

## Presidential Theme for 2018-19

ISHRAE President C. Subramaniam has spelt out his theme for the Society Year 2018-19 as STAR.

Continuing on our journey to excellence, the new team has taken the theme for the year as STAR:



### Key Focus Areas:

- Deliver hi-quality Professional Development Courses in the form of ISHRAE Certified Professional Courses (ICPs) for various applications, Advanced Engineering Diploma Courses, Skill development modules and in-depth Workshop sessions
- Focused Technical Groups who will be engaged in developing application based guidebooks and handbooks and take part in industry based research activities and run through the entire technical content for quality in delivery
- ISHRAE to be recognized as a Standards Development Organization
- Develop ISHRAE Centres of Excellence across the country
- Reach out to more members through Webinars, Technical videos, e-Journals ...
- Expand our Research activities with a stronger Industry and Government engagement
- Theme based Seminars and Conferences of current subjects of interest delivered across the country and our neighboring countries
- Expand our network to Students, Youth and Women
- Special focus and engagement in the area of Refrigeration and Cold Chain.

**S** Sustain the various activities taken up by all of us so far and take it to greater heights

**T** Technical Excellence in ensuring we deliver high quality programs of excellence in content to members in particular and the HVAC & R industry at large

**A** Advocacy - ISHRAE to be at the Centre of Industry - Government - Academia Interface

**R** Research - focus and deliver on Industry identified and led, Academia supported and Government sponsored projects



President C. Subramaniam

### HQ Team Installation

The installation ceremony of HQ Officers for the Society Year 2018-19 was held in Mumbai on March 23 at Hotel Sahara Star, along with the installation of Mumbai CWC and the launch of ACREX India 2019.



Manoj Chakravorti installs C. Subramaniam as National President 2018-19



Launch of ACREX 2019, scheduled in Mumbai from February 28 to March 2, 2019

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## KNOW YOUR TEAM

### HQ OFFICERS



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Imm. Past President  
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**Vikram Murthy**  
National President-Elect  
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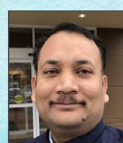


**Amit Goel**  
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**Shilpan Shah**  
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### REGIONAL DIRECTORS



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### NATIONAL CHAIRS STANDING COMMITTEE

**Ajay Bararia**  
Membership Promotion

**RVSS Prasad**  
Student Activities

**Pankaj Sareen**  
Programs

**Raja M Sriram**  
Advocacy

**B K Bisoyi**  
K-12 Activities

### NATIONAL CHAIRS APEX COMMITTEE

**Dr. R Saravanan**  
Technical

**Nishant Gupta**  
Marketing

**Dr. Jyotirmay Mathur**  
Standards

**Yogesh Thakkar**  
Apex Advocacy

**Pankaj Dharkar**  
Refrigeration

**Sunil Kher**  
Finance

**Ashu Gupta**  
Youth at ISHRAE

**Akash Vajpai**  
IT & Communication

**Dipak Barma**  
Honors & Awards

**Nivedita Jadhav**  
Women in ISHRAE

**Parshant Desai**  
ISHRAE Certified Professional

**Gautham Baliga**  
ISHRAE Institute of Excellence

**Dr. Nitin Deodhar**  
Research in ISHRAE

### HQ SECRETARIAT

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**Tarun Kumar**  
Assistant



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..... Installation

Mumbai CWC 2018-19 Installation was attended by over 340 members. Vishal Kapur (Past National President 2017-18), C. Subramaniam (National President 2018-19), K. Ramachandran (Past National President), V. Krishnan (Past National President), Shankar Sapaliga (RD-West 1,

2018-19), Kapil Purandare (Past National Secretary and Convenor – Acrex 2019) and Vikram Murthy (National President-elect 2018-19) graced the occasion. Ajaj Kazi (Mumbai President 2017-18) made a presentation on the Chapter's achievements during the

year 2017-18, and thanked all the 2017-18 CWC members and office staff for their support. Sangita Jhangaini, President 2018-19, outlined her plans for the coming year. Mumbai Chapter gave a donation of Rs. 1,16,000 towards ISHRAE Research Fund.



