

## **Global Initiative of Academic Networks (GIAN)**

## Course on

## Hypertrophic Cardiomyopathy: From clinical and experimental research to drug discovery

This one-week course provides а comprehensive exploration of hypertrophic cardiomvopathv (HCM), integrating clinical perspectives, experimental research, genetic insights, and therapeutic advancements. Participants will gain an in-depth understanding of HCM pathophysiology, risk assessment, and emerging treatment strategies.



The course begins with an overview of

clinical manifestations, genetic under pinnings, and risk stratification for sudden cardiac death (SCD), a major concern in HCM due to the risk of life-threatening arrhythmias such as ventricular tachycardia and fibrillation. The role of implantable cardioverter-defibrillators (ICDs) and the importance of regular monitoring and early intervention in preventing SCD will be emphasized. A key focus is genetic testing and genotype-directed family evaluation, which allows the identification of at-risk family members before the onset of symptoms.

Midweek sessions will explore experimental models, including animal studies and iPSC-derived cardiomyocytes, to investigate sarcomeric mutations, calcium handling, and myocardial fibrosis. The final sessions will highlight drug discovery, including myosin inhibitors (e.g., mavacamten, aficamten), gene editing, and antifibrotic strategies, as well as challenges in clinical trial design and regulatory approvals.

This course also aims to raise awareness within the academic community in India, empowering professionals to educate the public about HCM and advocate for early diagnosis and management to mitigate its devastating consequences.

Course details:			
Duration:	19 <sup>th</sup> to 23 <sup>rd</sup> August 2025 (5days):		
	10 hrs lectures and 04 hrs Tutorials		
	5 working days, 2 hrs lecture and maximum 1 hour tutorials per day		
Credits:	Equivalent to one credit course		
What you	<ul> <li>Introduction to HCM, Clinical features of HCM, Symptoms</li> </ul>		
learn:	<ul> <li>Echocardiography, stress testing and cardiac magnetic</li> </ul>		
	resonance		
	<ul> <li>Diagnostic and genetic aspects of HCM</li> </ul>		
	<ul> <li>Role of secondary risk factors in HCM</li> </ul>		
	<ul> <li>Molecular mechanism of HCM, Gain- and loss-of-function</li> </ul>		
	<ul> <li>Haploinsufficiency and poison polypeptide</li> </ul>		

	<ul> <li>In-vitro experiments; iPSC-C Ms, protein-protein interactions and biochemical assays</li> <li>In-vivo experiments; mouse models to study HCM</li> <li>Pharmacological treatment, Cardioverter defibrillator</li> <li>Pace maker therapy, Surgeries, Drug discovery</li> </ul>		
Who can	Medical students• Research Students• Master students• Ph.D.		
attend:	Students• Postdoctoral Fellows• Faculties from academic and research institutes • Staff from private industries		
Fees	Students: INR 1,000 Faculty from SPPU: INR 2,000 Faculty from Academic Institutions other than SPPU: INR 2,500 Industry/ Research Organizations: INR 10000 Participants from abroad: US\$300 The participants will be provided with accommodation on payment basis.		
To	Email: varsha2w@rediffmail.com		
contact:	Varsna3w@unipune.ac.in: IN:7040648545		
Note:	There is no central registration on the GIAN portal (gian.iith.ac.in); Registration will be managed directly by the hosting institute.		
Link for registration	https://events.unipune.ac.in/		

Faculty					
<b>Sakthivel Sadayappan</b> , PhD, MBA, FAHA, FCVS (APS), FISHR	<b>Professor and Head</b> Department of Cellular and Molecular Medicine, College of Medicine, University of Arizona; Associate Director, Sarver Heart Center, Tucson, AZ, USA				
Chandrakant Chavan MBBS,MD (Med), DNB (Cardiology)	<b>Cardiologist</b> , Department of Cardiology, Bharati Hospital and Deemed University, Pune, India				
Course coordinator					
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