena) Rao (1972)
Murthy Gudipati (1987)

* IISc graduation year

2017 IISc AANA National Conference

June 4, 2017 at the Marriott, Gaithersburg, Maryland

Tentative Program

8:00 a.m.	Breakfast and registration
8:45 a.m.	Welcoming remarks: <i>Dr. Sunil Kumar, AANA</i>
9:00 a.m.	Director's Address: <i>Dr. Anurag Kumar, IISc</i>
9:45 a.m.	Watson in Healthcare: <i>Dr. Jia Chen, IBM</i>
10:30 a.m.	Coffee break
10:45 a.m.	Space exploration: <i>Dr. James Green, NASA</i>
11:30 a.m.	International Science: <i>Prof. Katepalli Sreenivasan, NYU</i>
12:15 p.m.	Lunch
1:30 p.m.	Innovations and Leadership Cancer biology and therapy: <i>Dr. Srikumar Chellappan</i> Innovating in the age of disruption - spotting seizing and internalizing emerging opportunities: <i>Girish Nallur</i> Preparing to lead in the next decade: <i>Dr. Sunil Kumar, JHU</i>
3:30 p.m.	Coffee break
3:45 p.m.	Careers panel <i>Moderator: Dr. Rita Khanna, ITTM/NIH</i> <i>Panelists: Dr. Praveen Jain, Dr. Sankhavaram Panini, Dr. Kelaginamane Hiriyanna, Dr. Haren Vasavada, Dr. Durga Paruchuri</i>
4:45 p.m.	Closing remarks: <i>Dr. Gaj Birur, AANA</i>
6:30 p.m.	Dinner (with Dr Anurag Kumar, please sign up)

Registration and other details on Page 8

Editor's Message:

*Dear IISc alumni;
Please send your thoughts, including your ambitions, and dreams that you want to realize through IISc AANA and IISc – with a focus on “giving back” to the society where you live and where you come from (newsletter@iiscaana.org).*

Srinivasan Kasturi

Any tax-deductible donation to IISc AANA helps support educational and social activities of IISc and its students. IISc AANA is a California registered 501(c) non-profit organization. Tax ID: 03-0602301

IISc AANA Membership

The IISc Alumni Association of North America (AANA) was formed in 2006 as a 501 (c) non-profit organization in California. It has over 116 life members as of 2016 and over 600 alumni who are involved with AANA through many activities. Membership in AANA is free to anyone who is an IISc alum or spent six months at IISc. AANA membership has several benefits such as being informed of all the IISc related activities in the US, India, and other countries. It provides excellent professional/academic/entrepreneurial/social networking opportunities to IISc alumni in the US.

Life Membership: AANA encourages IISc alumni to become life members. AANA life membership is beneficial because it:

1. Demonstrates your gratitude for the free and excellent education that brought you to your current position
2. Allows the member to fully participate in the AANA activities
3. Gives a 25% discount on the registration fee for AANA National and Global conferences
4. Opens the IISc Guest House during visits to IISc (on an availability basis)
5. Invites members to AANA hosted dinner meetings during visits of important IISc and other academics & leaders
6. Strengthens the bond of North American alumni with IISc
7. Provides help from IISc ODAA in coordinating with IISc faculty on technical and academic topics
8. Provides closer networking with entrepreneurs, academics and other professionals in the US and India.

To become a life member please send \$500 to AANA by:

1) A check to:

IISc AANA

897 Independence Avenue, #4C*

Mountain View, CA 94043.

Phone: (650) 965-2500

(* Please include the office number #4C in the address, otherwise your letter will be returned).

2) Online payment** at: <http://www.iiscaana.org/membership-registration/register-offline/>

(** a \$15 for online payment will be charged to your credit card)

New life members in 2017:

- | | | |
|-------------------|-----------------------------------|-------------------------------|
| 1. Jagjit Nanda | Solid State Chemistry | South-East Chapter (Atlanta) |
| 2. Sach Kangovi | Aerospace Engineering | New Jersey (Wash. DC Chapter) |
| 3. Rita Khanna | Biological Sciences | Washington DC Chapter |
| 4. Rama Chellappa | Electrical & Computer Engineering | Washington DC Chapter |
| 5. Swami Reddy | Physics | Washington DC Chapter |
| 6. Ashok Agrawala | Electrical & Computer Engineering | Washington DC Chapter |
| 7. Anand Swaroop | Biological Sciences | Washington DC Chapter |