National President-elect Vikram Murthy administers the oath to Mumbai CWC team



Mumbai CWC team poses for a group photo, with President Sangita Jhangaini in the middle

# Advocacy

## ISHRAE Helping BIS Prepare Ambient Air Quality Standard

In its issue dated April 16, The Hindu carried a report on plans to enforce standards set by the Bureau of Indian Standards (BIS) to certify ambient air quality inside public buildings. ISHRAE is helping the effort by preparing a database of existing air quality. “The enforcement of standards set by Bureau of Indian Standards (BIS) to certify ambient air quality inside multiplexes, malls, theatres, hospitals, educational institutes, offices and residential complexes is all set to become a reality in India in the next few years, as a database is being prepared to assess the prevailing situation. The BIS has asked the Indian Society of Heating, Refrigerating and Air Conditioning Engineers (ISHRAE) to prepare a database on the air quality situation prevalent pan India”, says the report. Prior to this, ISHRAE is finalising a standard for which it has roped in several premier institutes.

“We have engaged College of Engineering, Pune; Malaviya National Institute of Technology, Jaipur and IIT Madras for conducting a research study. May be in the next two years, the air quality standards will be finalised and implemented in India,” ISHRAE National President-elect Vikram Murthy told The Hindu.

Stating that the ambient air quality inside buildings in India is pathetic, he blamed it on poor ventilation and filtration that results in high levels of carbon dioxide and particulate matter smaller than 2.5 microns. The poor ambient air quality is causing high incidence of respiratory ailments in the country, he pointed out. According to Vikram Murthy, ISHRAE has prepared four Minimum Energy Performance Standards (MEPS) since 2016, which are being implemented by the Bureau

### Ambient air quality standards for buildings to be a reality soon

ISHRAE to prepare database on air quality situation pan India to assess ground reality

**SANTOSH PATNAIK**  
VISHAKHAPATNAM

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next two years, the air quality standards will be finalised which will be implemented in India.” ISHRAE national president-elect Vikram Murthy told *The Hindu* on Tuesday.

Stating that the ambient air quality inside buildings in India is pathetic, he blamed it on poor ventilation and filtration that resulted in high level of carbon dioxide, less than 2.5 microns of particulate matter per million when compared to the desired 50 to 100 microns.

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According to Mr. Murthy,

the ISHARE has prepared four Minimum Energy Performance Standards (MEPS) since 2016 which are being implemented by the Bureau of Energy Efficiency (BEE).

**Energy efficiency**

“After successful introduction of star ratings for appliances such as AC, fan, refrigerator, TV and washing machine by the BEE, there is a proposal now to issue star ratings to inverter ACs, which are better than the five star-rated appliances,” he said.

Citing that the grey markets have almost collapsed after the introduction of star ratings by the BEE in 2007, he said rating is assigned

based on emission parameters.”India is among a few countries which have successfully implemented the star rating for energy efficiency of domestic appliances and air conditioners,” he said.

**Short-term courses**

Mr. Murthy said ISHRAE, with 42 chapters, 12,000 professional and an equal number of student members, is also offering short-term courses for professionals in heating ventilating air conditioning (HVAC) and a six-month certification course for technicians in collaboration with the National Skill Development Corporation.

Report in The Hindu

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## ISHRAE Team Visits China Refrigeration Expo



ISHRAE team poses for a group photo at CAR

An ISHRAE and NM team led by President C. Subramaniam visited China Refrigeration show CAR in April to promote Acrex and RefCold. The team included Pankaj Dharkar, Nishant Gupta, Akbar Bharmal, Aakash Patel; R. K. Mehta from RAMA; and Mehak Mamtani, Manasi Multani and Rohan Chopra from NürnbergMesse.

## IOR and ISHRAE Sign MoU



ISHRAE President C. Subramaniam and Steve Gill of IOR sign the MoU in the presence of ISHRAE IPP Vishal Kapur and Mariam Rodway of IOR

Institute of Refrigeration (IOR), UK and ISHRAE signed a Memorandum of Understanding on April 21. The MoU includes partnership for RefCold and several services for ISHRAE members.

## MoU with Society of Indoor Environment



ISHRAE President 2017-18 Vishal Kapur and Radha Goyal (SIE) sign MoU, flanked by Ajay Garg and Ashish Jain (SIE), and Ashwini Mehra and Richie Mittal (ISHRAE)

ISHRAE signed a Memorandum of Understanding with the Society of Indoor Environment (SIE) on March 15 at India Habitat Centre, New Delhi.



