

## About Agra

Agra—the city of the inimitable Taj Mahal—has a heritage and culture that dates back to the Mughal era. Situated on the banks of the river Yamuna, it is home to several world famous Heritage monuments which include the Taj Mahal, Red Fort, Itmad-ud-Daulah and the tomb of Emperor Akbar at Sikandra. The city of Fatehpur Sikri (a UNESCO World Heritage City) is situated 45 kms from Agra. There is an amazing fortified heritage monument on Dayalbagh road commemorating the *Samadh* of Founder-Saint of Radhasoami Faith which is in the final stages of construction. Agra is also famous for its leather goods, handicrafts, zari, zardozi, marble and stone carving, and inlay work. Situated three and a half hour's by road from New Delhi, it is well connected by rail (major stations being Agra Cantt., Agra Fort and Raja Ki Mandi (nearest to Dayalbagh)). The weather in Agra in November is cool (Max. temp. 13°C, Min. temp. 10°C).

## About Dayalbagh Educational Institute

The Dayalbagh Educational Institute is located amidst the tranquil environs of Dayalbagh, a self-contained colony renowned for its serene environment and secular establishments, in which its inhabitants lead an active, disciplined and co-operative community life dedicated to service, conforming to the high spiritual ideals of their faith. On the outskirts of the historic city of Agra, the campus is situated in garden settings, away from the din and noise of the city. Nestled between lush green fields, it provides an excellent ambience and academic setting which is in harmony with nature. This, along with a simple, disciplined and principled life, undoubtedly contributes to the strength of the social, moral and spiritual fiber of the institute's educational system.

Dayalbagh Educational Institute has embarked on a mission entitled 'Vision 2031' to emerge as one of the topmost Universities in the country in the next two decades. This transformation has spurred the process of establishment of MoUs with several leading national and international institutes like University of Maryland, University of Waterloo, IIT Kanpur, IIT Delhi and TIFR Mumbai to name a few.



## Quantum-Nano Systems Centre & Centre for Consciousness Studies

Dayalbagh Educational Institute has established the twin facilities, Quantum-Nano Systems Centre and Centre for Consciousness Studies which are developing in close association with each other and these have now been bolstered by the frugal innovation Quantum Jugaad Centre and Quantum Cloud Computing MEG facility in Dayalbagh community prayer hall with a capacity of over 20,000 and electronically connected to more than 400 locations all over the world. These Centres jointly host the Annual International School on Quantum and Nano Computing Systems and Applications (QANSAS) in end-November every year since 2008, which also features a 'Special Forum on Consciousness: Integrating Eastern and Western Perspectives' as a pre-school event since 2012. Quantum-Nano Centre is equipped with 15-channel SQUID-based MEG facility and a smaller 2-channel facility is also housed in the Central Satsang Hall, Dayalbagh which must be perhaps the only MEG facility in the world housed in a community prayer hall and is aptly named as Quantum Cloud Computing. The Centres work in close collaboration with Divinity Study Forum of the Radhasoami Satsang Sabha.

QANSAS has hosted leading scientists in the field from all over the world including Nobel Laureates in Physics Prof. Douglas Osheroff and Prof. Robert Richardson, Dr Lov Grover, Dr Charles Bennett, Prof. Stuart Hameroff, Prof. Vlatko Vedral, Prof. Richard Jozsa, Prof. Gilles Brassard, Prof. Artur Ekert, Prof. Anirban Bandyopadhyay, Prof. Mani Lal Bhaumik, Prof. John Hagelin, Prof. James Barrell, Prof. Leonard Mlodinow, Prof. Gyorgy Buzsaki, Prof. Semir Zeki, Prof. Leon Chua, Prof. Jack Tuszynski and Prof. Elizabeth Behrman among others. DEI hosted the Twentieth International Conference on Science of Consciousness (TSC 2013) from March 3-9, 2013 with over 400 leading scientists and researchers from all over the world. At the end of this conference, when Prof. Hameroff returned to Arizona, he spontaneously described it as the time and place where the quantum theory and the eastern philosophy and therefore, in a way, western science and eastern thought (perspective) have begun to make sense and come together. Prof. A.K. Mukhopadhyay, a renowned researcher in the field at AIIMS, New Delhi called the Dayalbagh model as a rare evolutionary leap from *homo sapiens* to *homo spiritualis*! In fact, we are blessed with sustainable neuro-theology or Jugaad Yog Sadhna at Dayalbagh.

