

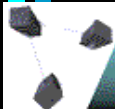
HPCA-8 Panel

What Will Have the Greatest Impact in 2010:

The Processor, the Memory, or the Interconnect?

Timothy Mark Pinkston, Panel Moderator

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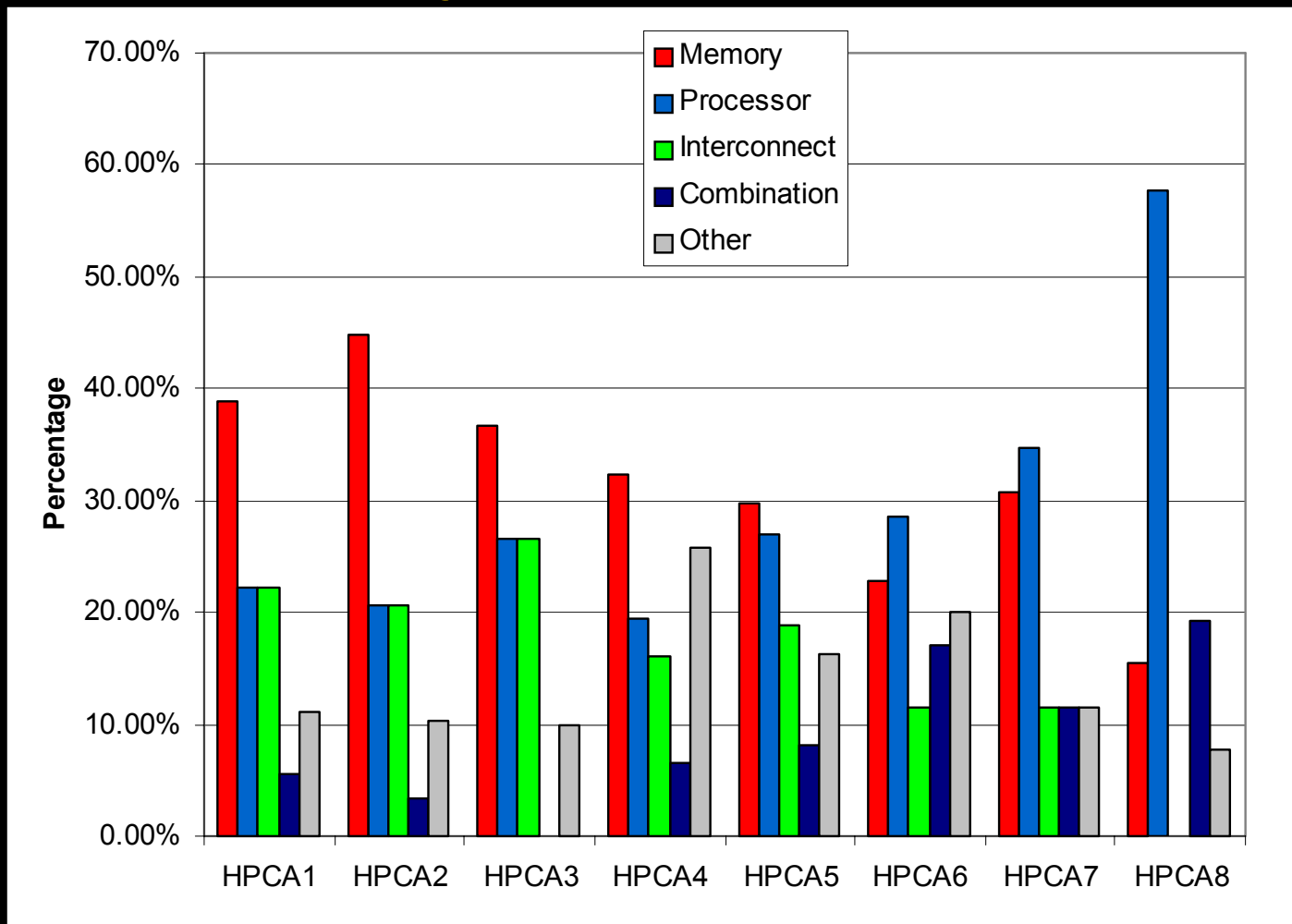


SMART

Superior Multiprocessor ARchiTecture - <http://www.usc.edu/dept/ceng/pinkston/SMART.html>