# Women in ISHRAE

Bangalore Chapter ran a month-long initiative in March on the occasion of International Women's Day to recognise Women Performers in the HVAC Industry. Ten nominations were received. A panel was constituted to evaluate the nominations based on predefined criteria. The panel members were:

- 1. M. K. Sreekesh  
*President-elect, 2018-19*
- 2. Amar Narayan  
*Secretary, 2018-19*
- 3. Deepa Rajganesh  
*W@ISHRAE Chair, 2018-19*
- 4. Nisha Nair  
*W@ISHRAE Vice-Chair, 2018-19*

The nominations were judged on the following criteria:

- Technical Acumen – 25 points
- Leadership/Decision making – 25 points
- Educational Qualifications – 15 points
- Experience in HVAC Industry – 25 points
- Contribution to ISHRAE – 10 points

The panel picked Mangala Chandrashekar and Raksha Shetty as Women Performers for 2017-18.



W@I, Bangalore Chapter being felicitated on the occasion of International Women's Day



National President C. Subramaniam felicitates Mangala Chandrashekar



C. Subramaniam felicitates Raksha Shetty

# Down Memory Lane

**Virendra Kumar Wadhwa, Founder Member – ISHRAE and Presidential Member – ISHRAE and ASHRAE India Chapter, goes down the memory lane to bring to our readers two momentous events that changed the history of the HVAC&R industry in India.**

## Birth and Early Years of ISHRAE

In an epochal meeting held in the year 1980, ISHRAE was born at the initiative of four likeminded ASHRAE members, namely M. K. Jain, Dr. Prem C. Jain, S. K. Gupta and I, in the office of Architect Joseph Stein at New Delhi. ISHRAE was formed on the lines of ASHRAE for the benefit of Indian engineers on individual membership basis, with objectives similar to ASHRAE.

The formation of ISHRAE received wide acceptance from engineers in the AC&R industry and educational institutions. As a result, a decision was taken by the founding members to register it as a Society. The Society was registered in the year 1982, with its registered address at the office of Spectral Consultants, S-124 Greater Kailash II, New Delhi and Dr. Prem C. Jain as the Founder President.

I had moved out of Blue Star in the year 1982 for an international assignment, and returned to re-join Blue Star in 1987. However, during the interim phase of 5 years, I visited India 2-3 times a year and always made it a point to attend all the meetings that took place at Dr. Prem C. Jain's residence. Both the senior and young members of the AC&R industry attended these meetings with enthusiasm and dedication, sharing ideas and best practices. Dr. Prem C. Jain and the late M. M. Pande were always a source of great inspiration. An important milestone in the history of ISHRAE was the procurement of its own office premises at K-43 Kailash Colony, New Delhi in the year 1988-89.

ISHRAE grew from strength to strength all over India. Its first chapter outside the HQ was founded at Bangalore in 1988. I had the privilege to inaugurate



ISHRAE

the Chennai Chapter as the first All India President in the year 1989-90. This was followed by the formation of chapters at Mumbai, Kolkata, Ahmedabad, Hyderabad and Pune. I handed over charge to senior consultant R. V. Simha as the All India President in the year 1990-91.

All round efforts were made to organize and conduct the first historical ACREX at Bangalore in February 1990. V. Madhava Rao of Bangalore Chapter was instrumental in organizing this exhibition.

## Arrival of ASHRAE in India

The seeds to bring ASHRAE to India were sown in the year 1980 at New Delhi. A formal application for the formation of ASHRAE India Chapter (AIC) was made in mid-1989, signed by myself as ISHRAE President, on achieving the minimum eligibility criteria of 40 ASHRAE members in India.

Later in the year, during ASHRAE's Asia Pacific Conference held at Kuala Lumpur, Malaysia in October 1989, the then ASHRAE President David S. Butler, Sr. announced the acceptance of our application. It was indeed a delightful and proud moment. AIC was chartered by David S. Butler, Sr. at The Hyatt Regency, New Delhi in March 1990. Dr. Prem C. Jain was installed as the first AIC President along with other BOG members including myself (President-elect), Nirmal C. Gupta (Vice President), V. Seshadri (Secretary) and V. K. Rastogi (Treasurer).

More information on the history of AIC is available in the ASHRAE India Chapter Bulletin, April-June 2015, Volume 16, Issue 4, celebrating 25 years of ASHRAE in India.



ISHRAE Certification Program			
Mumbai Chapter has planned the following ICP courses in 2018-19:			
Cleanroom	November 14 to 17		
AC Design	Module 1: September 5 to 8	Module 2: October 11 to 13	Module 3: November 29 to December 1
AC Service	October 19-20 and November 2-3		

### ISHRAE Documents on Refrigerants

In line with ISHRAE's objective to disseminate knowledge, two documents on refrigerants have been released for members.

