As I write for this annual newsletter, and look back on the year gone by, I feel privileged to have headed this extraordinary team of Aerospace Medicine practitioners, of one of the most vibrant and dynamic professional society- ISAM!

The past one year has flown by; and it has been a happening year in many ways. The outbreak of the ongoing COVID-19 pandemic shook the world and had affected all the spheres of our life in an unprecedented manner. I am glad that the Society took this challenge as an opportunity and continued to deliver in its professional domain. Our members were actively involved in the patient care and preventive measures to manage the COVID-19 pandemic. The active contribution of our members has been phenomenal during this critical time. The Society members have been actively engaged with other global partners in the field, to share their experiences for better formulation and implementation of policies on aeromedical matters.

Affiliation of ISAM with the Aerospace Medical Association (AsMA), USA, is a major achievement for the Society, as it enables us to showcase our global presence and learn from the universal evidence based best global practices in the specialty.

I convey my sincere gratitude to all the Society members for the support rendered to me and wish everyone Good luck and many more laurels to the Society.

Happy Landings! Jai Hind!
SALIENT ACTIVITIES OF THE SOCIETY

STANDARDISATION OF SPECIALTY NAME AND ABBREVIATION FOR AFMS

The Specialty of Aviation Medicine has evolved over a period of time and is now recognized by all concerned agencies as Aerospace Medicine. Both the advance course and the MD Degrees are known by the name of Aerospace Medicine. However, in practice both terminologies (Aviation Medicine and Aerospace Medicine) and different abbreviations (Av Med, Avn Med and Ae Med etc) were being used. DGAfms concurrence has been accorded for standardizing the name and abbreviation of the Specialty as Aerospace Medicine and Aerosp Med respectively for the AFMS.

AFFILIATION OF ISAM WITH AsMA

Established in 1952, ISAM is one of the oldest Aeromedical Society of the world. The Society has been represented adequately on the global platforms by its members, who have been regularly participating in the International Conferences like AsMA and ICASM. In addition, the Society has hosted ICASM on 03 occasions (1994, 2006 and 2016). In order to further strengthen the global portrayal, this year Society Secretariat initiated the step of getting ISAM affiliated with Aerospace Medical Association (AsMA) of USA. AsMA is the largest, professional membership organization in the fields of Aerospace Medicine and Human Performance. It is a forum where many disciplines related to aviation come together and share their expertise for the benefit of all persons involved in air and space travel. On 29 Aug 20, the executive Committee of AsMA has concurred the ISAM’s proposal and the Society has been included in the list of affiliates of AsMA (http://www.asma.org/about-asma/affiliates).

CONTRIBUTION FROM AMI

Aerospace Medicine International (AMI) as an organisation came in to existence in 2016 and it had 42 members from across the world. It was formed out of AMERIT, which was giving bursary to students presenting scientific papers at international fora. However, AMI had to be closed due to certain unavoidable circumstances. The assets worth ₹ 2,50,000/- (approx) of AMI have been transferred to ISAM account and taken on charge as Grant from AMI. ISAM expresses its sincere gratitude towards the founder and all the members of AMI for the grant.
REVISION OF MEMORANDUM OF ASSOCIATION OF ISAM

The decision to revise the Memorandum of the Society was taken during the GBM in 2019 where it was brought out that over the years many policy changing decisions have been taken with due approval of GBM, however, the same had not been incorporated in the Memorandum of Association (MoA). The MoA was updated by incorporating all the decisions that were made by the GBM over the years and the draft of the same was placed on the ISAM website for the comments and suggestions of all the members of the society for 90 days. The final MoA after incorporating all the comments of the members is scheduled to be released during the 59th Annual Conference of the ISAM and will be made available on the ISAM website (http://www.isam.in).

