Message from the General and Vice-General Co-Chairs

On behalf of the organizers of the 22nd International Conference on High Performance Computing (HiPC 2015), it is our pleasure to welcome you to Bengaluru (previously called Bangalore). We do hope you will find the conference experience and perusing the proceedings exciting and rewarding. The HiPC 2015 call for papers received an excellent response attracting around 200 submissions from many countries. Prof. Sanjay Ranka, the program chair, the four program vice-chairs, and the program committee of over 100 members worked with remarkable dedication to put together an outstanding technical program consisting of the 48 papers that appear in these proceedings.

We have organized several events to complement this strong technical program, promising to make HiPC 2015 a rich experience for attendees. As in previous years, we will have three keynote lectures. These will be presented by: Dr. Raghu Ramakrishnan, Head of Cloud Information Services Lab at Microsoft; Prof. David Padua, the Donald Biggar Willet Professor of Computer Science at University of Illinois at Urbana Champaign; and Prof. Trevor Mudge, the Bredt Family Professor of Engineering at the University of Michigan. All have distinguished themselves as pioneers in fields related to this conference. HiPC 2015 will also feature a Student Research Symposium (SRS) prior to the main conference, which will consist of presentations and posters by students highlighting their research. This year, we have introduced a Student Parallel Programming Contest, and the winners will be announced at the conference. The response to the contest was overwhelming, and we had to close submissions much earlier than planned. The conference will hold its ninth Industry, Research and User Symposium (IRUS) which will run in parallel to the main track. This symposium will bring together the users and providers of HPC solutions to provide a forum for discussing key current and emerging challenges confronting HPC and proposed approaches to help address these challenges. This year the symposium sessions will address the topics of HPC for Computational Fluid Dynamics and for Physics. The IRUS sessions have been gaining interest over the last eight years and continue to provide a rewarding experience for attendees. There will be several industry and research exhibits complementing IRUS as well as the conference main track.

We are pleased to report the resumption of HiPC Workshops, which serve to broaden the technical scope of the conference in emerging areas of high performance computing and communication and their applications. Day 1 of the conference will host four half-day workshops: 1) Computational Fluid Dynamics; 2) Foundations of Big Data Computing; 3) Info-Symbiotics /Dynamic Data Driven Applications Systems for Smarter Systems; 4) Architectural Support and Middleware for Info-Symbiotics/DDDAS. Also this year, the peer-reviewed papers from workshops 1 and 2 will be included in a special volume of the proceedings and submitted post conference for inclusion in IEEE Xplore. The abstracts for presentations in workshops 3 and 4 will also be included in the proceedings distributed at the conference. The rebuilding of this component of HiPC is the result of an excellent job done by the co-chairs Chiranjib Sur and Manish Parashar to organize four robust offerings and the commitment of the individual workshop organizers to presenting a strong program.

This year, the conference will continue the Academic BOFs being led by Yogesh Simmhan and Kishore Kothapalli. The goals of these sessions are: a) to provide a more informal forum for academicians and young researchers to build communities around topics of interest; b) to promote engineering and high performance computing careers among women and other minorities; and c) to nurture and mentor ideas that can be developed and eventually evolve into full-fledged workshops. Supporting this approach, we see that some of the academic BOFs from last year have successfully transitioned to full-fledged workshops. As intended, the focus for both workshops and BOFs is on enhancing the participation and quality to help grow the pool of people that actively participate in all elements of the conference.

Arranging an exciting meeting with a high quality technical program is easy when one is working with an excellent and dedicated team and can build on the practices and levels of excellence established by a quality research community. HiPC 2015 would not have been possible without the tremendous efforts of the many volunteers. We would like to gratefully acknowledge the critical contributions of each one.

We would like to thank Prof. Sanjay Ranka, his vice-chairs and the technical program committee for their tireless efforts in assembling such an excellent program and the authors who submitted the high quality manuscripts from which this program was selected. We would also like to thank the presenters of the keynotes, organizers of
individual workshops, IRUS sessions, the SRS program and the BOFs (both academic and industry), and all the participants who help make HiPC a unique and rewarding experience.

We would especially like to thank Viktor Prasanna, Chair of the HiPC Steering Committee, for his leadership, sage guidance, and untiring dedication, which have been key to the sustained success and growth of the conference. We would also like to welcome our new volunteers and thank the entire HiPC team – your efforts are critical to the continued success of this conference series.

Finally, we would like to gratefully acknowledge the sponsorship of IEEE Computer Society's Technical Committee on Parallel Processing (TCPP) and the HiPC Education Trust in cooperation with ACM SIGACT & SIGARCH, IFIP, MAIT, and NASSCOM. As well we could not mount this conference without academic support from CSIR, CCMB, NGRI, IIT Delhi, IIT Madras, IIT Hyderabad, and NARL and, of course, tremendous industry support, which this year includes Intel and NVIDIA; Fujitsu, SanDisk, and Shell; and Boston, Google, Mellanox and Netapp. Other industry participants include an excellent line-up of exhibitors. The continued support of all of our industry partners has been critical in helping HiPC shape the conference and also invest in enhancing the HPC ecosystem in India and across the world.

Once again, we welcome you to this 22nd edition of HiPC and invite your feedback on your experience here. We rely on your comments and suggestions to help grow HPC in India and also enhance the experience for attendees. We hope you will also take time to see other parts of the city and enjoy nearby tourist attractions.

**HiPC 2015 General Co-Chairs**
Badrinath Ramamurthy, Ericsson, India
Rama Govindaraju, Google, USA

**HiPC 2015 Vice General Co-Chairs**
Rajeev Muralidhar, Intel, India
Kalyana Chadalavada, Intel, USA

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