HPCA Papers (by Category)

www.usc.edu/dept/ceng/pinkston/presentations/statistics.html



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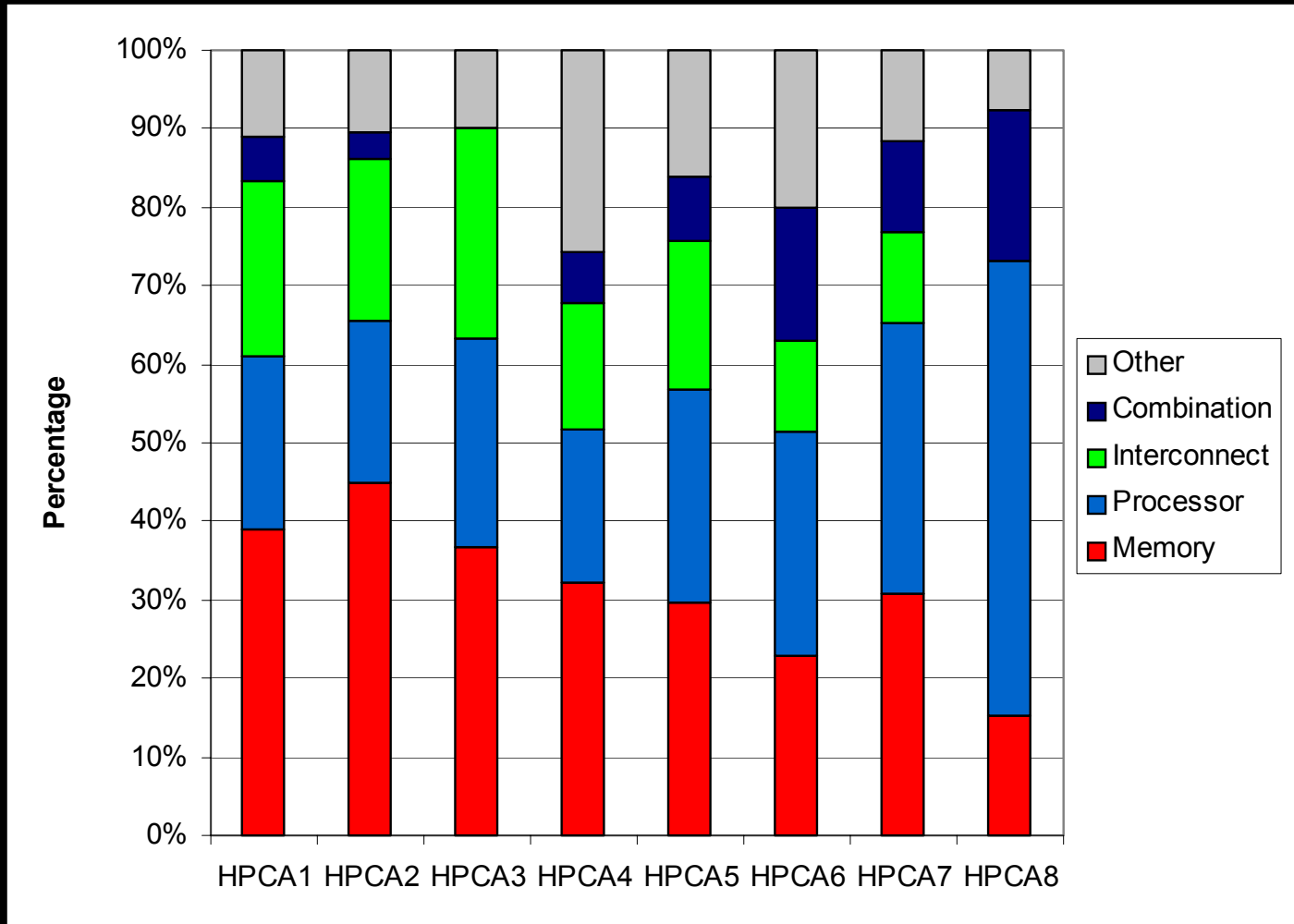