Major Donors to AANA in 2017 (over \$500):

<u>Donor</u>	<u>Date</u>	<u>Designated to</u>	<u>Amount</u>
1. Arkal Shenoy	2/1/2017	2017 AANA National Conference	1,000
2. Sunil Kumar	2/15/2017	2017 AANA National Conference	3,000
3. Gaj Birur	2/15/2017	2017 AANA National Conference	1,500
4. Rama Chellappa	3/19/2017	2017 AANA National Conference	500

The IISc Alumnicle: Casually Inspiring Tête-à-tête with Sunil Kumar

If you get a chance to interact with Prof. Sunil Kumar, the first Asian-American provost at the Johns Hopkins University, you will realize that he balances the vision of a leader and a curious mind of scientist with equal panache. He can inspire youth to believe in the power of self-confidence and ignite their inner astronomer to catch Venus in transit across the Sun. He believes in being a student himself when questioning Copernicus and in creating a community to incubate his students' aspirations. As he settles down at his new destination, you might find him cooking more in Baltimore or relishing his new favorite, eggs Benedict with fried tomatoes, at Miss Sherley's. Having travelled far and wide with a stellar academic profile, he proudly acknowledges that the seeds of his love towards academia were planted at IISc. Join us in this casually inspiring conversation with the co-chair of IISc AANA, Prof. Sunil Kumar.

1. How has your extensive science and engineering background aided you as a management expert?

I work in a field called Operations Research, which straddles engineering, applied mathematics and business. Here my formal background is very useful. I use mathematical models of systems like service operations to predict their behavior and control them. An example of what I study is the routing of calls in a call center in order to minimize the wait time of callers.

2. As a child, who were your idols and how has your education in India helped chisel your stellar career path?

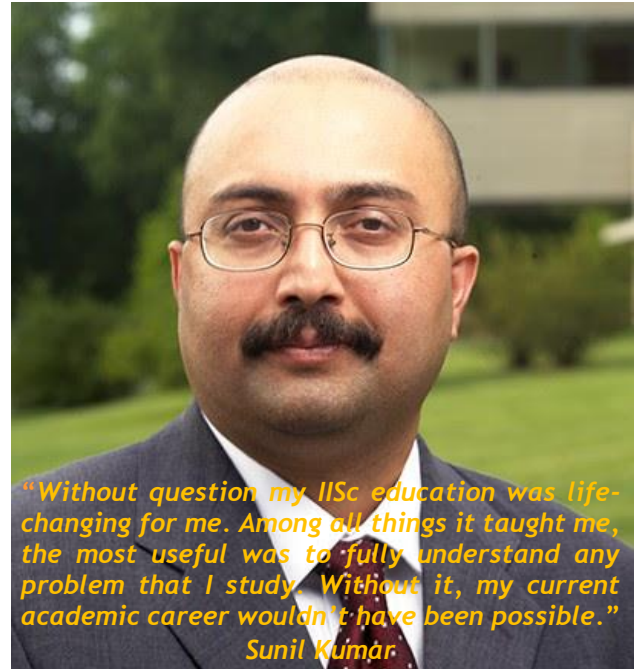
I read popular histories of mathematicians and one that stuck with me was that of Leonhard Euler. In particular, I had a lot of fun playing with his so-called Konigsberg bridge problem. It is an early example of a novel mathematical del (a graph) to solve a fun problem: how to walk across a particular collection of bridges in a particular way.

Without question my IISc education was life-changing for me. Among all things it taught me, the most useful was to fully understand any problem that I study. Without it, my current academic career wouldn't have been possible.

3. What are your favorite memories from IISc?

The library, the beautiful campus and masala dosas on Sunday mornings.

4. You are busy professional. What is your mantra to achieve work-life balance?



Find a good spouse.

5. You have emphasized on curricular flexibility and use of data-based approach to carve out successful leaders from your business school. What is the most satisfying part of your profession as an unconventional academic?

I don't think of myself as an unconventional academic; within my world I am as mainstream as they come. Going through a rigid undergraduate curriculum in India (at NITK), convinced me of the value of giving students choice in what they study. But they do need to learn to think and analyze rigorously.

6. More than 350,000 students are now using your famous invention- factory simulator "Littlefield Technologies"- over the past 15 years in over 50 schools including Stanford and MIT. Please tell us about the genesis of this concept?

