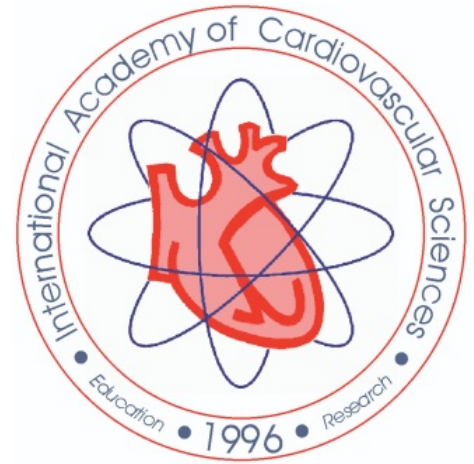


Promoting Cardiovascular Education, Research and Prevention

CV Network

THE OFFICIAL BULLETIN OF THE INTERNATIONAL ACADEMY OF CARDIOVASCULAR SCIENCES

PUBLISHED WITH THE ASSISTANCE OF THE ST. BONIFACE
HOSPITAL ALBRECHTSEN RESEARCH CENTRE



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IACS India Section Elected Council Members for 2022-2025

Academic and Professional Achievements of the following Newly Elected Council Members of IACS India Section are given below:

President: Ramesh Goyal, PhD, FAMS,
Past-President: Chandrasekharan Kartha,
Vice President: Tejal Gandhi, PhD, FIACS
Vice President: Harikrishnan S, MD, DM,
Vice President: Trupti Swain, MD, PhD
Vice President: Praveen Varma, MS, MCh
Secretary General: Mukesh Nandave
Joint Secretary: Abdul Jaleel, PhD
Member: Ramu Adela, MPharm, PhD
Member: Kalyani Barve, PhD

Member: Kavita Gulati, PhD
Member: Abhinav Kanwal, PhD
Member: Jagavelu Kumaravelu, PhD
Member: Nitish Mahapatra, PhD, FNASc
Member: Anupam Mittal, PhD
Member: Ipseeta Ray Mohanty, PhD
Member: Jeemon P, MPH, PhD
Member: Bhoomika Patel, PhD
Member: Dhandapany P, PhD
Member: Yadav HN, PhD

President – Dr. Ramesh Goyal



Dr. Ramesh Goyal

Professor Ramesh K. Goyal, is the Vice Chancellor, Delhi Pharmaceutical Sciences and Research University (DPSRU) since 2016. Formerly he has been the Vice-Chancellor of the Maharaja Sayajirao University of Baroda, Executive Director (Research & strategies) at V ClinBio Labs., Chennai, Director (Pharmacology) at NMIMS University, Mumbai; Director ISF College of Pharmacy, Moga, Punjab and Professor at L. M. College of Pharmacy, Ahmadabad. In 2019 he was conferred with the Honorary Professorship at Stavropol State Medical University, Russia and he is second only non-Russian Professor being bestowed upon this title in 80 years of the University. Recently he has also been appointed as the Distinguished Professor at the UCSI University, Kuala Lumpur, Malaysia.

He has over 43 years of experience in Teaching and Research particularly in Cardiovascular Pharmacology & Diabetes. He was the post-doctoral scholar, visiting scientist and Visiting Professor in University of British Columbia Vancouver and University of Manitoba, Winnipeg, Canada.

Dr Goyal got three patents awarded, 6 under consideration, about 40 books and book chapters, over 370 full papers articles ('h' index 44), over 600 abstracts published in National and International journals. He has guided 44 Ph.D. and 190 MPharm/MBA/MPH students. He has been invited as the Speaker, and Chairman in several International Conferences. Dr. Goyal has delivered over 291 invited lectures in India and 42 lectures abroad including many prestigious orations. He has been the Member of Board of Governor, Board of studies and Academic Councils of several universities in India.

He is the recipient of 74 National & International Awards. Some of the notable awards include Best Pharmacy Teacher and Best Pharmaceutical Research Scientist Awards from APTI, Life Time Achievement & Distinguished Leadership Award from International Academy of Cardiovascular Sciences, Canada (IACS), R. J. Wegmann Award from Indian Society of Hypertension, and Award of Millennium from International College of Nutrition. He is the Fellow of eight professional bodies (FIPS, FIACS, FAMS, FIC, FICN, FNASc, FSCH, FIVSPT). He has been the President of Indian Pharmacological Society, Society of Pharmacovigilance,

India and Indian Society of Hypertension. He is currently Council member of the IACS, Canada and the Vice President of IACS, (India Chapter). He has attended number of seminars, workshops and conferences as resource Person and also chaired various sessions.

He has worked on anti-diabetic herbal plants from preclinical to clinical studies and identified biomarkers not only for quality assessment but also as leads for specific targets involved in the prevention of cardiovascular complications associated with diabetes. Recently, he has developed an *Ayurveda* formulation for the treatment of COVID-19 for its treatment and post COVID-19 complications.

He also served as the Expert member of the Indian Medicinal Plants Review group of Indian Council of

Medical Research, New Delhi. Currently he is the member of the Scientific Advisory Group in herbal division of ICMR, Scientific Advisory Committee of Indian Pharmacopoeia Commission, Faridabad and Phytopharmaceutical Group of Central Drugs Standards Control Organization (CDSCO) New Delhi, National Board of Accreditation (NBA) and Peer Member & Chairman in NAAC committees. He is the Chairman of the Scientific Advisory Group of the National Drug Testing Laboratory of Sports Authority of India. He has also served as the Chairman of the many committees including endosulfan Committee of Govt. of Gujarat and Oxytocin Committee of the CDSCO. He was the Chairman of the Central Region of All India Council for Technical Education (AICTE) and also the Executive Member of the AICTE.



Delhi Pharmaceutical Sciences and Research University



Past-President – Dr. Chandrasekharan Kartha



Dr. Chandrasekharan Kartha

Dr. Chandrasekharan Cheranellore Kartha is an Honorary Professor at Amrita School of Medicine, Cochin, India. He was previously Honorary Distinguished Professor of

Disease Biology and Molecular Medicine at Rajiv Gandhi Center for Biotechnology, an autonomous institute in the Department of Biotechnology, Government of India. He was earlier Senior Professor and founder Head of the Division of Cellular and Molecular Cardiology at Sree Chitra Tirunal Institute for Medical Sciences and Technology, an Institute of National Importance under Department of Science and Technology, Government of India. He also served as the Dean of academic affairs of the Institute (2000-2003).

Dr. Kartha has an outstanding record as a cardiovascular pathologist and as an established investigator in cardiovascular sciences. His contributions to the understanding of molecular basis of diseases have received acclaim among physicians and scientists alike over the years. A notable feature of his research is the distinct emphasis on questions directly related to mechanisms of human cardiovascular diseases. He has employed tools of

cell biology, biochemistry, physiology, pharmacology, molecular biology, experimental cardiology and epidemiology for his pursuits. He has thus been able to provide a link between basic sciences and clinical cardiology to the young investigators he has trained. Dr. Kartha, is committed to promote the scientific basis for the practice of cardiovascular medicine as well as young investigators in India.

Kartha is an elected Fellow of Royal College of Physicians, London, IACS (Canada), National Academy of Medical Sciences (India), Indian Academy of Sciences, National Academy of Sciences (India) and of the Indian College of Pathology.

He has served in the Council of IACS, editorial boards of several peer reviewed international journals and on several national and institutional committees.

He was the recipient of the Makoto Nagano Award, Ramesh K Goyal Oration Award and Distinguished

Leadership Award from the IACS. Dr. C.C. Kartha was honoured by the IACS with Lifetime Achievement Award at a special ceremony held in New Delhi during February 21-23, 2020. He is also a recipient of Manjeet Singh Oration Award from Indian Section of ISHR.

Kartha has published more than 136 articles in peer-reviewed journals, authored a book, edited 5 books and focussed editions of 2 journals, authored 17 reviews and contributed chapters in 20 books. He has also authored several popular science articles for vernacular magazines and a chapter on Medical Technology for an illustrated Encyclopedia on Technology published by Kerala State Institute of Children's Literature. Professor Kartha is married to Dr. Mira Mohanty, a pathologist who retired as Senior Scientist and Associate Head of Biomedical Technology Wing of Sree Chitra Tirunal Institute of Medical Sciences and Technology.

Vice President – Dr. Tejal Gandhi



Dr. Tejal Gandhi

Dr. Tejal R. Gandhi (M.Pharm, Ph.D) is currently Professor and Principal, of Anand Pharmacy College, Anand, Gujarat, India.

Dr. Gandhi is an academician with over 29 years of extensive experience and expertise in the areas of

pharmaceutical research. Her present areas of research include cardiovascular and metabolic disorders as well as nephrolithiasis. She has worked on more than 35 industry and 15 consultancy projects.

To date, Dr. Gandhi has mentored 126 Post Graduate students and 10 Doctoral Fellows. She has published 166 research papers with H index of 26 and i10 index of 56. She holds ten patents and she has received 33 research awards. She is Fellow of the International Academy of Cardiovascular Sciences (FIACS).

She has delivered various lectures in India as well as in the USA, Canada, Denmark, Germany, Sri Lanka. She is Reviewer of various national and international reputed journals. Dr. Gandhi is felicitated by the Pedagogical Innovation Award in 2013. She has been nominated as Best Pharmacy Teacher of India in 2013 by the Indian Pharmaceutical Congress Trust, and as Best Teacher 2020 by GTU and AICTE. She was the recipient of the Distinguished Leadership Award by IACS, in 2016.

Vice President – Dr. Sivadasanpillai Harikrishnan



Dr. Sivadasanpillai Harikrishnan

Dr. S Harikrishnan is currently Professor at the Sree Chitra Tirunal Institute for Medical Sciences and Technology (SCTIMST), Trivandrum, Kerala. He graduated from the Medical College, Trivandrum, and completed post-doctoral DM training in cardiology from SCTIMST in 1998. Subsequently, he received a Commonwealth Fellowship in Interventional Cardiology and additional training at Leeds University, UK, as well as in public health at Emory University, USA through the PH -LEADER program.

Dr Harikrishnan is primarily an interventional cardiologist but his main research interest is in heart failure. After

establishing the first heart failure cohort in India, – the Trivandrum HF cohort, which completed 7 years of follow-up, he is now leading the National HF registry, which is the largest in India and has enrolled 10800 patients. He has also lead the largest pulmonary hypertension registry from the developing world, - the PROKERALA registry.

In 2019, Dr Harikrishnan was awarded one of the ten National Centers of Excellence in Clinical Research (CARE), established nationwide by Indian Council of Medical Research (ICMR), which includes the first HF Biobank in India. He has over 100 peer-reviewed publications in International Journals with more than 30,000 citations and an index of 39.

He has edited three books, one a unique monograph on Balloon Mitral Valvotomy, one entitled – A RACE AGAINST TIME – describing the epidemic of cardiovascular diseases in developing economies and a Manual of Heart Failure Management. He is also the founder editor of the International peer-reviewed journal - Pulmonary Circulation.

He is the fellow of the National Academy of Medical Sciences, American College of Cardiology, IACS and Royal college of Physicians, London.

Vice President – Dr. Truptirekha Swain



Dr. Truptirekha Swain

Dr. Truptirekha Swain is presently Professor and Head of Department of Pharmacology, SCB Medical College & Hospital, Odisha, India. She has received World Health Organization Fellowship from the Ministry of Public Health, Nonthemhuri, Thailand in 2009 for the work on information education and communication for health. She has represented India as a consultant of an informal UNICEF working group on extemporaneous formulations of medicines for children in Copenhagen in 2010.

