

## Foreword

International Heat Pipe Conferences (IHPC) series started in the year 1973, at Stuttgart, Germany, with specific focus on topics related to science, technology and applications of heat pipes, thermosyphons and related passive phase-change heat transfer devices/systems. The historical timeline of the conference is summarized below:

#	Location	Year
1st IHPC	Stuttgart, Germany	1973
2nd IHPC	Bologna, Italy	1976
3rd IHPC	Palo Alto, USA	1978
4th IHPC	London, UK	1981
5th IHPC	Tsukuba, Japan	1984
6th IHPC	Grenoble, France	1987
7th IHPC	Minsk, Belarus	1990
8th IHPC	Beijing, China	1992
9th IHPC	Albuquerque, USA	1995
10th IHPC	Stuttgart, Germany	1997
11th IHPC	Tokyo, Japan	1999
12th IHPC	Moscow, Russia	2002
13th IHPC	Shanghai, China	2004
14th IHPC	Florianopolis, Brazil	2007
15th IHPC	Clemson, USA	2010
16th IHPC	Lyon, France	2012
<b>17th IHPC at Kanpur, India in 2013</b> <b>Celebrating the Jubilee: 40 years of the IHPC series</b>		

The last forty years have seen phenomenal technological growth and market penetration of heat pipe systems. The past 16 uninterrupted IHPC editions have diligently reflected this extraordinary progress. Today IHP conferences are the established primary knowledge repository of this art.

Commemorating forty years of successful organization of the International Heat Pipe Conference series, the 17th jubilee edition was held in the campus of Indian Institute of Technology Kanpur, Kanpur (UP), India, during October 13 to 17, 2013 ([www.iitk.ac.in/ihpc17](http://www.iitk.ac.in/ihpc17)). The conference was organized by the Department of Mechanical Engineering, Indian Institute of Technology Kanpur, under the coordination of the Committee on International Heat Pipe Conferences and the local/national organization and advisory committees. The aim of the conference was to bring to-

gether experts, students, practicing engineers and industry representatives from across the world on a common platform to share state-of-the-art information, experiences and latest developments on the science and technology of all kinds of heat pipes and passive phase-change devices and thermal systems. The main topics covered in the conference were:

Fundamental studies on thermal and fluid-dynamic phenomena associated with passive heat pipes and closed two-phase thermosyphons, CPLs, LHPs, oscillating heat pipes, mini/micro-heat pipes, etc.

Theoretical and experimental studies on thermosyphons and heat pipes including CPL, LHP, oscillating heat pipes, mini/micro-heat pipes, etc.

Heat pipe and thermosyphon application in various industries, including passive heat removal, heat pipe heat exchangers, heat regenerators, vapor generators, renewable and new energy systems, etc.

Microelectronics and power electronics thermal control applications.

Aerospace applications of heat pipes, including spacecraft thermal control, space power systems, space experiments and high speed aircraft applications.

Applications in manufacturing process and material processing, including new developments of wicks, fluids, materials, modeling of corrosion and life tests.

State-of-art of heat pipe development in different countries and different fields and new ideas of heat pipe development.

It was our pleasure to welcome 130 participants from 21 countries to the campus of Indian Institute of Technology Kanpur, Kanpur, India, to participate in the jubilee conference. Now, with this publication, the deliberations of the conference will be preserved for posterity. We hope that the readers will find this publication highly useful, not only to understand and appreciate the contemporary developments through the presented papers, but also to note the seminal contributions of 'heat pipers' in thermal management of critical engineering systems and components, throughout the rich history of its development and applications.

We heartily thank the entire local as well as the international organization committee, all the sponsors, Keynote lecturers, several anonymous reviewers, participants, well-wishers and student volunteers from IIT Kanpur, without whose support organization of this event was not possible. Special thanks are also due to the entire administration of IIT Kanpur, for providing us an exemplary and memorable experience throughout our stay at the campus.



**Yuri Maydanik**  
President  
Committee on International Heat Pipe Conferences



**Sameer Khandekar**  
Convener  
17th IHPC