The genesis was a junior assistant professor at Stanford (namely me) struggling to find a way to bring a mathematical course to life for very practically-oriented MBA students. Sam Wood, my colleague at that time, and I hit upon the idea of a simulation based competition as an answer to my teaching struggles. It worked!

7. With the advent of Big Data Analytics, do you foresee the usage of this technology to predict and solve global problems, like climate change, by teams of students/scientists from across the world working together on a common platform?

In some sense such approaches have existed for a long time. The data sets have gotten larger, and more ubiquitous, and the analytical tools more powerful over time to a point where they have far more impact.

8. In an interview with WSJ, you wondered if the best undergrads are choosing business as long-term career. Our Alma Mater, IISc, has been known to produce world-class scientists. In a rapidly changing world where scientists are expected to don newer roles beyond the bench, do you believe that business training should be a part of the curriculum during their training years at IISc?

I don't think formal business training is necessary for all scientists. But I do believe that scientists in the "hard" sciences can benefit a great deal by having some formal exposure to Economics and Psychology. Social sciences can help broaden all students in a very useful way.



Sunil Kumar and Arkal Shenoy (AANA Co-Chair, 2012-15) at IISc Alumni Global Conference in Chicago, July 2013

9. During your recent visit to India, you said, "Entrepreneurial activity has thrived in places where the volume of activity reached a critical scale, like in Silicon Valley. India too needs many more entrepreneurs." A lot of young scientists graduating from IISc need mentoring to develop their entrepreneurial skills. With a star-studded list of successful alumni, do you foresee greater involvement of senior AANA members in mentoring younger IIScians in these efforts?

I sure hope so. I feel that with a gold-plated insurance policy, namely an IISc degree, IIScians should take more risks. And we old-timers should help those that do as much as we can. But you should take what I say with a pinch of salt; after all, I have had a conventional career myself.



Sunil Kumar with IISc Students from India Attending the Global Conference in Chicago in July 2013

10. Alumni organizations have special opportunities to influence the experience of prospective and current students. As a Chair of IISc AANA, what are your plans to build a stronger alumni network in North America through active involvement and increased philanthropic efforts for IISc?

The IISc AANA board, of which I have the privilege of being a co-chair, has been focused on building a stronger network through the creation of local chapters, having national and global meets, encouraging life membership in the association and having a robust online presence. While we have had some success with more senior alumni, we still have a long way to go with more recent graduates. I am hopeful that the national meeting in Washington DC this summer will prove to be a catalyst in encouraging more recent alumni to become part of AANA and to eventually run it.



Interviewed by
Abhinav Dey, PhD
 (MBU, IISc; 2005-2011)
 ALSF Young Investigator (Emory University)
 Co-founder of Career Support Group for STEM PhDs
 Vice-President IISc AANA (South East Chapter)

AANA Members at the First Annual IISc Alumni Event in Bangalore

IISc AANA board members Dr. Jagjit Nanda (Oak Ridge National Lab.) and Professor Meena Rao (University of Illinois at Chicago) represented AANA at the IISc-organized First Annual Alumni event on campus on December 16-18, 2017. Professor S. Mohan (a member of the AANA Advisory Board) of IISc's Nano Centre for Nano Science and Engineering (CeNSE) briefed Jagjit Nanda and Meena Rao about various interactions and partnerships that IISc is having with both the private sector in India and multinational companies. These companies include, Ashok Leyland, Boeing and some major pharmaceutical industries.

At the Director's dinner on December 16th, Prof. Mohan introduced Jagjit Nanda and Meena Rao to Director Anurag Kumar. Prof. Anurag Kumar showed his strong enthusiasm for the Washington DC conference organized by AANA and described the tentative agenda for his visit to the US in June. Prof. Jayant Modak, Deputy Director of IISc, sought some suggestions on increasing the foreign student enrollment at IISc and requested support of AANA for this initiative.



Jagjit Nanda and S. Mohan



Meena Rao, S. Mohan, Sach Kangovi with Director



Alumni Gathering at an Alumni Event at IISc Auditorium on December 18, 2017

Dr. Giri - A Distinguished NRI and IISc Alumni

Dr. D.V. Giri received the Hind Rattan and the NRI of the year awards during the 36th International Congress of NRIs in New Delhi, held on the eve of India's Republic Day this year. Dr. Giri's life and career embody the American Dream. A life member of IEEE, Dr. Giri pursued higher studies at IISc in Bangalore before earning a Ph.D. in Electromagnetics at Harvard.