Dr. Swain has edited a book entitled “Rationale Use of Medicines”, a WHO funded project that is written in Oriya language (“Roga byadhi o Chikistha”). Dr. Swain has received a number of awards and honour including the Best Paper Prize in free paper session at the XXVIIth

Annual Conference of Indian Pharmacological Society" held at Bombay in 1994, Prof. M.C. Mishra Memorial

Award for the best original article published in the Orissa Medical Journal in 1995, International Award: Servier Young Investigator's Award from the Institute de Recherches Internationales Servier, France, at the International Congress on Frontiers in Pharmacology & Therapeutics in 21st century in 1999 and the WHO scholarship holder for attending International Training course on Rational use of Drugs held at Jaipur, 2004.

She is presently member of the Indian Pharmacological Society, Society of Pharmacovigilance of India (SOPI), Indian Medical Association and ISRPTCON. Dr. Swain is also a member of IUPHAR subcommittee for developing countries, executive committee member of "CDMU Orissa", a NGO working in the field of "Rational Use of Medicines". She is also serving on the editorial board of the Indian Journal of Pharmacology. To date, Dr. Swain has published 52 research papers and 2 book chapter.

Vice President – Dr. Praveen Varma



Dr. Praveen Varma

Dr Praveen Varma is currently Professor and Head of the Department of Cardio-vascular and Thoracic Surgery in Amrita Institute of Medical Sciences and Research Centre, Kochi. His specific areas of interest are beating heart CABG, Ischemic Mitral Regurgitation correction, Mitral valve and Tricuspid valve repair, extended septal myectomy for Hypertrophic Cardiomyopathy, surgery for infective endocarditis and heart transplantation. He has been actively involved in resident education.

He completed his MBBS in 1992 and MS General Surgery in 1996 from Govt. Medical College, Calicut, Kerala. He completed MCh from Sree Chitra Tirunal Institute of Medical Sciences and Technology (SCTIMST), Thiruvananthapuram, Kerala in 2000. Then, he joined Govt. Medical College, Thiruvananthapuram as Lecturer in Cardiac Surgery. He worked as Assistant Professor in SCTIMST, Thiruvananthapuram till 2005.

Then he joined as Resident in Cardio Thoracic Surgery at Boston Medical Center (BMC), Boston University and he also served as Chief Resident till 2008. At BMC, he gained more experience in CABGs, Mitral Valve Repair and surgeries for Aortic Root.

He worked as senior Clinical fellow in Brigham and Women's Hospital, Harvard Medical School for 2 years. At Brigham, he gained experience in Minimally Invasive Mitral Valve Repair and AVR, complex re-operation surgeries, heart failure surgeries including transplantation and ventricular assist device placement.

He was appointed as Additional Professor in SCTIMST, Thiruvananthapuram by the senior staff selection committee in 2010.

He is also a reviewer for numerous journals such as the International Journal of Cardiology, Annals of Thoracic Surgery, European Journal of Cardio thoracic Surgery, Annals of Cardiac Anaesthesia, Indian Journal of Cardiothoracic and vascular surgery, Nature Scientific reports, Journal of Cardiac Surgery, Asian Cardiovascular and Thoracic Annals and Interactive Cardiovascular and Thoracic Surgery. And also the editorial board member of Annals of Cardiac Anesthesia. He has lifetime membership in Indian Medical Association, CTS Net, Society for heart failure and Transplantation and Indian Association of Cardiovascular-Thoracic Surgeons (IACTS).

He is involved in various research projects and Principal Investigator for ongoing studies such as Long term evaluation of TTK Chitra™ heart valve prosthesis-a retrospective prospective cohort study (ICMR funded), Preserve Prospective REgistry to Study Clinical OutcomEs of Repair of Mitral ValvEs in South Asia, Post-Market Registry, Medtronic Pvt. Ltd., Mumbai, Maharashtra, India and Phase 3 clinical trial of Dafodil™ – 1 (2018-)-Meril Life Sciences Pvt. Ltd, Gujarat, India.

He is co-guide for various PhD projects like Transforming Nanofibers into Woven Nanotextiles for Vascular Application, Bioadhesive, Hemostatic and Antibacterial in situ Chitin-Fibrin Nanocomposite gel for Controlling Bleeding & Preventing Infections at Mediastinum,

Injectable Nano Whitlockite Incorporated Chitosan Hydrogel for Effective Hemostasis, and Detection of

Dysregulated Host Response By Flow Cytometry May Pre-empt Early Diagnosis of Sepsis after Cardiac Surgery. He has two patents for his projects.

He has co-authored more than 100 publications in International and National Journals.

Secretary General – Dr. Mukesh Nandave



Dr. Mukesh Nandave

Dr. Mukesh Nandave earned his Ph. D. in Pharmacology from the All India Institute of Medical Sciences (AIIMS), New Delhi and received his Post-Doctoral training from the Division of Cardiothoracic Surgery, the Ohio State University Medical Center, Columbus, USA. Before that Dr. Nandave worked as Research Scientist in Ranbaxy Laboratories Limited, Gurgaon.

Dr. Nandave has been investigating the role of use of nutraceuticals, herbomineral formulations, plant extracts & constituents for myocardial ischemia & reperfusion injury, diabetes, obesity and pain management. Other areas his

research interests include the effects of Sirtuin1 (Sirt1) activation in ageing-related cardiovascular diseases, system Xc- antiporter inhibition in epileptogenesis, and targeting AMPK, SIRT1, and cholesterol pathways for prevention of metabolic abnormalities-associated cancer.

He has published more than 60 papers in peer-reviewed national and international journals, reviews and book chapters. His overall citations are now at 806 with an H-index of 17. His lab received research funding from Govt. India grants including DST, DBT, ICMR and industry including Dabur, Charak, Madhavbaug, Sandu etc.

Dr. Nandave has received numerous awards including the Indus Foundation's Award for Research Excellence; G. Achari Gold Medal by Indian Pharmacological Society; Early Investigator Award by International Society for Heart Research, Prof. Duggirala Visweswaram & Prof. Sreemantula Satyanarayana Prize; Best Research Output of the Year for 2014-2015, 2013-2014, and 2012-2013 Award" of SVKM's NMIMS University.

Dr. Nandave is a life member of various professional bodies including ISHR, IACS; Indian Pharmacological Society; Indian Pharmaceutical Association; Association of Physiologist and Pharmacologist of India; Association of Pharmaceutical Teachers of India and Society for Ethnopharmacology.

Indian Section of



Joint Secretary – Dr. Abdul Jaleel



Dr. Abdul Jaleel

Dr. Abdul Jaleel, was recruited to the Rajiv Gandhi Centre for Biotechnology, Thiruvananthapuram in 2011 as a Senior Consultant, to establish the Mass Spectrometry & Proteomic Core Facility. He is also Scientist F in the Cardiovascular Disease & Diabetes Biology Division. His research interest is in the study of metabolic adaptations or changes responsible for the onset of type 2 diabetes. Dr. Jaleel has over 20 years of experience in mass spectrometry based omics, and developed these skills in at the Mayo Clinic, Rochester, MN, USA. He joined Mayo Clinic as a research fellow in the Department of Endocrinology and later became their faculty before he left USA in 2010. Dr. Jaleel obtained his Ph.D. in the Department of Endocrinology at All India Institute of Medical Sciences, New Delhi. Dr. Jaleel has 48 international publications to his credit and has presented his research at several international meetings.

Council Member – Dr. Ramu Adela



Dr. Ramu Adela

Dr. Adela is an Assistant Professor in the Dept. of Pharmacy Practice at the National Institute of Pharmaceutical Sciences in Guwahati, India. He obtained his Ph.D. from Jawaharlal Nehru Technological University-Hyderabad, India. He completed his

postdoctoral training at the All India Institute of Medical Sciences (AIIMS- New Delhi) on National Postdoctoral Program-DST SERB. His research interest is on biomarkers to predict the progression of cardiovascular complication among diabetes by doing basic, pre-clinical and clinical research. His long-term goal is to identify a biomarker to for early detection, staging and monitoring the progression of cardiovascular diseases in type 2 diabetes patients and to identify a suitable treatment strategy to manage the disease complexity. He has published articles in reputed Journals such as PLoS One, Journal of Inflammation Research, Journal of Diabetic Research, Journal of Translational Medicine and Frontiers in Immunology. He has received Torrent Young investigator Award from the ISHR- Indian Section. He is nominated as Associate Fellow of Andhra Pradesh Academy of Sciences.

Council Member – Dr. Kalyani Barve



Dr. Kalyani Barve

Dr. Kalyani Barve completed her Masters in Pharmacology from M.S. University, Baroda in 2002 and PhD from Institute of Chemical Technology, Mumbai University, India in the year 2008. She is currently an Associate Professor at Pharmacology at SPP SPTM, SVKMs NMIMS Mumbai. She has 13 years of teaching experience. Her research experience is reflected in her 39 research

publications and review papers, 2 books, 7 book chapters published in various national and international journals. She has participated in various national and international conferences and has 18 oral and poster presentations to her name. She has been one of the inventors for a patent entitled “Safed musli compositions and process for preparations thereof” during her PhD work. She has guided more than 20 M. Pharm students and has executed research projects in areas of inflammation, neuropharmacology, cardiovascular pharmacology, diabetes & diabetic complications, toxicology pharmacokinetics and bioavailability and bioequivalence studies. She has expertise in preclinical evaluation of therapeutic agents using various animal models such as those of diabetes and diabetic complication, hemostasis, hypertension, myocardial infarction, atherosclerosis, hyperlipidemia, cardiotoxicity, depression, anxiety, epilepsy, rheumatoid arthritis and osteoporosis. She also has experience in isolation of phytoconstituents and pharmacological evaluation of phytomedicines/phytoconstituent.

Council Member – Dr. Kavita Gulati



Dr. Kavita Gulati

Dr. Kavita Gulati is Director-Professor of Pharmacology at Vallabhbhai Patel Chest Institute, University of Delhi, India. She completed her masters degree in Pharmacology from the AIIMS and subsequently Ph.D from the University of Delhi. Dr Gulati has 29 years of teaching and research experience in clinical & experimental pharmacology and toxicology in different capacities in

India and abroad. She is recipient of several national awards including the Achari Prize, Uvnas Prize and the prestigious Prof. B.N. Ghosh Oration of the Indian Pharmacological Society. Her research interests are in Cardio-Respiratory Pharmacology and Toxicology, Traditional Medicine and Stress Research. Her current area of specialization is in integration of traditional and modern medicinal concepts for rationalization of drug therapy in respiratory disorders. In recognition of her contributions to Medical Sciences she is elected as Fellow of NAMS(India) and the IACS. She is life member of several professional bodies/societies relating to pharmacology and allied sciences. She is the Principal Investigator of several extramurally funded research projects (viz. DST, DBT, AYUSH, CSIR, ICMR, etc.). She has the distinction of being invited to present talks at prestigious international meetings like IUPHAR, IACS, CMB Congress, World Stress Congress, and CPT Congress, International Immunology Forum. She has been visiting scientist to several reputed international institutions including Semmelweis Medical University (Budapest, Hungary),

University of Pittsburgh Medical Center (USA), Army Medical Institute (Xian, China), University of Minnesota at Minneapolis (USA), University of Illinois at Chicago (USA), University of Manitoba (Canada), West Cape University (South Africa), University of Croatia and expert member at different Institutions and Government

organizations in her field. She has published extensively in leading national and international journals (more than 200 publications), is co-author of several chapters in reference and textbooks of pharmacology, and co-editor of four books in pharmacology.