## INTERNATIONAL SCHOOL ON Quantum & Nano Computing Systems and Applications

# QANSAS 2019 @ 50

*(in honour of the 50th year of conferment of  
Doctorate by the University of Waterloo upon  
Revered Prof. Prem Saran Satsangi in 1969)*

**NOVEMBER 10 – 12, 2019**

*(with a Special Forum on Consciousness : Integrating  
Eastern and Western Perspectives on November 10, 2019)*



### Host Institution

Dayalbagh Educational Institute (Deemed University)  
Dayalbagh, Agra – 282 005  
<http://www.dei.ac.in/dei/quantumNano/>

### Organized by

Quantum-Nano Systems Centre & Centre for Consciousness Studies  
Dayalbagh Educational Institute  
&  
Divinity Study Forum, Radhasoami Satsang Sabha  
Dayalbagh, Agra





Revered Prof. P.S. Satsangi with Late Prof. Jack Ellis

## DEI-Waterloo Collaboration

DEI has a five decade long association with the founding fathers of the systems movement spread over several campuses all over the world, including Michigan State University, University of Waterloo, IIT Delhi and DEI, Dayalbagh. Revered Prof. Prem Saran Satsangi, Leader of Radhasoami Faith (Dayalbagh) and Chairman, Advisory Committee on Education, Dayalbagh Educational Institutions obtained his Master's degree in 1961 from Michigan State University under the tutelage of Prof. Herman Koenig, father of Physical System Theory. Revered Prof. Satsangi obtained his Ph.D. from University of Waterloo in 1969 on the topic "A Physical System Theory Modelling Framework Generalized for Large Scale Economic Systems" under the Canadian Commonwealth Fellowship with Late Prof. Jack B. Ellis as the supervisor. Prof. Satsangi has fond reminiscence about his association with Prof. Peter Roe at University of Waterloo during the period from fall 1966 to summer 1969, which he was pleased to share at the signing of the DEI-UW MoU in July 2008 in the following words :

*"Let me reminiscence very briefly about my experience of the course on Advanced System Theory which I took from Prof. Peter Roe in the very first term at University of Waterloo in fall 1966. Prof. Peter Roe gave our graduate class, a surprise of our life in setting up the final examination as an essay on application of system theory to soft systems such as socio-economic systems, which he had not even remotely touched in the entire term. At my wit's end, I let my imagination have a complete free play and composed an essay on socio-economic system theory, which as a sequel, I could even pass on as a preliminary version of my synopsis for the Ph.D. research on generalization of physical system theory to socio-economic systems, in particular large scale economic systems. Apparently Prof Roe liked my essay and gave me the only A grade in his course. The rest of the course participants had to settle with B grades or other grades."*

Today, we can only imagine those heady days at Waterloo when these renowned personalities must have worked together.

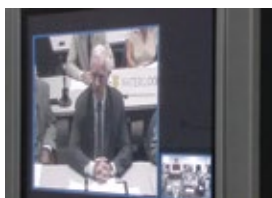


Revered Prof. P.S. Satsangi with Late Prof. H.K. Kesavan



Revered Prof. P.S. Satsangi with Prof. Peter Roe

The DEI-UW MoU was first signed in July 2008 in a unique video-conferenced ceremony by Prof. David Johnston, then President of University of Waterloo who went on to serve as Governor-General of Canada. The Memorandum of Understanding was renewed for another 5 years in March 2013 and further renewed for 5 years in October 2017. There has been considerable progress under the umbrella of the MoU, in the form of joint research, publications, faculty and student visits, joint colloquia and conferences, joint authorship of books and a clause on undergraduate student exchange in the form of internships, coop visits and entrepreneurship has been added to the MoU renewal agreement. DEI and Waterloo jointly organized the Indo-Canadian Research Colloquium at Waterloo in summer 2016, 2017 and 2018 and Prof. Roe was pleased to address the colloquia in the following words :