IISc Undergraduate iGEM Team Competes at MIT and Bags Bronze Medal

In August 2016, Dr. Murthy Gudipati, an AANA Advisor, received an urgent request from an undergraduate team from the institute participating in an international synthetic biology competition, iGEM, at MIT (<http://igem.org/Competition>). They were the first team from IISc to participate in this competition. They were short of about \$3,000 in order to take part in the competition at the end of October 2016. Murthy brought this urgent request to the AANA Board of Directors and five of the members donated \$500/each (a total of \$2,500) so that the IISc team could participate in the competition. The IISc iGEM team won the Bronze medal. Here is a brief report written by the iGEM team.

Report from the iGEM Team:

iGEM is a synthetic biology competition that started out as an attempt to solve a particularly irritating problem that biologists who do wet work face regularly -- "Plasmids come with gene inserts one is interested in, but the restriction enzymes used for modifying those inserts or plasmid backbones are numerous and the lack of their availability often slows down work significantly." A group from MIT, in attempt to solve this problem, started out a competition for undergraduates to come up with novel genetic circuits to solve real-world problems, but use plasmids that come with cut sites of four specific enzymes. So, if scientists use these premade plasmids, stocking up only a few enzymes would be sufficient for most bench work.

Our group, profusely helped by our instructors, Dr. Narmada, and Dr. Srinath, along with two Ph.D. students from NCBS (National Center for Biological Sciences, Bangalore), Chaitra, and Sachit, after intense brainstorming and discussions came up with our project idea -- making protein synthesis automated, and centrifuge-free, thus lowering the cost. We made a genetic circuit, that allows bacteria to automatically sense the cellular concentration for optimal protein yield, and when sufficient protein is made, auto-aggregate, effectively cancelling the need to centrifuge.

But iGEM has a lot more costs involved -- there is a team registration fee, there are additional individual Jamboree registration fees for every team member travelling to the states to represent the team, and there are travelling and lodging expenses. Also, the reagents present in the UG labs were not sufficient for the entirety of our work; we needed more reagents and even equipment. Thus began our hunt to raise funds. We discovered the announcement of a competition by DBT (Department of Biotechnology, Govt. of India) for funding good Indian iGEM teams. We participated and got a grant of Rs 10, 00,000, the maximum amount promised. Unfortunately, that money just covered the registration fee, and of some of the reagents. So, we started looking for more funding sources, and applying for grants. A few more proposal submission and presentations later, we had secured a grant from the Karnataka government's "IT, BT and S&T" department, and a travel grant from Welcome DBT. We had almost received most of the money, but still there was not enough money for a reasonable fraction of the team to go and present the work.

This is where the brilliant IISc Alumni came to help. A collective of people from Career Support Group (a group of ex-IIScians in Facebook) crowdfunded us and helped us book an apartment for the duration of our stay. Dr. Murthy Gudipati, who is also part of the CSG group, personally wrote to us and urged us to write to AANA. We did, and the response was quite unexpected (well, one does not know how helpful one's fellow alumni are, until one gets rescued by them). Dr. S Mohan helped with the coordination at the IISc end, and with the generous contribution from Dr. Arkal Shenoy, Dr. Murthy Gudipati, Prof. Sunil Kumar, Prof. Meena Rao, and Prof. Satish Nagarajaiah, we got the remaining funds required. Thanks to them, we got the Jamboree registration fee for our instructor, Dr. Srinath, and the flight fares for him and Aiswarya. Now, we could go and present the amount of work we have been doing for 6-7 months!

We won a Bronze Medal in the competition. We did expect to perform better, but hopefully, the next team will achieve it. Overall, iGEM was a brilliant experiment -- one every undergraduate interested in biology and research should definitely attempt.

The iGEM Team of IISc:

Team Members: Abhijeet Krishna; Aiswarya Prasad; Aneesh Baburaj; Arunavo Chakraborty; Ayan Das; Prabaha Gangopadhyay; Shreyas Gopalakrishnan

The PI-s of the Team: Dr. Umesh Varshney; Dr. Deepak Kumar Saini

Instructors: Dr. Srinath Thiruneelakantan; Dr. Narmada Khare

PhD advisers: Chaitra Prabhakara; Vignesh Narayan; Krishna Singh



IISc Undergraduate iGEM Team on its way to Boston to participate in iGEM Competition in October 2016

Indian Institute of Science Ranked Eighth in the Times Higher Education Rankings

The Times Higher Education 'Small Universities in the World 2017' was released recently. Small universities are those with fewer than 5,000 students. IISc Bangalore ranked eighth, a proud moment for Indian education. This is the first time an Indian university has been featured in the list of top 10 small universities of the world. With fewer than 3,000 students, Caltech and South Korea's Pohang University of Science and Technology have secured the first and third rank respectively. The Swedish University of Agricultural Sciences ranks ninth in the list.