Council Member – Dr. Abhinav Kanwal



Dr. Abhinav Kanwal

Dr Abhinav Kanwal is an Assistant Professor in Department of Pharmacology, All India Institute of Medical Sciences, Bathinda, India. He has completed his bachelor's degree in pharmaceutical sciences from University Institute of Pharmaceutical Sciences, UIPS, Panjab University, Chandigarh and MS (Pharm) from National Institute of Pharmaceutical Education and Research (NIPER), Hyderabad. His PhD work in

Translational Health Sciences and Technology Institute (THSTI), Faridabad was on cardiovascular pharmacology, where he was working on pre-conditioning and post-conditioning *ex-vivo* heart models with various pharmacological interventions. Dr Kanwal also worked on developing the rapid drug screening methods during his PhD which was well highlighted. He extended his studies and worked as post- doctoral scholar at University of Chicago Medicine, Chicago, USA where his work was majorly focused on exploring the epigenetic mechanisms related to heart failure.

Dr Kanwal has published 26 research papers, 2 Book chapters in international journals and having a H-Index of 14. He has attended and presented papers at various national and international levels of conferences. He is also a reviewer of many international Journals. The main focus of his research is to understand the molecular mechanisms of cardiac dysfunction and development of heart failure.

Council Member – Dr. Jagavelu Kumaravelu



Dr. Jagavelu Kumaravelu

Dr. Jagavelu Kumaravelu is presently Principal Scientist and Core Faculty in the Pharmacology Division, Council of Scientific and Industrial Research (CSIR)- Central Drug Research Institute in Lucknow, India. He received his Ph.D. in molecular medicine from

Hannover Medical School, Germany and

went on to complete postdoctoral training also at Hannover Medical School, Germany in the Gastroenterology Division as well as at the Mayo Clinic, Rochester, USA. Dr. Kumaravelu has received the Ramalingaswami Fellowship. His laboratory has been engaged in determining the molecular mechanisms of cardiac diseases as well as the role of vessel growth in several pathophysiological conditions and endothelial microparticle mediated signal transduction. His research objectives include to discover novel angiogenic and lymphangiogenic modulators/mechanisms for cardiovascular health. His research has led to several full-length publications in peer-reviewed journals.

Council Member – Dr. Nitish R. Mahapatra



Dr. Nitish R. Mahapatra

Dr. Nitish R. Mahapatra is a Professor in the Department of Biotechnology, IIT Madras.

The broad area of his research is cardiovascular /metabolic disease pathogenesis. Studies from his laboratory have identified several human genetic variants that significantly

enhance the risk for cardiovascular and metabolic diseases. These studies also revealed molecular mechanisms (at the transcriptional, post-transcriptional and post-translational levels) underlying the increased disease risk in the carriers of the identified genetic variations.

He has published >60 research articles in reputed international journals including Journal of Clinical Investigation, Hypertension, Human Molecular Genetics, Journal of Biological Chemistry, Journal of Cell Science and Cardiovascular Research.

He has received a number of awards/honours for his scientific contributions including the Fulbright-Nehru Academic and Professional Excellence Fellowship; Torrent Research Award from the International Society for Heart Research; C. R. Krishna Murti Award from the Society of Biological Chemists (India); JSPS (Japan Society for the Promotion of Science) Invitational Fellowship; Elected as a Fellow of the National Academy of Sciences, India and Elected as a Fellow of the American Heart Association

Council Member – Dr. Anupam Mittal



Dr. Anupam Mittal

Dr. Mittal obtained his PhD under the co-supervision of Prof. Madhu Khullar and Prof. Ajay Bahl at PGIMER, Chandigarh in cardiology. He continued with Postdoctoral training with Prof. Shyamal Goswami laboratory, JNU in the area of redox biology in cardiac diseases. He trained further in Dr. Dhandapany Perundurairi lab at inStem, Bengaluru and OHSU, Portland, USA in iPSCs and transgenic animals as model for cardiac diseases

His major interests are in cardiomyopathies, cardiorenal syndrome, congenital heart diseases and cardiac myxoma. His lab is focused on exploring the pathogenesis of these diseases and elucidating small RNAs, circular RNAs as biomarkers. He also utilizes pluripotent stem cells for disease modelling, drug repurposing and cardiac toxicity.

Council Member – Dr. Ipseeta Ray Mohanty



Dr. Ipseeta Ray Mohanty

Dr. Ipseeta Ray Mohanty is Professor in the Department of Pharmacology, MGM Medical College, Navi Mumbai,

India. She completed her PhD from the AIIMS, New Delhi, India and has been awarded the FAIMER fellowship in medical education from Philadelphia, USA. Besides being a PG and PhD Guide, she is actively pursuing research in the areas of cardiovascular Pharmacology, diabetes and Medicinal Plants. Dr Ipseeta has successfully completed research projects funded by DST and ICMR, Government of India. She has a number of International, National publications, patents to her credit and also authored chapters in books. She is the proud recipient of Surya Kumari Award, Young Servier's Award and Young Scientist Award in International conferences. Dr Ipseeta Ray is the chairperson of Board of studies (Para-clinical), MGMIHS, Navi Mumbai and Chairperson, Scientific Committee, MGM Dental College, Navi Mumbai. She is the Convener, Institutional Ethics Committees, AETCOM and Member Secretary of Institutional Animal Ethics Committees, MGM Medical College, Navi Mumbai.

Council Member – Dr. Jeemon Panniyammakal



Dr. Jeemon Panniyammakal

Dr. Jeemon Panniyammakal, is Associate Professor of Epidemiology, Sree Chitra Tirunal Institute for Medical Sciences and Technology (SCTIMST), Trivandrum, India and is also a DBT-Wellcome Trust India Alliance, Senior Clinical Fellow. Dr. Jeemon obtained his Ph.D. in medical

cardiology from the Institute of Cardiovascular and Medical Sciences, University of Glasgow, UK with a Wellcome Trust Fellowship. Subsequently, he received career development Fellowship from the Wellcome Trust and Intermediate Fellowship from Wellcome-DBT India Alliance. He has trained in multiple international Universities including the London School of Economics and Political Sciences (UK), and Emory University (USA).

Dr. Jeemon has almost two decades of research experience at the national level in India and has developed a focus on cardiovascular disease epidemiology. He was involved in several landmark epidemiological studies (e.g., The Sentinel surveillance study in Indian Industrial population, Heart Failure Registry), clinical trials (e.g., The ADVANCE study), complex public health intervention studies (e.g., Worksite programme for CVD risk reduction) and quality improvement initiatives (e.g., quality improvement initiatives in acute coronary syndrome management).

Dr. Jeemon has published extensively in leading medical/epidemiology journals with over 130 publications

(H-index: 71). with more than 63,000 citations. Currently, Dr. Jeemon holds major research grants from the Wellcome Trust-DBT India Alliance, NHLBI (USA), NHMRC (Australia), Medical Research Council (UK), World Diabetes Federation, and Indian Council of Medical Research. As part of his research, he has been collaborating

His current focus is on heart failure and multi-morbidity, and is presently involved in major implementation and scale-up research in hypertension and diabetes control in India, primary care research in management of multimorbidity, and collaborative care models in management of heart failure in Indian settings. He is also

affiliated with leading public health research institutions in the UK (e.g., University of Glasgow, University of Birmingham), USA (Emory University, Harvard University, Stanford University), Australia (University of Melbourne) and India (PHFI, and MDRF).

Dr. Jeemon is involved in several heart failure registries in India including the National Heart Failure Registry of India, the Kerala Heart Failure Registry and the Trivandrum Heart Failure registry.

In 2021, Dr. Jeemon was the recipient of the prestigious Shanti Swarup Bhatnagar Award in Medical Sciences.

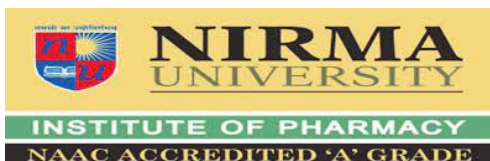
Council Member – Dr. Bhoomika M. Patel



Dr. Bhoomika M. Patel

Dr. Bhoomika M. Patel is working as an Assistant Professor in Department of Pharmacology at the Institute of Pharmacy Nirma University, India. She has a distinction of being the first rank holder (Gold medalist) for 6 consecutive years of B. Pharm. and M. Pharm. at Gujarat University. She obtained the highest marks in Final Year

B. Pharm. among all universities of India for which she was awarded the Prof. M. L. Khorana Medal from the Indian Pharmaceutical Association (IPA). In addition, she was the national winner in the elocution competition, Achari Prize and N. S. Dhalla awardee for best research paper by young pharmacologist at national conference. Dr. Patel has received more than 34 awards. She has attended and presented papers at various national and international level conferences including the one at Japan, Gothenberg, Sweden and Singapore for which she has received travel grants from the AICTE, DST, CSIR, Nirma University. She has received grants for 11 research projects as investigator/co-investigator. She has published 72 full length papers in national and international journals with more than 2400 citations. Additionally, she has authored 6 books and 10 book chapters. She is on the editorial board of many journals including the prestigious journal of Nature, "Scientific Reports. Her areas of interest are metabolic abnormalities in cancer, cachexia and cardiovascular diseases.



Council Member – Dr. Dhandapany Perundurair



Dr. Dhandapany Perundurair

Dr. Dhandapany Perundurair is a Scientist E and Assistant Investigator, heading the cardio genomics, stem cells, and precision medicine lab (<https://instem.res.in/dhan/>) at Institute of Stem Cell and Regenerative Medicine (inStem), an autonomous Indian Government Institute under the Department of Biotechnology in Bangalore. Dr. Perundurair's lab is the only lab in India using a multi-model

functional genomics approach to identify new genes, mechanisms, and therapeutic targets for cardiomyopathies and heart failure. His lab has identified various cardiomyopathy-related genes in South Asians and established different models, including patient-specific-induced pluripotent stem cells (iPSCs) and genetically engineered mouse models, to study the mechanisms and potential drug targets for these conditions.

Dr. Perundurair has published landmark papers in high-impact journals, including Nature Genetics, Science Advances, and PNAS in the cardiomyopathy and heart failure research. Dr. Perundurair has been recognized by several competitive awards, including the DBT-Wellcome Trust Intermediate Fellowship, Ramanujan Fellowship, Biotechnology Industry Research Assistance Council award, the American Heart Association -Scientist Development Grant, and Torrent Pharmaceuticals Young Investigator Award, for his work in cardiomyopathies. He has also trained several students and postdocs who are now in various parts of globe including Europe, USA, Australia and Japan. He serves as a reviewer for many journals and in several government, committees including DBT-Newton Bhabha fellowships.

Council Member – Dr. Harlokesk Narayan Yadav



Dr. Harlokesk Narayan Yadav

Dr. Harlokesk Narayan Yadav is an Assistant Professor in Department of Pharmacology, AIIMS, New Delhi. His area of interest is cardiovascular pharmacology. Dr. Yadav has

more than 14 years of academic and research experience and has supervised more than 45 M.Sc/M.Pharm/MD/PhD students. He has published more than 45 research papers in different national and international journals. He is the member of National Academy of Medical Sciences India (NAMS) and National Academy of Sciences India (NASI) and served as a Secretary International of Indian Pharmacological Society (IPS). Currently, he is serving as President for the Society of Pharmaceutical Education & Research (SPER) Delhi branch. As a principal investigator, he is involved in different research projects funded by different agencies i.e. AIIMS, ICMR, DBT and DST. Dr. Yadav has received many awards. In 2021, he was the recipient of the Pharmacy Ratna Award UP, the Dr. Manjeet Singh Award, N.N. Datta Prize, and in best Research Paper Award (2018) in Pharmacology from Indian Journal of Pharmaceutical Education and Research and Distinguished Scientist Award from the Society for Bioinformatics and Biological Science, Allahabad in 2019.