'ISHRAE Position Document on Refrigerants' is available at <http://ishrae.in/images/ISHRAE-Position-Documents-Refrigerants.pdf>

'ISHRAE Guidelines on Safe and Responsible Use of Refrigerants in HVAC&R Systems' is available at [http://ishrae.in/images/HVAC\\_R\\_Systems\\_book.pdf](http://ishrae.in/images/HVAC_R_Systems_book.pdf)

### Guidelines for Reports in eNews

- The deadline for receiving reports is the last day of the relevant period. For example, for publication in the May-June issue, the deadline is June 30.
- Please send or copy reports of events to [news@ishraehq.in](mailto:news@ishraehq.in)
- Please send a Word file containing a brief report of the event: **what, when, where, who** and any other relevant information. **Pdf and ppt files must be avoided.**
- Relevant photos in jpg format should accompany the report. Each photo should have a **caption describing the occasion and giving the full names of persons** in the photo from left to right. Only first names or only last names are not enough. (In case of large group photos, e.g. a batch of 20 participants in a training program, all names are neither feasible nor necessary. Key names would suffice in such cases.)
- In addition to the jpg files, photos may also be copy-pasted on the Word file at relevant places, with captions below each photo.



# News in Brief

**HQ** organised a webinar on March 15 on the topic ‘How is BIM Useful in HVAC’ by Varunkumar V. Sagarkar, Head of Digital Engineering, Desapex Engineering Consultants LLP.

**Raipur Sub-chapter** has a tradition of celebrating events related to women empowerment. It observed the Women’s Day on March 8 at Sewing Centre, Changorabhata, Raipur.



Women’s Day celebration at Sewing Centre, Raipur

Women@ISHRAE Chair Dr. Meenakshi Rathore, Youth Chair Brajesh Sahodiya, and K. K. Verma were present from the Sub-chapter, along with chief guests Dr. Sunita Singh and Dr. Puspavati Thakur, women’s health experts from AIIMS. C. S. Rathore and J. S. Thakur from Lions Club and SWF were also present. J. S. Thakur made the introductory speech. Dr. Meenakshi Rathore shared some motivational stories, and spoke about ISHRAE’s activities. Dr. Sunita Singh and Dr. Puspavati Thakur made a presentation on women’s health exclusively to women members, covering cervical cancer and breast cancer. Health tips were given and videos on prevention and treatment were played.

**Ranchi Chapter CWC** was installed at Hotel Shivani International on April 14. D. K. Mahobe, RD-East administered the oath to President S. K. Das, Secretary Fulender Kumar, Treasurer Madan Kumar and other CWC members. Immediate Past President S. Ganesh highlighted the achievements made during the society year 2017-18. S. K. Das briefly outlined the plans for the current year.

**Ranchi Chapter** organised a DL Lecture on April 14 at Hotel Shivani International. The lecture was delivered by Prateek Dutta Roy, Chief Engineering Manager – L&T and past president, ISHRAE Kolkata Chapter. The theme of the lecture was ‘Achieving Excellent COP for Central AC Plant’.

The factors that affect COP were explained to the audience. It was explained that due to load variations and other factors, the COP achieved in most of the central air conditioning systems is lower than the designed COP of about 7. The challenge is to operate the system with COP of about 6. Analysis of relative power consumption reveals that about 60% power is consumed by chillers, about 15% by chilled water pumps and about 13% by AHUs. To improve COP, power consumption of chillers can be reduced by using high efficiency compressors and motors, and cooling towers by having a closer approach. Fixed and variable speed centrifugal chillers were described, and it was explained how variable speed chillers can improve COP. Magnetic levitation technology for chiller compressors and falling film technology for evaporators were also explained. The role of variable speed pumping systems and using earth 5m below ground level as a heat sink in reducing power consumption of chillers was highlighted. De-coupling of the refrigeration system for sensible and latent load, optimization of ancillaries, good hydraulics, part load efficiency, sequencing of chillers and use of chiller plant optimizers was discussed. The program was coordinated by S. Ganesh, IPP.

**Ranchi Chapter** organised another DL Lecture on April 14 at Hotel Shivani International. The lecture was delivered by Madan Kumar, Treasurer, Ranchi Chapter. The theme was ‘Development of Refrigerants’.