According to an *Indian Express* report, only IISc among Indian universities has managed to grab any position within the top 20. Last year, there were two institutions in the top 20, though none in the top 10. In the 2017 rankings, universities in France and Italy held three places in the top 10.

Last year, in the 'BRICS and Emerging Economies University Rankings 2017' report, the Indian Institute of Science (IISc) ranked within the top 15 universities for the first time. India was ranked second in a list of 300 top universities in emerging economies, "making great strides" in the compilation topped by China.

Please be generous in supporting IISc AANA and your alma mater

Any tax-deductible donation to IISc AANA helps support educational and social activities of IISc and its students.

IISc AANA is a California registered 501(c) non-profit organization. Tax ID is 03-0602301

Announcements

2017 IISc AANA National Conference

Marriott Hotel, Gaithersburg, Maryland

We are excited to share with you that the East Coast Chapter of IISc Alumni Association of North America (AANA) is organizing a day-long conference on June 04, 2017 in the Washington DC area.

In attendance will be the current Director of IISc, Prof. Anurag Kumar, who is joined by his colleague, Prof. Govindan Rangarajan, Chairman, Office of Development and Alumni Affairs (ODAA), both of whom are traveling from India especially to attend this conference and interact with IISc alumni. Prof. Anurag Kumar will inaugurate a new chapter of AANA in the Washington DC area at this event.

To register, visit <https://iiscaana2017.eventbrite.com>

Registration fee: \$100 (regular), \$75 (life members), \$50 (spouse & guest), \$50 for IISc graduates after 2000

National Conference Organizing Committee:

General Chairs: Dr. Rita Khanna (ITTM/NIH) and Dr. Swami Reddy (S-P Systems)
Program Chairs: Prof. Rama Chellappa (Univ. Maryland) and Dr. Anand Swaroop (NIH)
Organizing Chairs: Ramesh Seshadri (IBM) and Dr. Soumya Roy Chowdhury (NIH)

IISc AANA Southern California get together on Saturday April 8, 2017

IISc AANA Southern California social get together for its members has been arranged on Saturday, April 8 in La Jolla, CA during the Indian Fine Arts Academy of San Diego's Music Festival* (April 2-8, 2017).

IISc SoCal Program:

- 11:00 AM Get together at JCC
- 11:30 AM to 12:30 PM Lunch at JCC (Buy your own-Veg. lunch & dinner available onsite at nominal cost.)
- 1:00 to 3:00 PM Get Together and Talks
 - "How can we strengthen IISc UCSD partnerships" *Prof. Suresh Subramani, former Executive vice-Chancellor, UCSD*
 - 2017 AANA National Meeting at Gaithersburg, MD *Gaj Birur (IISc AANA)*
- 3:00 to 6:00 PM On your own or groups (beach, park, music etc.)
- 6:00 to 8:00 PM Dinner at University Town Center food court (Social hour)

Notes: Los Angeles-area alumni who wish to drive to San Diego on Friday night can check with San Diego alumni to see they can be houseguests of AANA families. The drive from LA to San Diego on Saturday morning takes about three hours as opposed to 90 minutes at night

Please let Srinivasan Kasturi (srikasturi@gmail.com) or Gopal Chakravarthy (cg1790@gmail.com) for more information.

* The Indian Fine Arts Association of San Diego (IFAASD) is organizing this yearly event in La Jolla. Several visiting classical music groups from India will perform during the week. Artists including Sri. M. Chandrasekaran, Aruna Sairam, Sri. AKC Natarajan, Dr. L. Subramanian, Brij Maharaj, Smt. Kavitha Krishnamurthy, Sri. Neyveli Santhanagopalan, Sanjay Subramaiam and Smt. Anoushka Shankar, are planning to participate in the festival. Dance programs based on Srimad Bhagavatam are also planned. More information about the festival can be obtained from www.indianfineartsacademy.org.