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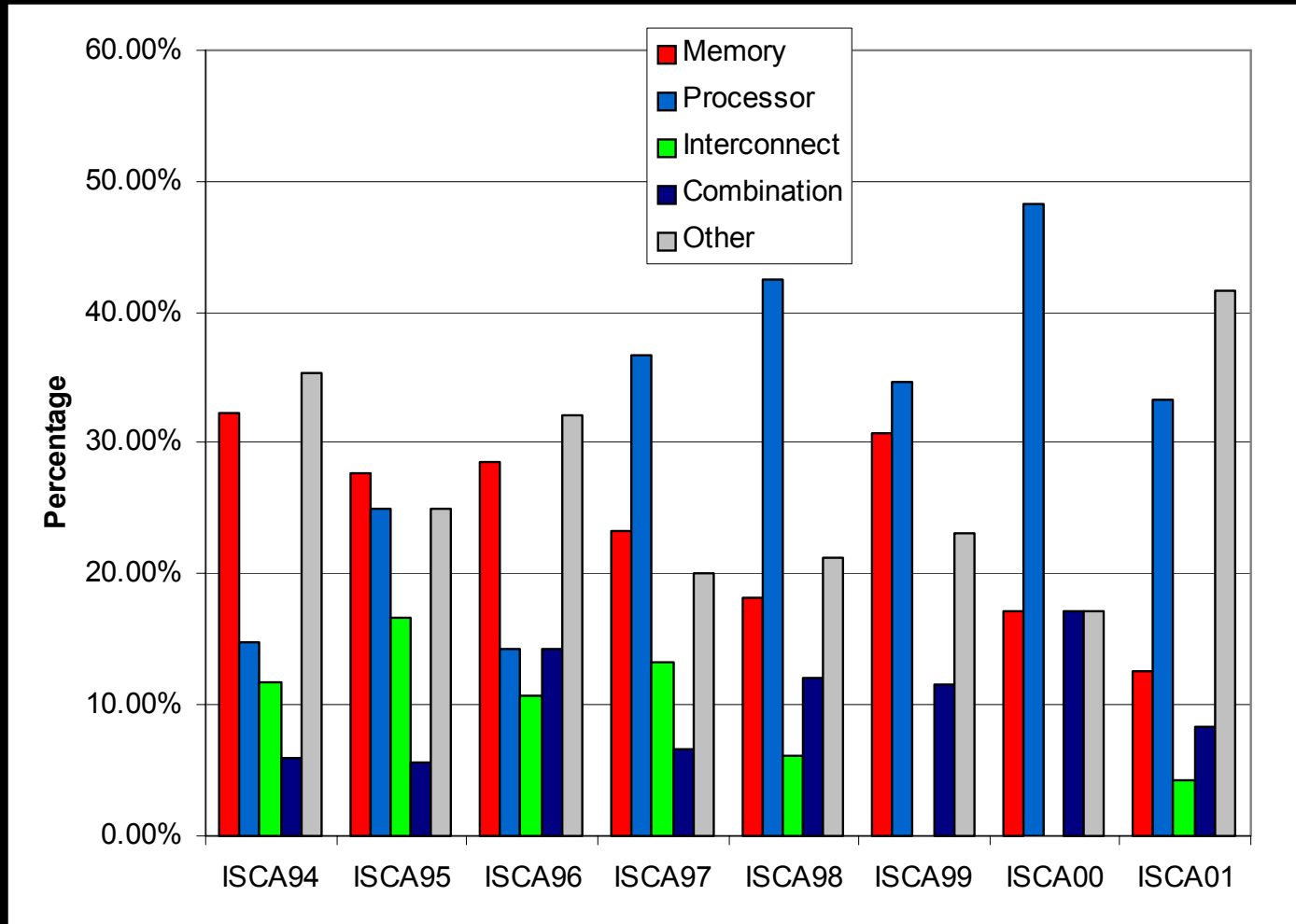
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ISCA Papers (by Category)