The basic concept of refrigerants was explained. It was explained that generally refrigerants could be classified in two broad categories – natural and synthetic. The timeline of development of various refrigerants was discussed. Natural refrigerants like NH<sub>3</sub>, H<sub>2</sub>O and CO<sub>2</sub> have been available since the beginning. The quest for efficient and economical refrigeration and air conditioning systems led to synthetic refrigerants like R11, R12 and R22. They have been found to cause ozone layer depletion. To mitigate this, the international community has agreed to phase out these refrigerants. Environmentally sustainable refrigerants with zero ODP and low GWP are required to replace these refrigerants. It is observed that naturally available refrigerants like NH<sub>3</sub>, H<sub>2</sub>O and CO<sub>2</sub> are environmentally sustainable, economical and can be used safely. R32 is one of the synthetic refrigerants that can be safely used for some more time, as it has zero ODP just like natural refrigerants. The need of the hour is to find suitable, environment friendly refrigerants and efficient equipment. The program was coordinated by S. Ganesh, IPP.

**Deccan Chapter** conducted a two day cricket competition – ISHRAE Deccan Premier League – on March 24-25 at CNR Cricket Ground, Hyderabad. Twelve local teams participated in the event. Comfortline won the trophy and a cash prize of Rs.15,000. The runner-up was Blue Star, which was awarded a trophy and a cash prize of Rs.10,000. Deccan Chapter Past President B.B.N. Prasad – Program Chair – and Anand Kumar presented the awards. A large number of members witnessed the competition.



Winners being presented the trophy

**IIE Delhi** conducted a technical workshop on Controls for HVAC Engineers and Introduction to Internet of Things (IoT) by P. K. Goel on April 21.

**ASHRAE Mumbai Chapter** in conjunction with ISHRAE Mumbai and Thane Chapters organised a Tech Talk on Chilled Beams on March 16. The speaker was Sanjib Seal of Swegon Blue Box.

**Mumbai Chapter** organised a Tech Talk on Understanding Energy Simulation for Green Buildings on April 20 by Ruju Rathod at Mumbai Chapter office. The topics covered were: Benefits of Energy Simulation, Basic Concepts and Working of Simulation Software (Shading and Daylighting, Energy Analysis, Air flow), and Introduction to eQuest and its relevance to HVAC.

**Mumbai Chapter** organised a Tech Talk on ‘Pump Basics’ on April 27 at the Chapter office. The faculty was Dilip Datey – promoter of K. D. Accessories Pvt. Ltd. and Past President of Mumbai Chapter, with over 45 years of experience in the HVAC industry. The topics discussed were types of pumps, pump curves, pump selection, NPSH and cavitation, primary, secondary and tertiary chilled water systems, and energy audit for a pump.



Dilip Datey addresses a full house

**Mumbai Chapter and International Facility Management Association (IFMA)** India organised the IFMA World Work Place Conference & Expo on March 16 at J. W. Marriot, Juhu. The conference theme was ‘Workplace of and for the New Millennium’. There were sessions on ‘Trends in transition management: lost between project management and FM, IoT and AI in FM’. ‘Raising the Bar 3’, the third part of a research series produced by IFMA and RICS, was released on the occasion.

**Mumbai Chapter and RATA** conducted a joint event on Legal Metrology (Packaged Commodities Rules 2011) on April 19 at Hotel Kohinoor, Prabhadevi. The Rules cover commodities in packaged form including ACs and their components.



RATA President Ajit Panicker introduces the speakers in the Legal Metrology event



B. K. Zavare (left) and Uday L. Savant address the audience

The topics covered were regulations and latest norms, organisation structure of the department, and enforcement of statutory provisions and rules for MRP labels (declaration panel) required to be affixed on the package. The Chief Guest was Uday L. Savant (Deputy Controller, Legal Metrology Department, Mumbai), and the Master Speaker was B. K. Zavare (Assistant Controller, Legal Metrology, Mumbai).

**Contamination Control Society of India (CCSI)** has announced two back-to-back Advanced Level Certification courses on the following subjects:

- 1) Particle Counting and Cleanroom Classification to ISO 14644-1:2015.
- 2) HEPA Filter Testing and Standards.

These one-day courses will cover both theory and practical training, followed by an examination. They are supported by ISHRAE and Biotrains. Both the courses are officially accredited by International Confederation of Contamination Control Societies (ICCCS), Switzerland. Joint certificates will be issued to the successful candidates by CCSI and ICCCS.

The courses will be conducted on two consecutive days in Mumbai on June 22 and 23.

For further details, please contact [jjyoticcasi@gmail.com](mailto:jjyoticcasi@gmail.com)