INDIA BECOMES A MEMBER OF THE CAPSCA

The Collaborative Arrangement for the Prevention and Management of Public Health Events in Civil Aviation (CAPSCA) is a voluntary cross-sectorial, multi-organizational collaboration programme managed by the International Civil Aviation Organization (ICAO) with support from the World Health Organization (WHO) and was established in 2006. It brings together international, regional, national and local organizations to combine efforts to improve preparedness planning and response to public health events that affect the aviation sector. Even before the COVID 19 pandemic struck the aviation industry globally, the proposal for joining as member was urged by the ISAM members through President of the society and in June 2020, the membership of India has been confirmed at CAPSCA. During the COVID 19 pandemic, India interacted with member organizations and countries through Group Captain Medical Services (Civil Aviation) at O/o DGCA India.

HUMAN SPACE PROGRAM-GAGANYAN

The ongoing Indian Human Space Program (HSP) a joint venture of IAF and ISRO is progressing as per schedule. IAM IAF, is intricately involved in the program through a MoU with ISRO.

The past experience of selecting Cosmonauts during ‘Op Pawan’ in 1979 where then Sqn Ldr Rakesh Sharma became the first Indian in Space
when he was launched on 03 Apr 1984 from Russian soil. He spent eight days in the Russian Space Station Salyut. His answer to Mrs Indira Gandhi’s question that how does India look from space- “Saare Jahan se acha”, still reverberates among Indian minds.

When our honourable Prime Minister announced from the Red Fort on 15 Aug 2018 that India intends to send an Indian from the Indian soil to space by the 75th anniversary of the Indian Independence in 2022, the human space program was revitalized. This fresh start culminated in the selection of four candidates who we call ‘Gaganauts’- the space farer! The Gaganauts are presently undergoing training at the Russian Space Center- Gagarin Cosmonaut Training Center (GCTC). The experience gained during this phase is being summarised in the form of Technical Mini Series, titled “Selection of Gaganauts” being released during this conference.

IAM is busy preparing their aeromedical training program, which will be required once they are back from GCTC next year. IAM is also providing consultancy to ISRO in various aeromedical issue related to the Gaganyaan. We will update you on these aspects as well when it unfolds.

AEROMEDICAL SUPPORT TO SELECTION OF GAGANAUTS AT GCTC, RUSSIA

Gaganauts shortlisted by the IAM IAF were sent to GCTC, Russia, for final selection of four candidates, who are presently undergoing training at Russia. Four Aerosp Med spl- Wg Cdr Ajay Kumar, Wg Cdr B Bhowmick, Sqn Ldr Polash Sannigrahi and Sqn Ldr Avinash Gowda accompanied these candidates in batches to provide medical support during the aeromedical assessment. The medical team contributed immensely during the selection process and prevented possible failure in the clinical and aeromedical tests by helping the candidates to have better understanding of the tests and explaining things to the medical team at the GCTC. The IAF medical team developed the rapport with the Russian medical team quickly which allowed smooth flow of information and enabled better decision making during the selection process.
TRAINING ON CRASH RESCUE PROCEDURE FOR HEALTH CARE WORKERS OF HINDUSTAN AERONAUTICS LIMITED

A one-day capsule course was organised by the Department of Human Engineering at IAM IAF for the health care workers of Hindustan Aeronautics Limited (HAL) on 19 Aug 20 as they are among the first responders during any aircraft emergency at the HAL airport where civil and military, especially, test flights are conducted regularly. Twenty health care workers of the HAL attended the course.

WORKSHOP FOR CLASS-1 AND CLASS-2 MEDICAL EXAMINERS OF DGCA

A workshop for the DGCA empaneled Class 1 and 2 medical examiners and IAF medical officers from five IAF boarding centers and 17 IAF centers was organized on 13 Nov 2019. The latest DGCA policies, CARs, AICs and circulars pertaining to Medical Directorate were disseminated among the delegates.

58TH ANNUAL CONFERENCE OF ISAM

The Indian Society of Aerospace Medicine organised its 58th Annual Conference at IAM IAF, Bangalore from 14 to 16 Nov 19. The conference was attended by around 167 Armed Forces Medical Officers, 25 IAF Aircrew, 23 foreign delegates, 18 veterans (Aerosp Med) and 36 representatives from DRDO, ISRO & Aviation Industry and the past Presidents of the Society. A total of fifteen podium sessions and four poster sessions were held involving presentation of 108 scientific papers including scientific posters, speaking posters, panel discussions and closed door sessions.