Heart Failure Conflux 2022

Linda Koshy, PhD

The ICMR Centre of Excellence in Heart Failure
Sree Chitra Tirunal Institute for Medical Sciences and Technology
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The ICMR Centre of Excellence in Heart Failure at the Sree Chitra Tirunal Institute for Medical Sciences and Technology (SCTIMST), along with the Heart Failure Association of India (HFAI), and the Indian Section of the International Academy of Cardiovascular Sciences (IACS), organized the Heart Failure Conflux 2022 similar to a program conducted last year. The conference was held on a virtual platform on February 4th and 5th of 2022. There were 209 participants from all over India and from six countries that included Germany, Spain, UK, USA, Australia and Kenya. The conference brought together delegates from diverse disciplines such as Cardiology, Public Health, Biomedical Devices, Genomics and Basic Sciences. The theme of the meeting was *Prospects and Promises of Heart Failure Therapeutics*.

Professor. CC. Kartha, President of Indian Section of IACS was the chair of the Organizing Committee, and Prof. Harikrishnan S, President of Heart Failure Association of India (HFAI), was the organizing secretary of the meeting. The scientific program covered five sessions with 14 lectures that dwelled on areas related to Targets in Heart Failure Therapy, Novel therapies for Heart Failure, Genetics and Heart Failure and Challenges in Heart Failure Treatment. The conference was initiated with an invited abstract and an e-poster session, where the HFAI sponsored a cash prize for the first and second prize winners.

The conference was inaugurated by Prof. V.K. Ajit Kumar, Director of SCTIMST. Speaking during the inaugural address, he explained that the heart failure syndrome is prominent with a prevalence of 2% in middle age, up to 10% beyond 75 years and affects 64 million people worldwide and up to 1-2 million in India, which is perhaps underestimated. He stressed that one-year mortality is about 20% and ranging anywhere between 40 – 60% in 5-years. He said that recognizing the heart failure syndrome through imaging and biomarkers, studying its pathogenesis and finding new therapeutic avenues will hopefully reduce the morbidity and mortality in patients with heart failure.

Professor. Andrew Coats, President of the Heart Failure Association of the European Society of Cardiology (ESC) and Professor of Cardiology, Monash University, Australia and Warwick University, UK, delivered the keynote address. He gave an elegant lecture on *Heart failure management in the last five decades - understanding of the disease pathways*. He talked about the evolution of the four drug classes from 1972 to 2022, now considered as the four pillars of treatment of heart failure with reduced ejection fraction, which he explained were developed based on several positive outcome trials.

Speakers from major institutes within India such as the Indian Institute of Science (IISc), Bangalore, InStem, Bangalore, Institute of Genomics and Integrative Biology (CSIR-IGIB), New Delhi, Central Drug Research Institute (CSIR-CDRI), Lucknow, Amrita Institute of Medical Sciences, Kochi, Rajiv Gandhi Centre for Biotechnology (RGCB), Trivandrum, delivered talks. There were seven faculty speakers from abroad. Dr. Anjali Tiku Owens, Director of Centre for Inherited Cardiovascular Disease Section of Heart Failure and Transplantation at the University of Pennsylvania, Perelman School of Medicine, USA, talked about the *Genetics of Inherited Cardiomyopathies*. She highlighted that there was much variability in the penetrance of the hypertrophic cardiomyopathies (HCM) even among carriers of pathogenic or likely pathogenic variants implying the role of genetic or environmental modifiers in the development of the disease. Dr. S. Sakthivel, University of Cincinnati, talked about *Genetic analysis in HF - Techniques and how to order*. He stressed on the importance of cascade screening of families for early detection when a proband tested positive for a pathogenic variant.

Dr. Vikas Kumar, NIH-National Institute on Ageing, Bethesda, talked about *Immunomodulatory therapy for HF*. He described through a series of experiments the role of adenylate cyclase in the inflammation of the heart and suggested inflammatory pathway as a promising target for immunomodulatory therapy. Dr. Thomas Netticadan, Adjunct Professor Heart Failure Research Laboratory, Canadian Centre for Agri-food Research in Health and Medicine, University of

Manitoba, USA, talked about the *Potential of resveratrol in the management of heart failure*. He demonstrated the cardioprotective role of resveratrol, a bioactive compound isolated from fruits like grapes in limiting the development of abnormalities in heart structure and function in animal models for hypertension and myocardial infarction, and suggested its use as a front-line heart failure medication. Dr. Ashraf Yusuf Rangrez, Heidelberg University Hospital, Germany, spoke about *Cardio-Gut Axis in Heart Failure*. He explained how microbes and their metabolites could induce gut dysbiosis implying how modifying the diet could influence heart failure progression and severity.

Prof. Dr. Sanjiv Dhingra from University of Manitoba, spoke on the *Strategies to enhance survival of transplanted stem cells in failing hearts*. He addressed challenges in stem cell therapy and how to enhance the survival of autologous mesenchymal stem cells transplanted in the heart. He suggested solutions based on immunomodulatory molecules and biomaterials such as 3-D hydrogels and MXene quantum dots for cardiac repair and regenerative medicine. Dr. Jorge Alegre-Cebollada, of National Institute for Cardiovascular Research, Spain, spoke on *Molecular pathomechanisms induced by MYBPC3 gene mutations that cause hypertrophic cardiomyopathy*. He provided evidence on how non-

truncating variants of uncertain significance can affect RNA-splicing and protein destabilization, which contribute to the clinical expression of hypertrophic cardiomyopathy.

The HCM Advanced Research Consortium - (HART) Meeting was also convened as a separate brainstorming session in the HF Conflux, to discuss measures to enhance research in the management of HCM in India. Dr. Ajay Bahl, Dr. Hisham Ahmed, Dr. Dhandapany P, Dr. C.C. Kartha and Dr. Harikrishnan S. were the discussants. Salient points discussed were regarding the need to standardize systematic collection of clinical and imaging data, developing a pipeline to catalogue and share data similar to UK Biobank and Core Lab, accurate and detailed phenotyping, facilitating coordination among centres, identifying areas for future translational research, facilitating standardized ethical clearance for newer technologies such as cardiac regeneration using stem cells, single cell genomics and cardiac organoids, identifying mechanism based therapies and building repository for iPSC lines from HCM patients. The experts opined that creation of large data sets specific for the Indian population is essential to identify variants of small effects along with initiation of multicentric studies on mechanistic and translational aspects.

THE HEART FAILURE CONFLUX

06:00 - 06:15 PM

Welcome Address
Prof. Dr. C C Kartha

Inauguration & Inaugural Address
Prof. Dr. Ajit Kumar VK,
Director SCTIMST

Vote of Thanks
Prof. Dr. Harikrishnan S

4th & 5th February 2022

Inaugural address delivered by the Director of SCTIMST, Prof. Dr. V.K. Ajit Kumar, Welcome Address by Prof. Dr. C.C. Kartha, President of Indian Academy of Cardiovascular Sciences (IACS), and Vote of Thanks by **Prof. Dr. Harikrishnan S.**, the organizing secretary of the meeting and President of Heart Failure Association of India (HFAI).

Academy Pays Highest Tribute to Dr. Suresh Kumar Gupta for his Commitment and Service to Promote Heart Health all over India



*Dr. Suresh K. Gupta
1942 - 2021*

Suresh K. Gupta was a Distinguished Professor and Head, Department of Clinical Research at Delhi Pharmaceutical Science and Research University. He was also the former Professor and Head, Department of Pharmacology at All India Institute of Medical Sciences, New Delhi and Founder Dean & Director General Institute of Clinical Research India.

Dr. Gupta received his B.Sc and M.Sc. in Chemistry from Aligarh Muslim University in 1965. He served as Chemistry Lecturer in NREC College, Khurja. In 1967 he joined as a M.Sc. Student in Drug Assay (Pharmacology) at All India Institute of Medical Sciences (AIIMS), New Delhi, India

He completed his Ph.D. in 1974. During his Ph.D. program he worked in Kinine system in frostbite. In 1973 he was initially appointed as a lecturer in the Department of Pharmacology, and later as Assistant Professor, Additional Professor, and Full Professor and Head of Department of Pharmacology until 2004.

Professor Gupta was the founder of Ocular Pharmacology in India, National Pharmacovigilance centre in collaboration with Uppsala – WHO at AIIMS monitoring center. He has been President of Indian Pharmacological Society, President International Society of Cardiovascular Sciences, India Section, International Society of Pharmacoeconomics and Outcomes Research (ISPOR)

India, President Indian Pharmacology Society Delhi Branch and Society for Promotion of Health and Environment.

Professor Gupta was the recipient of several awards and honors for his outstanding contributions to Pharmacology, Clinical Research and Cardiovascular Sciences, including the Lifetime achievement award from IACS, Distinguish Services Award for outstanding contribution in Cardiovascular Sciences, Medicine and Surgery by IACS.

He received Commonwealth Fellowship from the British Council to work under Professor Bowman and Jim Parrot renowned Pharmacologists at the University of Strathclyde Glasgow OK (1972). He has been a recipient of G Achari Oration, NS Parmar Oration, and Human Care Awards of the Millennium in Medicine for the excellence in medical profession and care of Masses (2001). In view of his significant contributions for Pharmacovigilance in India, the “S. K. Gupta Wing for Patient” at Indian Pharmacopoeia Commission, Ministry of Health & Welfare, Ghaziabad (UP) was established.

In further recognition of his work, the IACS also established the “Suresh K. Gupta” oration, an annual award given to an outstanding Scientist each year at the India Section meetings. In addition, Delhi Pharmaceutical Sciences and Research University also established the “Suresh K. Gupta” oration and annual Gold Medal Award to the best Masters Clinical Research student. The outstanding contributions led to Professor Gupta being elected for several Fellowships including for the International Society of Eye Research, IACS, Romanian Society of Medical Sciences, and Institute of Clinical Research U.K.

He traveled extensively as visiting Professor to institutions in several countries including USA, Canada, U.K, Germany, and Sweden. He has authored 16 books, 235 research papers, 56 chapters in books and 400 abstracts. Dr Gupta’s Citation index is 20,900, h-index is 69, and i10 index of 438. His focus was on Indian Medicines and to establish the scientific basis and molecular mechanisms for their use in various diseases; this was reflected in many of his publications.

Dr. CC Kartha, President of the IACS-India Section stated that “on the passing away of Professor Suresh Kumar Gupta, the Indian Section of IACS has lost a great leader and a mentor. His contributions to the growth of the Indian section of IACS are immense, notable, historic and much revered. He was one of the principal founders of the India Section. During his term as President, he nurtured the Academy sincerely and with determination, placing the India section on a firm foundation. The annual meetings he organized attracted several leaders of cardiovascular sciences from abroad and thus provided an inspiring opportunity for the benefit of young researchers in India. Professor Gupta's contribution to Pharmacology research and education are prodigious and well recognized. He was an institution builder as well. Prof. Gupta and I have known each other for more than two decades. I would always remember him as an ever-smiling gentleman, good friend and an esteemed professional. I have profited greatly from his advice and support for the activities of our Academy. I have also enjoyed the hospitality of his family in Delhi several times. Professor Gupta would be missed, but he would never be forgotten by the Academy.”