Prof. David Johnston, then President, University of Waterloo addressing DEI-UW MoU signing ceremony in July 2008



*"It was in the mid sixties that I met a young man called Prem Satsangi. Little did I know the consequences of this. He enrolled in my Advanced System Analysis graduate course. He was only one of about 10 students who was able to answer my somewhat unusual exam. Engineering graduate students don't expect to write an essay in an exam for a mathematical course.*

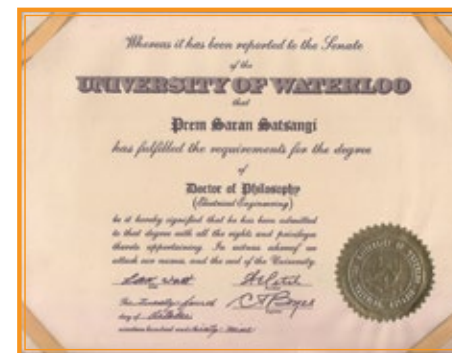
*The point is that I taught Graph-theoretic modelling methods, and Prem understood how to apply them to systems outside those I discussed in the course. Prem Satsangi went on to a PhD, and returned to India. He had an illustrious career, and rose to Head of Electrical Engineering at IIT Delhi. And he became Director of the DEI. He later was elected as world-wide head of the Religion of Saints Radhasoami. The best way to describe this position to most North Americans is to line it to the Dalai Lama. The Most Revered Dr Prem Satsangi is the Spiritual Head of the Dayalbagh Community, which houses among other things, the DEI. He has endeavoured with a great deal of success, to explain the religion and the universe using graph-theoretic system theory - the same theory to which he was introduced in my graduate course in about 1966.*

*The Dayalbagh Educational Institute (Deemed University) grew out of the founding, 100 years ago, of a middle school in Dayalbagh; the University of Waterloo received its first students 50 years ago, as a Faculty of Engineering. 2017 is an especially auspicious year, not only for those anniversaries, but also because it is the 200th Anniversary of the founding of the Radhasoami Faith, the 150th anniversary of the birth of Canada as a nation and the 70th anniversary of Indian independence. UW and DEI are decidedly different institutions, yet they are both devoted to education to form well-rounded persons and research to create a better world."*

## QANSAS 2019 @ 50

The Divine Inspiration and Guiding Beacon of the DEI-Waterloo MoU is the benign leadership of Revered Prof. Prem Saran Satsangi, Chairman, Advisory Committee on Education, Dayalbagh Educational Institutions.

This year, the event has been most aptly rechristened as 'QANSAS 2019 @ 50' in honour of the 50th year of conferment of Doctorate by the University of Waterloo upon Revered Prof. Prem Saran Satsangi in 1969. Such events are regularly organized by research groups at Universities the world over in honour of leading Professors.



Revered Prof. Satsangi introduced himself at the DEI-Waterloo MoU signing ceremony in 2008 according to the format of the UW alumni survey :

### Is UW still part of my life?

*Yes. I owe my researchability ever since my days at Waterloo from 1966-fall to 1969-summer to the research exposure and opportunities which I found in that lofty institute. Of course, I knew about Waterloo even from earlier days, from fall 1960 in fact, when I had joined Michigan State University as a USAID TCM Scholar, for my Master's degree in Electrical Engineering where Prof H.K. Kesavan used to be a frequent visitor to the system theory group led by Prof. Herman E. Koenig, verily the father of physical system theory. Prof. Kesavan, in fact served as an excellent goodwill ambassador for UW and soon after meeting him, Waterloo became my preferred destination for research abroad.*

### Is UW a school I am proud of?

*Most certainly. This is one strong reason why Dayalbagh Educational Institute is so happy and proud to enter into collaborative relationship with the University of Waterloo through the wonderful MoU that has just been signed.*

### What's Waterloo to me?

*Waterloo to me is, above all, the spirit of "why not?" which we share deeply with UW in the quest of Total Quality through excellence, creativity, innovation and initiative which I believe are the hallmarks of success in the modern world which is highly competitive today.*

Our five decade long ties with University of Waterloo will be the focus of this scientific event.