THE THEME AND THE LOGO FOR THE 58TH ANNUAL CONFERENCE OF THE ISAM

The theme for the Annual Conference was chosen as ‘Changing Paradigms in Aerospace Health Care’. The logo for the Annual Conference was designed by Wg Cdr AVK Raju, Associate Fellow, ISAM. The logo depicts an aircraft compass as central element which is a critical instrument for a pilot and is dynamic depicting ‘Aerospace’ and ‘Changing Paradigms’. The Medical Insignia in the logo depicts ‘Healthcare' representing the Indian Armed Forces Medical Services and its
passionate personnel who relentlessly strive to provide medical support to enhance operational effectiveness during war and peace. The integration of medical insignia over aircraft compass represents close association of Medical Services with the Aerospace Community emphasising the fact that the Medical Services have always lead from the front in fulfilling the organisational goals and aspirations.

**INAUGURAL SESSION OF THE 58TH ANNUAL CONFERENCE OF ISAM**

The Conference was inaugurated on 14 Nov 2019 at 0900h by Chief of the Air Staff and Chief Patron of the Society Air Chief Marshal RKS Bhadauria PVSM AVSM VM ADC. Prof. K Vijay Raghavan, Principal Scientific Advisor to Govt of India, Air Marshal AS Butola VM VSM, AOC-in-C Training Command IAF, Lt Gen Anup Banerjee SM PHS, DGAFM(S) and Senior Colonel Commandant, Surg Vice Adm MV Singh AVSM PHS, DGMS (Navy), Air Marshal RK Ranyal VSM DCIDS (Med), Air Marshal MS Butola, DGMS (Air) and President Indian Society of Aerospace Medicine were some of the important dignitaries who graced the occasion.
AIR MARSHAL SUBROTO MUKERJEE MEMORIAL ORATION

The Air Marshal Subroto Mukerjee memorial oration was delivered by Professor K Vijay Raghavan, Principal Scientific Advisor, Government of India on the topic, “The role of science and technology- from India- for the future of our planet”. He narrated the history of life on earth and how manmade activities has influenced the natural evolution. The speaker was appreciated by a standing ovation by the audience.

AVM MM SRINAGESH MEMORIAL ORATION

The AVM MM Srinagesh memorial oration was delivered by AVM JS Kulkarni (Retd) on the topic, “Aeromedical Research in India: Past, Present and Future”. He spoke about historical days of IAM starting from establishment of School of Aviation Medicine to important past research proposals. He stressed upon the need for patenting the research projects done at IAM.

JHF MANEKSHAW PANEL

The JHF Manekshaw panel was on, “Emerging Trends in Aerospace Medicine”. The panel was delivered by two eminent speakers- Dr Girish S Deodhare Director CA & ADA and Dr Unnikrishnan Nair, Director HSFC. Dr Girish spoke on the topic, “Challenges in Development of Modern Fighter Aircraft” and discussed about the
development of LCA Mk I & Mk II versions and the challenges in future development of AMCA. Dr Unnikrishnan Nair spoke on the topic, “Human Space Programme” giving insight into the ongoing Human Space programme of the ISRO and plan ahead.

E- LAUNCH OF INDIAN JOURNAL OF AEROSPACE MEDICINE

The new webpage of Indian Journal of Aerospace Medicine was inaugurated by the Air Chief Marshal RKS Bhadauria PVSM AVSM VM ADC during the inaugural session of the annual conference of the ISAM on 14 Nov 19. The new webpage has link for submitting scientific papers online for publication and register as reviewer through the Editorial Assist powered by the Scientific Scholar. https://indjaerospacemed.com is the website link which is hosting current editions of the journal. The
The journal is now registered with Google Scholar, CrossRef, ReadCube, National Science Library and Copernicus as abstracting partners. The e-publication of the Journal is likely to generate high impact due to wider visibility through open access of quality scientific articles in Aerospace Medicine. The online submission of articles and reviewing portal will hasten the process of submission and peer-reviewing of the articles. It is expected that soon the IJASM will be indexed too.