Dr. Nirmal K. Ganguly, Former Director General – Indian Council of Medical Research described Dr. Gupta as a “constant companion when we were reviving the International society of heart research and later on Cardiovascular academy. He was very targeted purposeful as well as completed the task meticulously. We could always rely on him to publish the newsletter. In the later

period, he constantly worked towards the working of the Academy of Cardiovascular sciences. After his retirement, he joined Dipsaru and enriched the organization through his knowledge and dedication. Right from Dr. S. Aggarwal's time up to Dr. Ramesh Goyal's era he was constantly supporting the organization. He also associated with an international course on clinical research which became a very successful and sought-after course. He got associated with IPC and was again had a wing of the Institute named after him. He will be sorely missed by the Cardiovascular research family.”

Dr. Naranjan Dhalla, Distinguished Professor, University of Manitoba and Executive Director of the IACS, expressed immense sadness upon hearing that Prof. Suresh Gupta has passed away. Dr. Gupta was the prime moving force in building the IACS-India Section. He was a man of great vision, extra-ordinary commitment and unimpeachable integrity. His dedication for promoting cardiovascular activity throughout India and his views in helping young investigators were commendable. Dr. Dhalla has known Dr. Gupta for more than 3 decades and developed a high respect and great admiration for his superior human qualities. They became close family friends as he knows his loving wife, Professor Manju Gupta, always encouraged Dr. Gupta to touch excellence in both his professional and academic activities. Dr. Dhalla believes that the Indian Cardiovascular community and his friends all over the world have suffered a great loss but Prof. Suresh Gupta will be remembered for his exceptional deeds and special virtues for a long time to come.

Excerpts taken and edited from the Obituary notice. Link to full Obituary:
https://en.everybodywiki.com/Suresh_Kumar_Gupta



Dr. Suresh Gupta with his wife Dr. Manju Gupta. They have one loving daughter (Prof. Dr. Pikee Saxena) and a talented son (Mr. Pavi Gupta).

Dr. Devendra Agrawal Elected as Secretary of the IACS North American Section



Dr. Devendra Agrawal

Dr. Devendra K. Agrawal earned M.Sc. (Chemistry) in 1973 and Ph.D. (Biochemistry) in 1978 from Lucknow University, India. Following his tenure as a Clinical Biochemist at King George's Medical College, Lucknow, India, Dr. Agrawal moved to Canada and earned Ph.D. (Medical Sciences) in 1984 from McMaster University, Canada followed by a Postdoctoral Fellowship at the University of British Columbia, Vancouver, Canada. In 1985, he was recruited as an Assistant Professor at Creighton University School of Medicine, Omaha, Nebraska, USA where he rose to the rank of Full Professor in 1997. Dr. Agrawal also earned MBA in 2004 and MS (Information Technology & Management) in 2005 from Creighton University, Omaha, Nebraska. In 2009, Dr. Agrawal founded the Center for Clinical & Translational Research at Creighton University, which later developed into an independent Department. Dr. Agrawal was the Founding Chairman of this Department. In addition, Dr. Agrawal served as the Senior Associate Dean of Clinical & Translational Sciences at Creighton. In July 2019, Dr. Agrawal moved to California where he served on the position of Senior Vice President for Research and Biotechnology. Effective March 1, 2022, Dr. Agrawal is a full-time Professor & Director, Department of Translational Research, Western University of Health Sciences, Pomona, CA, USA.

Dr. Agrawal is a member of the *Alpha Omega Alpha Honor Medical Society* and is a Fellow of the American

Academy of Allergy, Asthma and Immunology, Fellow of the American Heart Association, Fellow of the American Physiological Society, and Fellow of the International Academy of Cardiovascular Sciences. Creighton University recognized and honored Dr. Agrawal with many awards, including the Robert F. Kennedy Memorial Award for Teaching Achievement (the highest teaching award at Creighton University), Distinguished Research Career Award, Distinguished Professor Award, Distinguished Faculty Service Award, University Research Award and Distinguished Mentor Award at Creighton. The Midwest Chapter of American Association of Physicians of India recognized and honored Dr. Agrawal for his contributions as a teaching professor, researcher, and mentor. The India Association of Nebraska recognized him with the Man of the Year award and Award of Excellence in appreciation of outstanding service and contribution to Nebraska Community at large. The International Academy of Cardiovascular Sciences recognized Dr. Agrawal with the *Professor Bohuslav Ostadal Award* for Excellence in Cardiovascular Sciences, *Distinguished Leadership Award*, and *Ricardo Gelpi Award for Excellence in Cardiovascular Sciences*. Dr. Agrawal has been an invited speaker to many prestigious national and international scientific meetings.

Dr. Agrawal has served on many grant review panels, including VA Merit Review, NIH-CSR, DoD, NIH-NIAID, NIH-NHLBI, MRC-UK and US-Israel BSF Grant Review Committees, Science Foundation Ireland, Austrian Science Fund, British Lung Foundation, Swiss NSF, and Asthma Research Foundation of Western Australia. Dr. Agrawal has served/is serving on editorial board of several journals, including *J. Immunology*, *American Journal of Respiratory Cell and Molecular Biology*, *Canadian Journal of Physiology and Pharmacology*. Dr. Agrawal has authored/co-authored >450 original research articles in peer-reviewed journals and book chapters. He has co-edited three books in Allergy, Asthma, and Immunology and recently one book on COVID19 and Stem Cells. His major research interests have been in the area of cellular, molecular and immunobiology of diabetes, renal diseases, pulmonary and vascular diseases, osteoarthritis and shoulder rotator cuff injuries. NIH funds his research projects. In collaboration with clinical scientists, Dr. Agrawal has developed active and productive research projects in many fields, including shoulder rotator cuff injury, maturation failure of arteriovenous fistula, carotid and coronary artery diseases,

vein-graft failure, plaque instability, gene and stem cell therapy, bariatric surgery, and esophageal diseases.

Dr. Agrawal has trained and mentored more than 150 medical students (who contributed to science as evident by high quality peer-reviewed research articles and many of them are now academic physician-scientists), undergraduate and high school students in their summer research program, 68 students to successfully complete their graduate training to earn MS, PhD, MD-MS and MD-PhD degrees under his direct advice and supervision, 60 post-doctoral fellows, 14 assistant professors, many of whom are currently working as senior faculty, senior researchers and principal scientists in pharmaceutical

industries around the country and the world. In addition, more than 120 clinical residents, clinical fellows and junior clinical research investigators have received training in his research laboratory under his direct supervision.

At Western University of Health Sciences, Dr. Agrawal is developing research projects with multidisciplinary approaches and new perspectives in the advancement of Clinical & Translational Science, bringing the expertise of various health science colleges, including osteopathic medicine, dentistry, podiatry, pharmacy, and optometry, and mentoring and training new generation of translational researchers.

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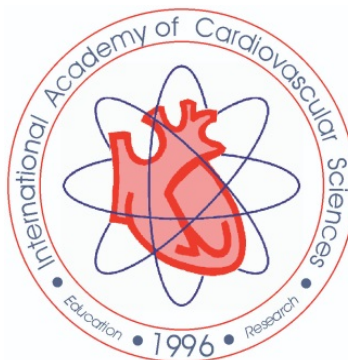
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State of Healthcare in the US- a Story of Our Time

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How does United States healthcare fare in the world?

Healthcare accounts for about 19.7% of the United States' economic gross domestic product (GDP). [1] This is amongst the highest of all countries in the world. According to World bank data for 2018, per capita healthcare spending for the US (\$10623.85) was almost twice that of the average of high-income countries (\$5665.22) and nearly ten-times the average for the world (\$1110.27). [2] The healthcare spending increased further by 9.7% in 2020 alone to reach a total of \$4.1 trillion. [3]

While the high cost of healthcare in the US is no surprise to most, what is hard to accept is that our healthcare outcomes trail behind our counterparts. The average life expectancy at birth in the US is 79 years which is the lowest amongst high-income countries. [4] Unfortunately, the life expectancy has fallen further in the last couple of years. Similarly, the US has the highest infant mortality rate (6 per 1000 live births) and maternal mortality ratio (19 per 100,000 live births) in this group. [5,6] Table 1 summarizes the health expenditure and outcome data for other high-income countries with similar healthcare spending, disease burden and demographics.

Country	Healthcare expenditure (% of GDP, for 2018)	Healthcare expenditure per capita (in USD, for 2018)	Life expectancy at birth (in years, for 2019)	Infant mortality rate (per 1000 live births, for 2019)	Maternal mortality ratio (per 100,000 live births, for 2017)
United States	16.89	10,624	79	6	19
Australia	9.28	5,326	83	3	6
Canada	10.79	4,995	82	4	10
Denmark	10.07	6,217	81	3	4
France	11.26	4,690	83	4	8
Germany	11.43	5,472	81	3	7
Japan	10.95	4,267	84	2	5
Netherlands	9.97	5,307	82	4	5
Sweden	10.90	5,982	83	2	4
Switzerland	11.88	9,871	84	4	5
United Kingdom	10.00	4,315	81	4	7

The US has a voluntary health insurance system, which is funded by a patchwork of private-payer and government institutions. Only 91% of Americans are insured, which is lower than most high-income countries. [7] About 54% of the population is covered by private insurance through employers and 35% is covered by public health insurance including Medicare, Medicaid, Children's Health Insurance Program, and Military health insurance. [8] The fee-for-service model continues to be the most common payment structure. Amongst other high-income countries listed above, the United Kingdom, Sweden, Denmark, Canada and Australia have socialized healthcare. [7]

Universal health care has for long been a subject of debate amongst policy-makers. While universal health care offers the benefits of more equitable delivery and controlling prices, longer wait times and concerns over rationing of care continue to be major concerns. Also, amongst the high-income countries described earlier, the US has the largest population to cover, which would make universal coverage a great implementational challenge.

Furthermore, healthcare utilization and outcomes are not uniform across the country. It is well known that certain racial and ethnic groups suffer worse outcomes. According

to a 2016 study, Caucasians accounted for 72% of all healthcare funding and received an estimated 15% more spending on ambulatory care than the all-population mean. [9] After adjusting for population size and age, African-Americans and Hispanics received lesser spending per capita on ambulatory care when compared to the all-population mean, an estimated 26% and 33%, respectively. However, African-Americans received an estimated 15% higher spending on inpatient care and 12% more on emergency department care, emphasizing the poor penetration of preventative services in this population. Asians, Native Hawaiians, and Pacific Islanders (non-Hispanic) also received less spending than the all-population mean in all phases of care. [9] This exemplifies immense racial disparities in healthcare spending. However, spending alone does not explain why the US has relatively poor healthcare outcome.

There is a wide variation in healthcare expenditure by geographical region. Healthcare expenditure in the Rocky Mountain and Southwest regions of the country is 15% lower than the national average. [10] In turn, healthcare outcomes also vary considerably by race, income, and state of residence. Life expectancy in West Virginia is 74.8 years whereas in California, it is 81.6 years. [11] The gap in life expectancy of the richest 1% and the poorest 1% is 14.6 years for males and 10.1 years for females. [12] Amongst racial groups, African-Americans have a lower life expectancy (75 years) and a higher infant mortality rate (10.8 per 1000 life births) when compared to the national average. [11,13]. In the South and Southcentral regions of the US, there is greater healthcare expenditure, but poorer outcome than in the country as a whole (14), suggesting an uneven relationship between healthcare expenditure and patient outcome.