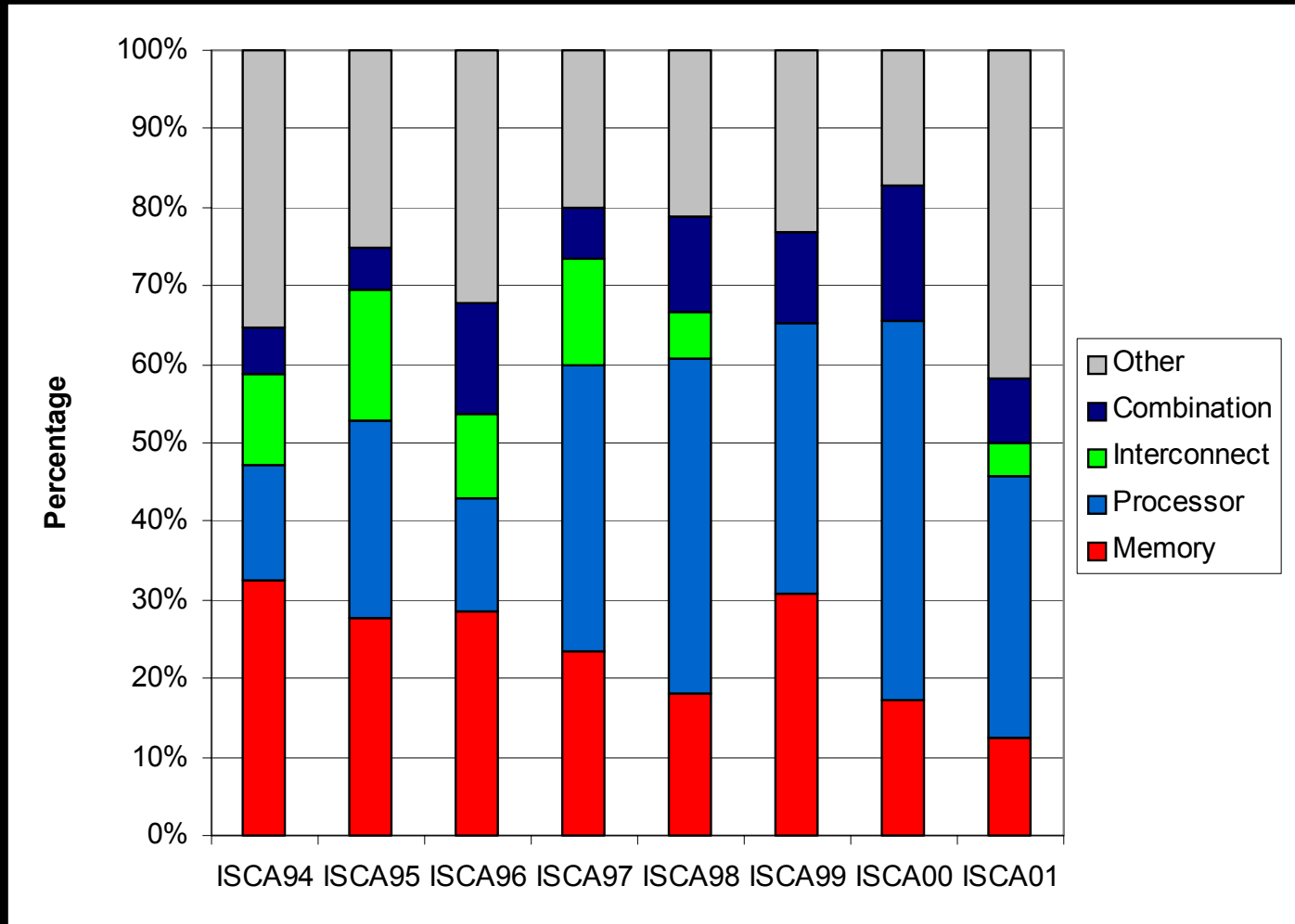
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ISCA Papers (by Category)

www.usc.edu/dept/ceng/pinkston/presentations/statistics.html



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Panelists

- **Anant Agarwal**, Massachusetts Institute of Technology, USA
- **Bill Dally**, Stanford University, USA
- **Jose Duato**, Universidad Politecnica de Valencia, Spain
- **Bob Horst**, HT Research, USA
- **Yale Patt**, University of Texas at Austin, USA
- **T. Basil Smith**, IBM T. J. Watson Research Labs, USA

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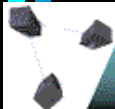
Discussion Questions

- How should this trend in fewer memory and interconnect papers be interpreted?
 - These areas have less relative importance?
 - Neglect in doing or accepting interesting research in these areas?
 - More emphasis lately on cross-cutting (combined) research?
(e.g., “Multicast Snooping: A New Coherence Method using a Multicast Address Network,” by Hill, Wood, et al. in ISCA’99)

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- Which area (if any) will have the least impact in the year 2010?
 - processor, memory, interconnect?
 - how best to utilize 10s of billions of transistors?
- How might new technologies, materials, applications, and computing paradigms affect the relative impact of the three areas?
 - biological, molecular, quantum, nano, optical, reconfigurable, cellular, autonomic computing, etc.

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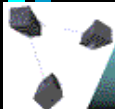


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- What will be the driving forces behind their potential impact?
 - industry, academia, government (defense)?
 - consumer base, projected market demands?
 - technology enablers, research discoveries, new applications?

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- By 2010, will there be significantly more cross-cutting/integration of research among these areas?
 - Researchers/teams with “combined” emphasis?
 - Majority of papers in the “combined” category?
 - More even distribution of papers among the categories?

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