RELEASE OF TECHNICAL-MINI SERIES ON RESEARCH METHODOLOGY

The Technical Mini-Series (TMS) titled, "Research Methodology" was published and released by Chief of the Air Staff during the inaugural session of the ISAM conference. The TMS covers nuanced and practical tips for planning and conducting research which will benefit the MO’s and specialists in the field for conducting research. It also covers the research infrastructure of the country in general and Armed Forces in particular, various sources for funding the research, ethical and administrative issues in research and finally, how to publish the research in a peer reviewed scientific journal. The language of the TMS has been deliberately kept informal and various real life examples and incidences culminating into actual research has been narrated to keep the readers glued to the subject.

AWARDS AND TROPHIES

CHIEF OF THE AIR STAFF TROPHY FOR STANDING FIRST IN PAMC

The Chief of the Air Staff Trophy is awarded to the officer who scores the highest marks in all the Primary Aviation Medicine Courses (PAMC) held during the year. This year the trophy was awarded to Surg Lt Meena R. The trophy was handed over to the officer by Air Chief Marshal RKS Bhadauria PVSM AVSM VM ADC during the inaugural ceremony of the annual conference of the 58th ISAM conference.
DGMS (AIR) BEST STUDENT TROPHY FOR INTAM

The DGMS (Air) best student trophy is awarded to the officer who scores the highest marks among all Introductory Course in Aviation Medicine (INTAM) during the year. Flt Lt Shrishti Tripathi received the trophy for the year 2018 during the Inaugural function of ISAM.

AVM MM SRINAGESH TROPHY

The AVM MM Srinagesh trophy is awarded to the officer who score the highest marks in the Advance Course in Aerospace Medicine. This year the trophy was awarded to Maj Y Milanjit Singha by Air Chief Marshal RKS Bhadauria PVSM AVSM VM ADC.

AOC-IN-C TRAINING COMMAND ROLLING TROPHY

AoC-in-C training command rolling trophy is awarded for the best dissertation in the MD Aerospace Medicine. Maj Y Milanjit Singha was awarded the trophy for his dissertation titled, “A study on the effect of intake of Indian food on gastric electrical activity during 8 hours of simulated microgravity”. His guide for the dissertation was Air Cmde Vipin Sharma. The trophy was awarded by the Air Chief Marshal RKS Bhadauria PVSM AVSM VM ADC and Air Marshal AS Butola VM VSM, AOC-in-C Training Command.

PRESIDENT’S GOLD MEDAL

The President’s Gold medal is awarded to the student standing first in the MD Aerospace Medicine. This year the President’s Gold medal was awarded to
Maj Y Milanjit Singha for standing first in the MD course. The Gold medal was awarded by the Air Marshal MS Butola, DGMS (Air) and President, Indian Society of Aerospace Medicine during the General Body Meeting of 58th ISAM.

AIR MARSHAL KULDIP RAI AWARD

The Air Marshal Kuldip Rai award is awarded to the author of the best published scientific paper in the Indian Journal of Aerospace Medicine (IJASM). The award consists of cheque of Rs 25,000/-. This year the award went to Gp Capt MS Nataraja for his original research article, “Effectiveness of Gel Cooled Vest in alleviating heat stress among Air Force Personnel working on tarmac: A field study” published in the summer edition of IJASM 2018. The award was handed over by the Air Marshal MS Butola, DGMS (Air) and President Indian Society of Aerospace Medicine during the General Body Meeting.

AWARD FOR THE BEST PAPER AND POSTER IN ANNUAL CONFERENCE OF ISAM

The best paper and poster presented during the annual ISAM conference are awarded a cash prize of Rs 5000/- each in two categories- Institutional and field categories. During the 58th annual conference of ISAM, the best paper award in the Institutional Category was won by Gp Capt M Bhatia and in field category by Flt Lt G Ghosh. The award for best poster went to Sqn Ldr Polash Sannigrahi.