Challenges and opportunities

Papanicolas et al studied the differences in health care costs and outcomes amongst high-income countries and found that the administrative costs of care (planning, regulating, and managing health systems and services), pharmaceutical costs, and salaries of healthcare workers were considerably higher in the US as compared to other countries. [7] This was despite similar numbers of individuals employed as physicians and nurses, and similar utilization in terms of average hospital discharges. It is also interesting that the US employs a disproportionately large number of administrative workers compared to providers in clinical roles. For every 1 physician, there were 10 healthcare administrators based on numbers from 2012. This figure has probably grown since. [15]

When utilization of healthcare services and products is considered, the US was found to utilize high cost diagnostic procedures like MRI and CT scans well above

the average for the 11 countries studied but was largely not an outlier. The use of therapeutic procedures like revascularization procedures, cesarean deliveries, and knee replacements was marginally higher in the US. [7] The per capita spending for pharmaceuticals was \$1,443 in the US vs a range of \$466 to \$939 in other countries, with a mean of \$749. [7] The US had a significantly higher rate of generic formulation use (84%); however, the amount of money spent on generic formulations was the same as a percent of total spending reflecting the higher amount of money spent on brand name pharmaceuticals. The cost of certain commonly used medications was significantly higher in the US as compared to other countries, some by as much as double. This is in part due to the prohibition on federal government to negotiate drug prices for all payers due to the “non-interference” clause under Medicare part D. There have been efforts to negotiate the prices of at least 50 brand-name drugs without generic competitors but it has met resistance with arguments that it would reduce access to the entire range of medications, discourage innovation, and shift the onus on setting drug prices on political entities.

It is notable that the US continues to have the highest degree of innovation in terms of new molecules, chemicals or biologics, introduced. [7] While higher cost of innovation has been used to justify the overall higher spending, only a small portion of pharmaceutical industry profits goes back into research and design. One of the more controversial expenditures within the pharmaceutical industry is the direct to consumer (DTC) marketing. The US is one of the few countries where DTC advertisement is legal. Between 1997 and 2016, spending on DTC prescription drug advertising increased from \$1.3 billion to \$6 billion, with a shift toward advertising high-cost biologics and cancer immunotherapies, which has the potential to affect prescription and healthcare spending patterns. [16] Same was true for DTC advertising of health services and laboratory testing.

Waste and fraud

While regulating healthcare costs seems intuitive to reducing healthcare expenditure, wastage of healthcare resources is the bigger overarching problem. A report from Institute of Medicine in 2010 concluded that almost a third of all healthcare dollars spent were in the category of “waste and fraud”. [17] Some attendees of the round-table workshop the report was derived from, even argued that as much as 50% of US healthcare spending could be trimmed without consequences on quality or outcomes. A “gray” literature review from 2019 studied the annual cost of healthcare waste in 6 major categories and found that funds wasted ranged from \$102.4 billion to \$165.7 billion for failure of care delivery, \$27.2 billion to \$78.2 billion for failure of care coordination, \$75.7 billion to \$101.2 billion

for overtreatment or low-value care, \$230.7 billion to \$240.5 billion for pricing failure, \$58.5 billion to \$83.9 billion for fraud and abuse, and administrative complexity cost the system \$265.6 billion. [18] Systematic measures to curb waste, for example, interventions to integrate behavioral and physical health, address hospital acquired infections, optimizing medication use, pricing interventions, legislative and administrative measures to curb misuse, were shown to cut down healthcare waste by about \$200 billion annually. [18]

A shift from a volume-based care to a more value-based care model and bundled payments for standardized care was a part of the efforts to address this wastage of resources. Under the Affordable Care Act, Centers for Medicare and Medicaid services (CMS) tried to reward physicians and organizations for adhering to guidelines and preventing avoidable adverse outcomes. Value-based care model provides incentives to accountable care organizations for meeting quality metrics and penalizes institutions that fail to deliver on pre-determined quality landmarks. Bundled payments offer a fixed amount for a patient encounter based on typical expectation of spending for a particular condition and severity. CMS aims that by 2030, every fee-for-service Medicare beneficiary and most Medicaid beneficiaries would be in an accountable care relationship. [19]

However, expansion of value-based care is fraught with challenges. It requires care-coordination between various providers and care-teams at an unprecedented scale. Expanding partnerships, improved documentation, and data sharing are cornerstones of this endeavor. High short-term financial costs to expand provider capacity and increased administrative burden are amongst crucial roadblocks, especially when we are already discussing the exponential growth in money spent on administrative proceedings. Despite criticisms and set-backs, expansion of value-based care is probably the most ambitious endeavor to reduce healthcare expenditure and shift the emphasis back to outcomes of care. Whether, it delivers to the promise remains to be seen.

On an optimistic side, leaders across healthcare, academia and technology are getting together and forming new coalition to transform healthcare journey through responsible adoption of artificial intelligence. [20]

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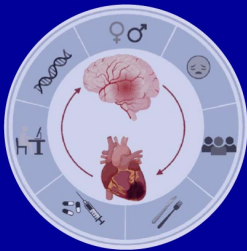
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IACS Fellows, Dr. Mehta and Dr. Chaldakov, Author Books

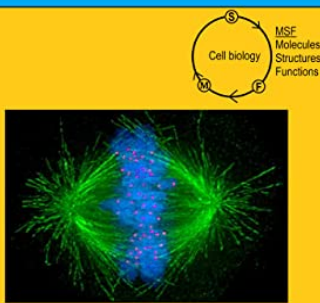
HEART DISEASE It Is All in Your Head and what to do about it



Jay Mehta, MD, PhD

Dr. Jay Mehta authors a book entitled “Heart Disease: It is All in Your Head” that describes the bidirectional link between the brain and the heart. It is a personal perspective that hopes to generate further exploration and discovery. Dr. Mehta is a Distinguished Professor in the Departments of Medicine, Physiology and Cell Biology, and Pharmacology and Toxicology at the University of Arkansas for Medical Sciences in Little Rock, AR, USA. He is recipient of numerous awards, including the Department of Veterans Affairs Senior Clinician Scientist Award. Forbes magazine named him among the top 27 cardiologists in the United States in 2017. He is also a Fellow of the IACS. This book contains his thoughts, based on his personal life experiences, travels around the world, and 45 years of clinical practice and extensive research, on what really causes heart disease. This book will take the reader into the immense powers of the brain and the immune system in regulating heart health.

PRINCIPLES OF CELL BIOLOGY



George N. Chaldakov

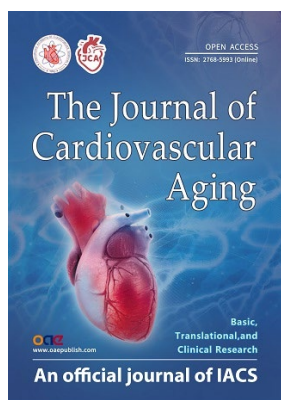
Dr. Chaldakov authors a book entitled “Principles of Cell Biology”. It is a textbook for students of medicine, dental medicine and cell biology and for all graduates and postgraduates. It may also be of particularly interest for a reader who wishes to change career to biology and its related disciplines. It is intended to cover in a stream of associations, science-based knowledge of cell biology and its translation into the pathogenesis, prevention and therapy of diseases. Dr. Chaldakov is Full Professor in the Department of Anatomy and Cell Biology Medical University, Varna, Bulgaria and is a Fellow of the IACS. He is a world renowned vascular biologist known for his contributions to the study of secretory function of vascular smooth muscle cells, and the role of neutrophins and perivascular adipose tissue on pathogenesis of atherosclerosis. He published the first Bulgarian textbook of cell biology in 1996 and in 2005 he founded the Bulgarian Society for Cell Biology. Dr. Chaldakov has served as Professor Emeritus at Medical University of Varna, Bulgaria. In 1991, Dr. Chaldakov became founder and chief editor of Biomedical Reviews, an international journal of cell biology and disease.

Official Partnering Journals of the International Academy of Cardiovascular Sciences



Editors:
Dr. Ghassan Bkaily
Dr. Pedro D'Orléans-Juste

Editorial Office:
Canadian Journal of Physiology and Pharmacology
Impact Factor: 1.946
Canadian Science Publisher
1840 Woodward Drive, Suite 1
Ottawa, ON K2C 0P7 Canada
Email: cjpp@cdnsiencepub.com



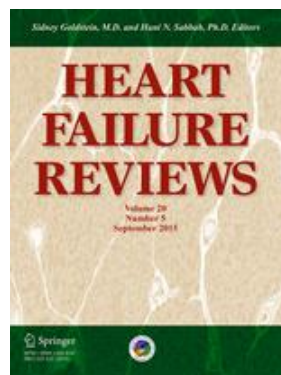
Editor:
Dr. Ali J. Marian

Editorial Office:
The Journal of Cardiovascular Aging
OAE Publishing Inc.
245 E Main Street Ste 107,
Alhambra, CA 91801, USA
Email: editorialoffice@cardiovascularaging.com;
cardiovascularaging@gmail.com



Editor:
Dr. Amitabh Prakash

Editorial Office:
American Journal of Cardiovascular Drugs
Impact Factor: 3.571
Adis, Springer Healthcare
5 The Warehouse Way, Northcote
Auckland, 0627, New Zealand
Email: amitabh.prakash@springer.com



Editors:
Dr. Sidney Goldstein
Dr. Hani N. Sabbah

Editorial Office:
Heart Failure Reviews
Impact Factor: 4.214
233 Spring Street
New York, NY 10013-1578 USA
Email: Marjorei.Paran@springer.com

IACS partnering journals:

1. *Canadian Journal of Physiology and Pharmacology*
2. *The Journal of Cardiovascular Aging*
3. *American Journal of Cardiovascular Drugs*
4. *Heart Failure Reviews*

Readers are encouraged to submit original research articles and reviews to these partnering journals.

IACS Announcements

Request for Nominations for IACS Executive Council

It is brought to your attention that Dr. Roberto Bolli's term as IACS-President will expire in September, 2022 and Dr. Pierce will assume the Presidency. At the same time, some members of IACS-Council will also be retiring; Accordingly, nominations from all over the world are requested for election of the following positions:

1. President-Elect (IACS).

2. Council Members - 3 or 4 positions

Please send nominations with one-page description of commitments to the Academy and contributions for promoting cardiovascular science all over the world to Dr. N.S. Dhalla at nsdhalla@sbrc.ca by April 30, 2022 for each positions separately.

Request for Nominations for the Council of IACS- North American Section

Since the term of Dr. Garry Lopaschuk as President of the IACS-North American Section will expire in September, 2022, Dr. Michael Czubyrt will assume the Presidency. In addition, some new Council Members will also be elected. Thus, nominations for individuals from North America are requested for the following positions:

1. President-Elect (IACS-NAS).

2. Council Members - 3 or 4 positions

Please send nominations for individuals from North America with one-page description of commitments to the Academy and contributions for promoting cardiovascular science to Dr. N.S. Dhalla at nsdhalla@sbrc.ca by April 30, 2022 for each positions separately.

