

**Computational Science and Engineering Software Sustainability and Productivity
Challenges (CSESSP) Workshop
October 15 - 16, 2015**

Thursday, October 15, 2015		
7:30am - 8:30am	Breakfast and registration	
8:30am - 9:00am	Program Workshop Welcome: Networking and Information Technology Research and Development Program	Sol Greenspan, NITRD SDP Keith A. Marzullo, NITRD – Director Erwin Gianchandani, NSF - Acting Deputy Director, CISE Thomas Ndousse-Fetter, DOE
9:00am - 9:30am	High Energy Physics and The Issues of Software Sustainability	Robert Roser, Fermi Lab
9:30am - 10:00am	Invited lightning talks (5 minutes each) 4 in this session: 1. Addressing sustainability and performance portability challenges in Albany 2. Analysis and Optimization of High Level Languages 3. Scientific Software Sustainability The Numerical Reproducibility Challenge 4. The Need for a Common Concurrency Language	1. Irina Demeshko , Andrew Salinger and Michael A Heroux 2. Costin Iancu , Wim Lavrijsen and Koushik Sen 3. Walid Keyrouz and Michael Mascagni 4. Stephen F. Siegel, Manchun Zheng, Paul Hovland and Matthew Dwyer
10:00am - 10:30am	<i>Break</i>	
10:30am - 11:00am	Review of the agenda and breakout sessions	
11:00am - 11:45am	Breakout session 1: Explore: A, B, C, D, E, F	A. Jack Dongarra, University of Tennessee B. Richard Arthur, GE C. Ray Idaszak, RENC1 D. Daniel Katz, NSF E. Abani Patra, SUNY Buffalo F. Anshu Dubey, LBNL
11:45am - 12:15pm	Breakout report out	
12:15pm - 1:15pm	<i>Lunch</i>	
1:15pm - 2:00pm	Invited lightning talks (5 minutes each) 8 in this session: 1. Looking at Software Sustainability and Productivity Challenges from NSF 2. Lack of Software Specifications: A Sustained Sustainability and Productivity Crisis 3. Adapting Legacy Monolithic Applications into API Services for Web, Mobile and Other Clients 4. Sustainability and Reproducibility via Containerized Computing 5. A Risk-based, Practice-centered Approach to Project Management for HPCMP CREATE 6. User-Extensible Compiler Toolchains for Refactoring CSE Software 7. The curse of growing scales: from inception to successful community-driven software development 8. A Platform Strategy for Economically Sustainable Software	1. Daniel Katz and Rajiv Ramnath 2. Hridesh Rajan , Tien Nguyen, Gary T. Leavens, Robert Dyer and Vasant Honavar 3. Walter Scarborough , Carrie Arnold, Rion Dooley, Ajit Gaudi, Maytal Dahan and Matthew Hanlon 4. Robert Nagler , David Bruhwiler, Paul Moeller and Stephen Webb 5. Douglass Post , Chris Atwood and Richard Kendall 6. Christos Kartsaklis , David E. Bernholdt and Dali Wang 7. Vijay Mahadevan and Andrew Siegel 8. William Schroeder
2:00pm - 2:45pm	Breakout session 2: Explore G,H Focus: A, B, C	Lois McInnes, ANL Sandy Landsberg, DOD
2:45pm - 3:15pm	Breakout report out	
3:15pm - 3:45pm	<i>Break</i>	
3:45pm - 5:00pm	Federal Panel on CSE Software Investments: Michael Heroux, SNL Invited panelists: DOD, DOE, NASA, SEI, NIST, NSF	Guna Seetharaman, NRL Thomas Ndousse-Fetter, DOE Tom Clune, NASA Doug Post, SEI Ron Boisvert, NIST Rajiv Ramnath, NSF
5:00pm - 5:30pm	Breakout focus group	
5:30pm - 7:00pm	Poster Session with reception	Salon I

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Friday, October 16, 2015		
8:00am - 9:00am	<i>Breakfast</i>	
9:00am - 9:30am	Productivity and Sustainability in Disruptive Times	Bob Lucas, USC, LSTC
9:30am - 10:00am	Scientific Computing's Productivity Gridlock and How Software Engineering Can Help	Stuart Faulk, University of Oregon
10:00am - 10:15am	Review of day one and plan for day two	
10:15am - 10:45am	<i>Break</i>	
10:45am - 11:30am	Breakout sessions 3: Focus: D, E, F, G, H	
11:30am - 12:00pm	Breakout report out	
12:15pm - 1:15pm	<i>Lunch</i>	
1:15pm - 1:35pm	Invited lightning talks (5 minutes each) 3 in this session: <ol style="list-style-type: none"> 1. A Roadmap for Sustainable Ecosystems of CSE Software 2. Better Software, Better Research: Providing Scalable Support for Scientific Software Development 3. Opportunities in Computational Science to Advance Software Engineering 	<ol style="list-style-type: none"> 1. Roscoe Bartlett 2. Aleksandra Pawlik, Neil Chue Hong 3. Devin Matthews, Don Batory, Bryan Marker and Robert van de Geijn
1:35pm - 2:00pm	Breakout sessions 4: Write up: A, B, C, D, E, F, G, H A. Opportunities from Improved CSE SW Sustainability and Productivity B. CSE Software in Industry_Manufacturing C. Economics of Software Tools D. Social Sciences Applied to CSE Software Systems E. Workforce Development F. Role of Software Engineering Research G. Measuring Software Productivity and Performance H. New Approaches for Faster, More Affordable CSE Software	A. Jack Dongarra, University of Tennessee B. Richard Arthur, GE C. Ray Idaszak, RENCi D. Daniel Katz, NSF E. Abani Patra, SUNY Buffalo F. Anshu Dubey, LBNL G. Lois Curfman McInnes H. Sandy Landsberg
2:00pm - 3:15pm	Breakout report out	
3:15pm - 3:45pm	<i>Break</i>	
3:45pm - 5:00pm	Report structure and planning	
5:00pm - 5:10pm	Conclusion	