AIR MARSHAL PM SUNDARAM TRAVELLING FELLOWSHIP

The Air Marshal PM Sundaram travelling fellowship is awarded to two senior members of the society for spreading awareness about the specialty by giving lectures/
presentations at various medical colleges every year. For the year 2018-2019, the medal for Air Mshl PM Sundaram Travelling Fellowship was awarded to Gp Capt Medhatithi Mukherjee. For the year 2019-20, Gp Capt MS Nataraja and Gp Capt Rahul Pipraiya were nominated for the same. However, due to the prevalent COVID-19 pandemic they could not visit medical colleges to spread the awareness.

GENERAL BODY MEETING OF ISAM

The General Body meeting of ISAM was held on 15 Nov 19 from 1600h onwards. The GBM was chaired by Air Mshl MS Butola, DGMS (Air) and the President of the Society. The minutes of the GBM has been published on the society website and can be accessed on ISAM website under tab ‘About ISAM’.

NEW FELLOWS AND ASSOCIATE FELLOWS OF THE SOCIETY

Dr Punita Masrani and Gp Capt Rajat Baizal (Retd) were awarded the fellowship, and Wg Cdr Punyashlok Biswal, Wg Cdr Parul Goel and Surg Cdr Ranjan Sarkar were awarded Associate fellowship of the Indian Society of Aerospace Medicine during the General Body Meeting held on 15 Nov 2019.

NEW LIFEMEMBERS OF THE SOCIETY

Following were awarded with the life membership of the Society during the GBM held on 15 Nov 19:-

- Air Mshl RK Ranyal VSM
- Sqn Ldr T Anitha
- Sqn Ldr Ashish Nagpurkar
- Maj Swapnil Mishra
- Maj Mithun Kumar
- Maj Sheshideep Reddy P
- Sur Lt Cdr Harsh Pravin
- Surg Lt Cdr Sachin Bhardhwaj
- Dr Kumari Pooja
- Dr Sanjay P
- Dr M Haresh
SALIENT ACADEMIC ACTIVITIES BY ISAM MEMBERS IN 2020


• The AFMRC projects by two ISAM members- Gp Capt MS Nataraja titled, “To Study the Effectiveness of Quantified Correct Muscular Contraction Practices on Straining +Gz Tolerance during Indoctrination of AGSM in Fighter pilots of the Indian Air Force” and Lt Col Pradeep Kumar Gupta titled, “Attitudes and Human Factors inside Glass Cockpit: Study of Pilot-Automation Interface” were selected for presentation among the Award winning AFMRC projects at the 68th Armed Forces Medical Conference held at AFMC Pune on 05 Feb 2020. The presentations were well received by the audience for its scientific contents and applications in the service.

• Wg Cdr AVK Raju, Surg Cdr Ranjan Sarkar and Dr CHN Sowgandhi participated in the NATO- Human Factors and Medicine-173 online discussion where various concerns, policies and experiences on COVID-19 and military aviation were discussed by all the NATO members from 10 Aug to 17 Aug 20. For the first time, Indian Air Force was invited in this NATO meeting. The aim of this interaction was to enhance understanding of the COVID-19 pandemic related issues, share the best practices among the NATO member countries and formulate guidelines which can be adopted by the member countries.

• Col K Nageshwar Rao (Retd), Associate Fellow of ISAM spoke on “Alcohol Testing in Professional Aircrew- Concerns of COVID” during Aviation Health Conference organized by the IATA on 22-23 Sep 20. He, along with Air Cmde Rajesh Vaidya VSM, participated in the panel discussion on “Air Travel in Age of COVID” in the global town hall organized by the AFMC alumni on 12 Sep 20. He, along with Dr Punita Masrani, participated in the panel discussion on “How Safe is Air Travel during the Current Pandemic?” during the webinar organized by the Rotary Club of Mumbai and Udaan Aviation Academy on 03 Oct 20. He also participated in the ICAO-WHO conference on “Considerations and Challenges in Resuming Air Travel” on 05 Oct 20.