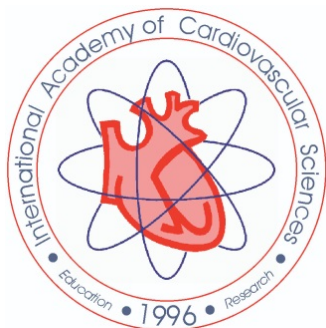
Request for Nominations for Council Members of the IACS-European Section

It is brought to your attention that the term of Dr. Andras Varro as President of IACS-European Section will expire during October, 2022. In addition, 3 or 4 Council Members will be retiring. Accordingly, nominations from Europe are requested for election to the following positions:

1. President-Elect (IACS-ES).

2. Council Members - 3 or 4 positions

Please send nominations for individuals from Europe with one-page description of commitments to the Academy and contributions for promoting cardiovascular science to Dr. N.S. Dhalla at nsdhalla@sbrc.ca by April 30, 2022 for each positions separately.



First Announcement: 8th Meeting of the IACS-European Section in Szeged, Hungary



European Section of the International Academy of Cardiovascular Sciences

President: Professor András Varró
Department of Pharmacology and Pharmacotherapy
University of Szeged

Albert Szent-Györgyi School of Medicine
12 Dóm tér, Szeged, 6720, Hungary,
Ph: +36 62 545-683 Fax: +36 62 545-680
E-mail: varro.andras@med.u-szeged.hu



8th European Section Meeting of the International Academy of Cardiovascular Sciences

September 28 – October 1, 2022
Szeged, Hungary



FIRST ANNOUNCEMENT

Contact information

Department of Pharmacology and Pharmacotherapy, Albert Szent-Györgyi School of Medicine, University of Szeged, Dóm tér 12, 6720 Szeged, Hungary

baczko.istvan@med.u-szeged.hu

bencsik.peter@med.u-szeged.hu

Dear Colleagues,

It is our pleasure to announce that in 2022, the **8th European Section Meeting of the International Academy of Cardiovascular Sciences (IACS-ES)** will be held in Szeged, Hungary, on September 28 – October 1, 2022. We are pleased to invite you to participate in this fascinating scientific meeting focusing on the following scientific topics:

- **Clinical and theoretical aspects of ventricular arrhythmias and sudden cardiac death**
- **Atrial fibrillation: clinical therapy, novel and future strategies of AF management**
- **Clinical and theoretical aspects of heart failure**
- **Cardioprotection, clinical application of cardioprotection**
- **Genetics of cardiovascular disease**
- **Cardiac metabolism**
- **Novel therapeutic approaches in cardiovascular disease**
- **Coronary angiogenesis from bench to bedside**

The meeting will feature both basic scientific and clinical sessions, including lectures of invited speakers and free oral communications selected from submitted abstracts. We would like to provide opportunities for a number of young investigators to discuss their latest results and to compete in both oral and poster sessions.

We believe that your participation will greatly contribute to the success of the meeting and provide an opportunity to discuss the latest advances in experimental and clinical cardiovascular research. In addition to high quality science, the organisers wish to provide a friendly atmosphere in the university town of Szeged. We invite you to join us at this meeting, to renew old friendships, and to make new ones! Updated information and the application form will be available on the homepage of IACS European Section: <http://www.iacs.sav.sk/meetings.html>

Looking forward to meeting you in person in Szeged,
With best regards,

Prof. István Baczkó, MD, PhD
Chair of the Meeting

Honorary Chair of the Meeting: Prof. Naranjan S. Dhalla, PhD, MD (Hon), DSc (Hon)

Main organizers: Dr. Péter Bencsik, MD, PhD (Vice Chair) and Dr. Norbert Nagy, PhD (Meeting Secretary)



Organizing secretariat:

Dr. István Baczkó, Dr. Péter Bencsik and Dr. Norbert Nagy

Department of Pharmacology & Pharmacotherapy
Albert Szent-Györgyi School of Medicine, University of Szeged
Dóm tér 12, H-6720 Szeged, Hungary
Tel.: +36-62-545-682, Fax: +36 -62-545-680

E-mail: baczko.istvan@med.u-szeged.hu

bencsik.peter@med.u-szeged.hu

nagy.norbert@med.u-szeged.hu

Meeting venue

Art Hotel Szeged, Somogyi u. 16, 6720 Szeged, Hungary
<https://artszeged.accenthotels.com/en>

and

Szeged Hungarian Academy of Sciences building, Somogyi u. 7, 6720 Szeged, Hungary



The two buildings are located 50 m from each other.

Registration

The registration fee will be **100 EUR/person for participants, 50 EUR/person for juniors and 10 EUR/person for undergraduate students**. To qualify for Junior registration fee, the registrant must be a PhD student OR have a PhD degree obtained in 2019 or later (documentation required) AND must not be older than 35. The registration fee covers attendance of the scientific program, welcome reception, gala dinner, sandwich lunches for 2 days and coffee breaks. The registration fee of the invited speakers is covered by the organizers.

Payment details will be available at the IACS-ES website: <http://www.iacs.sav.sk/meetings.html>. Please indicate your name and city of origin on the payment for easier processing.

Registration deadline

Registration deadline: July 20, 2022.

Payment deadline: July 20, 2022.

Late registration, following July 20, 2022 is possible, at 200 EUR/person for participants and 100 EUR/person for Junior registrants, respectively. All participants will receive an official Certificate of Attendance and an official Conference Registration Fee Invoice.

Conference abstract submission deadline: June 20, 2022 for oral presentations and July 20, 2022 for poster presentations. Please indicate your preference for oral or poster presentation on the registration form. Abstract forms will be available to download from the IACS-ES website: <http://www.iacs.sav.sk/meetings.html>

Publication opportunity for presenters

The abstracts of all oral and poster presentations will be printed in an abstract book. Presenters will be encouraged to submit a full manuscript based on the material presented at the conference for consideration to be published in the *Canadian Journal of Physiology and Pharmacology*. Manuscript submissions will be subjected to the usual peer-review process.

Travel grants

Junior registrants can apply for support grants for this conference. Applicants must send a Support Grant Application Form (form can be downloaded from the IACS-ES website), a brief, 1-page curriculum vitae and their conference abstract to the following e-mail address: baczko.istvan@med.u-szeged.hu. Support Grant application deadline: June 20, 2022. Please attach documents proving Junior registrant status (see above).

Travel grants will be granted based on a decision by the Council of the European Section of the IACS. The value and number of Support Grants will depend on availability of sponsor funds.

Overview of Tentative Conference Program

Day 1 (September 28, 2022) ART HOTEL SZEGED, Lecture Hall

13:00- REGISTRATION
15:00-15:30 **Opening ceremony**
15:30-16:00 **Plenary lecture 1**
16:00-16:30 **Plenary lecture 2**
16:30-17:00 *Coffee break*
17:30-18:00 **Plenary Lecture 3**
18:00-19:00 **Naranjan Dhalla Honorary Lecture**

20:00- *Welcome Reception*

Day 2 (September 29, 2022) SZEGED HUNGARIAN ACADEMY OF SCIENCES BUILDING

Parallel sessions in Halls A-B-C

9:00-10:30 **Session 1-3** 2 invited speakers 20+5 min , 2 10+5 min speakers
10:30-11:00 *Coffee break*
11:00-12:30 **Session 4-6** 3 invited speakers 20+5 min talks

12:30-14:00 *Lunch*

14:00-16:00 **Young Investigator Award Competition** 6 15+5 min talks in Hall A
14:00-16:00 **Session 7-8** 3 invited speakers 20+5 min , 2 10+5 min speakers in Halls B and C

16:00-18:30 **Poster Session I** (even poster numbers, ACADEMY BUILDING)

Day 3 (September 30, 2022) SZEGED HUNGARIAN ACADEMY OF SCIENCES BUILDING

Parallel sessions in Halls A-B-C

9:00-10:30 **Session 9-11** 2 invited speakers 20+5 min , 2 10+5 min speakers Halls A-B-C
10:30-11:00 *Coffee break*
11:00-12:30 **Session 12-14** 3 invited speakers 20+5 min talks Halls A-B-C

12:30-14:00 *Lunch*

14:00-16:00 **Session 15-17** 3 invited speakers 20+5 min , 2 10+5 min speakers in Halls A-B-C

16:00-18:30 **Poster Session II** (odd poster numbers, ACADEMY BUILDING)

20:00-24:00 *Gala Dinner and Award Ceremonies*

Day 4 (October 1, 2022) SZEGED HUNGARIAN ACADEMY OF SCIENCES BUILDING

Parallel sessions in Halls A-B-C

9:00-10:30 **Session 18-20** 3 invited speakers 20+5 min 1 10+5 min speaker Halls A-B-C

10:30-11:00 *Coffee break*

11:00-12:30 **Session 21-23** 2 invited speakers 20+5 min , 2 10+5 min speakers Halls A-B-C

12:30- 12:40 Closing Ceremony

Hotel information

The organizers provide accommodation for 3 nights at the Art Hotel Szeged for invited speakers. The following hotels that are in close proximity to the conference venue are also recommended for participants of the conference:

Hotel Dóm (4-star): <https://revngo.com/dom-hotel-szeged>

Hotel Mozart (4-star): <https://www.mozarthotel.hu/en>

Hotel Novotel (4-star): <http://novotel.hotelszeged.com/en/>

Hotel Science (4-star): <https://sciencehotel.hu/en/>

Hotel (3-star): <http://www.tiszahotel.hu/?lang=en>



Hotel Dóm



Hotel Novotel



Hotel Mozart



Hotel Science



Hotel Tisza

**All Hotel photos are from Google Images.*

2nd Announcement for Conference “Advances in Cardiovascular Science and Medicine” Winnipeg, Manitoba, Canada

On behalf of the Organizing and Program Committee I am pleased to bring to your attention that the Institute of Cardiovascular Sciences, St. Boniface Hospital Albrechtsen Research Centre will host the 9th Meeting of North American Section of the International Academy of Cardiovascular Sciences (IACS) and the 41st International Society for Heart Research (ISHR) meeting on September 6th- 9th, 2022 in Winnipeg, Manitoba, Canada. The theme of the meeting entitled “**Advances in Cardiovascular Science and Medicine Through Diversity, Equity, and Inclusion supported Education, Research, and Technology Innovation**”. Our goal is to attract and bring together the top cardiovascular scientists, clinical cardiologists, research fellows and trainees, from all over North America to participate in this scientific forum.

The meeting will be held at the historic Hotel Fort Garry, one of the most iconic hotels in North America known for its ornate and turn of the century design. The conference will be comprised of 24 scientific symposia and clinical tracks focused on women’s heart health, cardioprotection, cardiometabolic diseases, risk factors, oxidative stress, arrhythmogenesis, inflammation, molecular genetics, epidemiology, prevention, circadian biology, heart failure, nutrition, exercise physiology and applied aspects in cardiovascular health care delivery, will be presented. The scientific program will include a broad mix of topics from molecular, cellular, clinical and integrative aspects of cardiovascular sciences with a special focus on early and midcareer investigator programs.

The meeting will serve as a platform for the exchange of new ideas and concepts offer a great educational opportunity for advancing career development of early and mid-career young investigators and trainees. Winnipeg has a rich heritage in performing arts, sports and cultural activities, museums and galleries. It’s vibrant night life and international cuisine make it a popular tourist destination for visitors from all over the world. The city is geographically located in the center of Canada and is easily accessible through the James Richardson International Airport from Canada and the USA. The combination of outstanding speakers, themed symposia and meeting venue will offer a great scientific experience. We are hopeful that you will join us and participate in this unique scientific forum and wish you a warm welcome to Winnipeg, Manitoba, Canada.

Lorrie A. Kirshenbaum, Ph.D.
Conference Chair, Winnipeg

Conference Chair/Organizing and Program Committees

Dr. Lorrie A. Kirshenbaum
Director, Institute of Cardiovascular Sciences
St. Boniface Hospital Albrechtsen Research Centre

Advisory Board

Honourary Chair: Naranjan S. Dhalla - Winnipeg, Canada

Grant Pierce - Winnipeg, Canada
Roberto Bolli - Louisville, USA
Gary Lopaschuk - Edmonton, Canada
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Junichi Sadoshima - Newark, USA
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Joint Secretary

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Pram Tappia - Winnipeg, Canada
Shelley Zieroth - Winnipeg, Canada
Jeffrey Wigle - Winnipeg, Canada
Rakesh Arora - Winnipeg, Canada
Amir Ravandi - Winnipeg, Canada

Conference Coordinator

Kairee Ryplanski, Institute of Cardiovascular Sciences, Winnipeg, Canada
Contact information: 204-237-2701; iacs2022@sbrc.ca

Scientific Committee Members

Secretary

Ross Feldman - Winnipeg, Canada

Joint Secretary

Ian Dixon - Winnipeg, Canada

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Maria Kontaridis - Utica, USA
Devendra Agrawal - Los Angeles, USA

Tim McKinsey - Aurora, USA
Tipparaju Srinivas - Tampa, USA
Jennifer Van Eyk - Los Angeles, USA
Buddhadeb Dawn - Las Vegas, USA
Asa Gustafsson - San Diego, USA
Suresh Tyagi - Louisville, USA
Takashi Matsui - Honolulu, USA

Symposia Topics

- Pathophysiology of Cardiovascular Disease in Women
- Hormonal Therapy and Women Heart Health
- Translational Medicine in Cardiovascular Aging
- Frailty and Cardiovascular Diseases in Males and Females
- Proteomics and Proteotoxicity in Cardiovascular Dysfunction
- Advances in Cardiac Repair and Gene Therapy
- Advances in Cardiovascular Biology
- Cardiac Regeneration and Cellular Therapy
- Molecular Biology of Cell Death and Autophagy
- Epigenetics and Cardiac Disease
- Metabolic Syndrome in Cardiovascular Abnormalities
- Metabolic Defects in the Pathogenesis of Heart failure
- Role of Inflammation in Cardiac Dysfunction
- Molecular Mechanisms of Hypertension
- Current Concepts for the Genesis of Arrhythmias
- Targets for the Prevention of Cardiac Fibrosis
- Mitochondria and Cardiac Dysfunction
- Cardiac Development and Congenital Abnormalities
- Advances in Cardiovascular Science
- Advances in Cardiovascular Medicine
- Naranjan Dhalla Cardiovascular Awards Symposium
- Prevention of Heart Disease
- Roberto Bolli Awards Competition
- Garry Lopaschuk Awards Competition

Awards and Competitions

Graduate Students and Young Investigators Award

Four speakers (Post-doctoral Fellows and Junior Faculty) will be invited for Roberto Bolli Awards Competition whereas 4 speakers (Graduate Students) will be selected from the Abstracts submitted for Posters. They will be notified for oral presentation.

Poster Presentations (Graduate students and Post-doctoral Fellows) are encouraged to submit Abstracts by July 1st, 2022 online – www.iacs2022.com)

The two poster sessions will be held on **Wednesday, September 7th, 2022** and **Thursday, September 8th, 2022**. A total of 12 poster awards will be given. These awards will be named after Morris Karmazyn (4) Margaret Moffat (4) and Naranjan Dhalla (4)

Established Investigator Awards

Several investigators will be honoured during the Awards Ceremony with named awards such as Amarjit Arneja, Dennis McNamara, Jawahar Mehta, Howard Morgan, Makoto Nagano, Paul Ganguly, Grant Pierce and James Willerson Awards for their Leadership and Excellence in Cardiovascular Science.

Invited Speakers and Chairs (Who have accepted the invitation)

Abdellatif, Maha	Hill, Bradford	O'Connell, Timothy
Abel, Dale	Hill, Joseph A.	Orlowski, Alejandro
Agrawal, Devendra	Hong, Charles	Ostadal, Bohuslav
Alcaide, Pilar	Howlett, Susan	Oudit, Gavin
Alvarado, Francisco	Jakovljevic, Vladimir	Paydak, Hakan
Anand-Srivastava, Madhu	Johnson, Rajasingh	Ping, Peipei
Arany, Zoltan	Jones, Steve	Prasad, Kailash
Ardehali, Hossein	Kamp, Timothy	Ramasamy, Ravichandran
Ardehali, Reza	Karch, Jason	Robinson, Emma
Arneja, Amarjit	Kass, David	Rosa-Garrido, Manuel
Backx, Peter	Kelly, Dan	Rosenzweig, Anthony
Baczko, Istvan	Kishore, Raj	Sadayappan, Sakthivel
Bairey Merz, Nicole	Kitsis, Richard	Sadoshima, Junichi
Bers, Donald	Koch, Wally	Shah, Anureet
Bkaily, Ghassan	Kontaridis, Maria	Singh, Ajit
Blackman, Antoinette	Kranias, Litsa	Singla, Dinender
Bolli, Roberto	Kukreja, Rakesh	Škrbić, Ranko
Buttar, Harpal	Lavandero, Sergio	Slezak, Jan
Czubryt, Michael	Lefer, David	Small, Eric
Dawn, Buddhadeb	Leinwand, Leslie	Srivastava, Ashok
De Giusti, Veronica	Lewandowski, Douglas	Srivastava, Deepak
del Monte, Federica	Lima, Melchior	Stojiljković, Miloš
Delbridge, Lea	Lindsey, Merry	Sucharov, Kika
Dibb, Katharine	Liu, Peter	Tallquist, Michelle
Djuric, Dragan	Lopaschuk, Gary	Tian, Rong
Drosatos, Konstantinos	Ma, Xin-Liang	Tipparaju, Srinivas
Eckle, Tobias	Marban, Eduardo	Turan, Belma
Elrod, John	Marian, Ali	Tyagi, Suresh
Feldman, Ross	Martin, James	Van Eyk Jennifer
Frangogiannis, Nicholas	Martin, Jody Lee	Varro, Andras
Franklin, Sarah	Martino, Tami	Vondriskas, Thomas
Furtado, Henrique B	Matsui, Takashi	Wang, Yajing
Ganguly, Paul	Maulik, Nilanjana	Woulfe, Kathleen C.
Gao, Chen	McKinsey, Tim	Yaniv, Yael
Ge, Ying	Mehta, Jawahar	Yoon, Young-sup
Glembotski, Christopher	Michalak, Marek	Young, Martin
Goyal, Ramesh	Molkentin, Jeffery	Yutzey, Katherine
Guo, Wei	Morad, Martin	Zhang, Jianyi "Jay"
Gustafsson, Asa	Murphy, Elizabeth	
Hare, Joshua	Murray, Charles	

Registration Information

Type of participant	Early bird registration Discount Until July 1 st , 2022	Registration after July 1 st , 2022
Researchers (with the exception of invited speakers)	\$625 CAD \$496 USD	\$750 CAD \$596 USD
Students and Fellows	\$350 CAD \$275 USD	\$500 CAD \$395 USD

The registration fee includes, attendance to meeting sessions, congress bag with meeting program, welcome reception, 4 coffee breaks, 2 continental breakfasts, 2 lunches and 1 gala dinner.

Conference Location

The Fort Garry Hotel

222 Broadway, Winnipeg, MB R3C 0R3

<https://www.choicehotels.com/reservations/groups/YP76A3>



Hotel Room Type: Double Bed, Queen Bed and King Bed available.

All participants are expected to make their own reservation from the Hotel. Special Room Rates for the conference are available on a first come, first served basis.

Registration and Hotel Accommodation

Registration and accommodation forms can be found on the official meeting website:

www.iacs2022.com

Publication of Full-Length Papers

A certain number of presentations will be selected and invited to be published as full-length papers in a special issue of the internationally recognized journal *Canadian Journal of Physiology and Pharmacology*. These invited papers will be formally reviewed according to the peer- review procedure of the journal.

Organizing and Program Committee Contact

Conference Chair:

Lorrie Kirshenbaum, PhD, FAHA, FIAC, FISHR, FFGTB, FCAHS
Director, Institute of Cardiovascular Sciences, St. Boniface Hospital Albrechtsen Research Centre
Head, Division of Cardiovascular Science and Disease, Professor, Departments of Physiology and Pathophysiology, and Pharmacology and Therapeutics, Max Rady College of Medicine, Rady Faculty of Health Sciences, University of Manitoba
Tel: + 1-204-235-3661; Email: lkirshenbaum@sbrc.ca

Conference Coordinator:

Kairee Ryplanski
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Overview of Tentative Conference Program

Day 1 (Tuesday, September 6th, 2022)

4:00 p.m. – 5:30 p.m.	Registration
5:30 p.m. – 7:30 p.m.	Welcome Remarks and 3 Plenary Lectures The Fort Garry Hotel, Crystal Ball Room
7.30 p.m. – 9:30 p.m.	Welcome Reception The Fort Garry Hotel, Crystal Ball Room

Day 2 (Wednesday, September 7th, 2022)

8:00 a.m. – 5:00 p.m.	Registration Desk
8:00 a.m. – 9:00 a.m.	Continental Breakfast
9:00 a.m. – 10:45 a.m.	Symposia Sessions 1, 2 and 3
10:45 a.m. – 11:00 a.m.	Coffee Break
11:00 a.m. – 12:45 p.m.	Symposia Sessions 4, 5 and 6
12:45 p.m. – 1:45 p.m.	Lunch and 1 Plenary Lecture
1:45 p.m. – 3:30 p.m.	Symposia Sessions 7, 8 and 9
3:30 p.m. – 3:45 p.m.	Coffee Break
3:45 p.m. – 5:30 p.m.	Symposia Sessions 10, 11 and 12
5:30 p.m. – 7:00 p.m.	Poster Session 1 Reception (Wine and Cheese)

Free Evening

Day 3 (Thursday, September 8th, 2022)

8:00 a.m. – 5:00 p.m.	Registration Desk
8:00 a.m. – 9:00 a.m.	Continental Breakfast
9:00 a.m. – 10:45 a.m.	Symposia Sessions 13, 14 and 15
10:45 a.m. – 11:00 a.m.	Coffee Break
11:00 a.m. – 12:45 p.m.	Symposia Sessions 16, 17 and 18
12:45 p.m. – 1:45 p.m.	Lunch and 1 Plenary Lecture
1:45 p.m. – 3:30 p.m.	Symposia Sessions 19, 20 and 21
3:30 p.m. – 3:45 p.m.	Coffee Break
3:45 p.m. – 5:30 p.m.	Symposia Sessions 22, 23 and 24
5:30 p.m. – 7:00 p.m.	Poster Session 2 Reception (Wine and Cheese)
7:00 p.m. – 11:00 p.m.	Banquet Dinner, Award Ceremonies and Closing Remarks <i>The Fort Garry Hotel, Crystal Ball Room</i>

WINNIPEG

MANITOBA, CANADA

SEPTEMBER 6-9, 2022

9th North American Section of
The International Academy of Cardiovascular Sciences

“Advances in Cardiovascular Medicine Through Diversity, Equity, and
Inclusion supported Education, Research, and Technology Innovation”

Conference Location

The Fort Garry Hotel

222 Broadway, Winnipeg, Canada R3C 0R3



Hôpital St-Boniface Hospital
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SECOND ANNOUNCEMENT

Conference Chair:

Dr. Lorrie A. Kirshenbaum
Director, Institute of Cardiovascular Sciences
St. Boniface Hospital Albrechtsen Research Centre