• Dr Punita Masrani, Fellow of ISAM and member of Executive Committee spoke on “Are Tests Necessary for COVID-19?” in the Life Recharge online knowledge series on 30 Aug 20. She also attended Aviation Health Conference 2020 organised by the
IATA on 22-23 Sep 20. She participated in a panel discussion organized by Aeronautical Society of India on “Career Paths in Aviation” on 26 Sep 20. She spoke on “Fear, Flying and Well-being” as a seminar panelist along with Col KN Rao (Retd) in the panel discussion on “How Safe is Air Travel during the Current Pandemic?” during the webinar organised by the Rotary Club of Mumbai and Udaan Aviation Academy on 03 Oct 20. She has been actively involved as a member of ICAO’s Mental health working group and CAPSCA international meetings. She also developed the Aeromedical Decision-making Paradigm for Infectious Diseases along with Dr Pooshan Navathe.

- IAF delegation comprising of Wg Cdr AVK Raju, Wg Cdr Parul Goel and Wg Cdr A Kulkarni participated in a series of five virtual workshops held under the aegis of AFRL (Air Force Research Laboratory), USA from 17 Jul to 14 Aug 2020. Representatives from INMAS, DRDO, DRDE, UK, Israel, Australia, Taiwan and Singapore attended the discussions. The aim of these workshops was to develop and enhance international cooperation against Covid-19 Pandemic. These workshops provided the participants to learn from evidence based best practices being followed by different agencies.

**AEROMEDICAL SUPPORT TO FOREIGN EXCERCISES**

**JOINT INDO-FRENCH EXERCISE**

Wg Cdr Omesh Nath, member ISAM, participated in the joint Indo-French Exercise held in Monte De Marsan Air Base in France from 01-15 Jul 19. A total of 136 personnel including aircrew participated in this exercise. Various issues pertaining to aeromedical indoctrination on pre-flight meal, concerns in long-duration flying, management of fatigue and shift in time-zones and protection against noise induced hearing loss were addressed during the exercise.

**JOINT IAF-ROYAL AIR FORCE OMAN EXERCISE**

Wg Cdr Murtaza, member ISAM, participated in the joint IAF-Royal Air Force Oman Exercise held at Masirah Air Base, Oman from 17-27 Oct 19 as a medical observer. Various aspects of operational flying including crash-rescue drills were practiced during the exercise.
LIFE MEMBERSHIP NUMBERS

Allocation of life membership numbers to all the life members have been a long pending and important issue. The ISAM Secretariat has put in efforts to streamline the same. Due to certain administrative constraints all membership numbers could not be allocated in the chronological order (as it should have been done ideally) and hence membership numbers were allocated in alphabetical order till 2010 and chronological order thereafter. The list has been circulated to members on different fora for inputs. After compilation of the same the list has been placed on ISAM website under tab ‘Life Members’, still there may be certain errors in the list. Members are requested to make a note of their Membership number and contact Secy ISAM for any amendment in the list.

OBITUARY

MAJ GEN PC CHATTERJEE

Maj Gen PC Chatterjee (21 Oct 1931 to 20 Oct 2020) was commissioned in the Army Medical Corps on 18 Apr 1955. He served at the Institute of Aerospace Medicine in all the ranks right from Flying Officer to the Air Cmde. He was instrumental in the development of Flight Oriented Psychomotor Test (FOPT) which was used extensively during the selection of ‘Cosmonauts’ at IAM IAF during ‘Op Pawan’. He was an eminent physiologist who played a major role in Indo-USSR space projects and studies on effects of microgravity in the simulated environment.

He commanded IAM IAF from 24 Feb 1986 to 13 Mar 1989. Thereafter, he changed uniform to Army where he retired as Maj Gen from the office of the DGMS (Army). He quietly breathed his last at Command Hospital (Eastern Command), Kolkata on 20 Oct 20. He will always be remembered as a humble, down to earth gentleman, an inspiring teacher, a thorough professional and a researcher par excellence!
ISAM EXECUTIVE COMMITTEE

President:
Air Marshal MS Butola PHS

Ex-Officio Members:
Air Cmde R Ravi
Air Cmde VV Joshi VSM

Elected Members:
Air Vice Marshal Deepak Gaur AVSM
Group Captain YS Dahiya
Group Captain MPS Marwaha
Wg Cdr Ajay Kumar
Dr Punita Masrani

Army Rep:
Colonel Deepak Kumar Khukhar

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