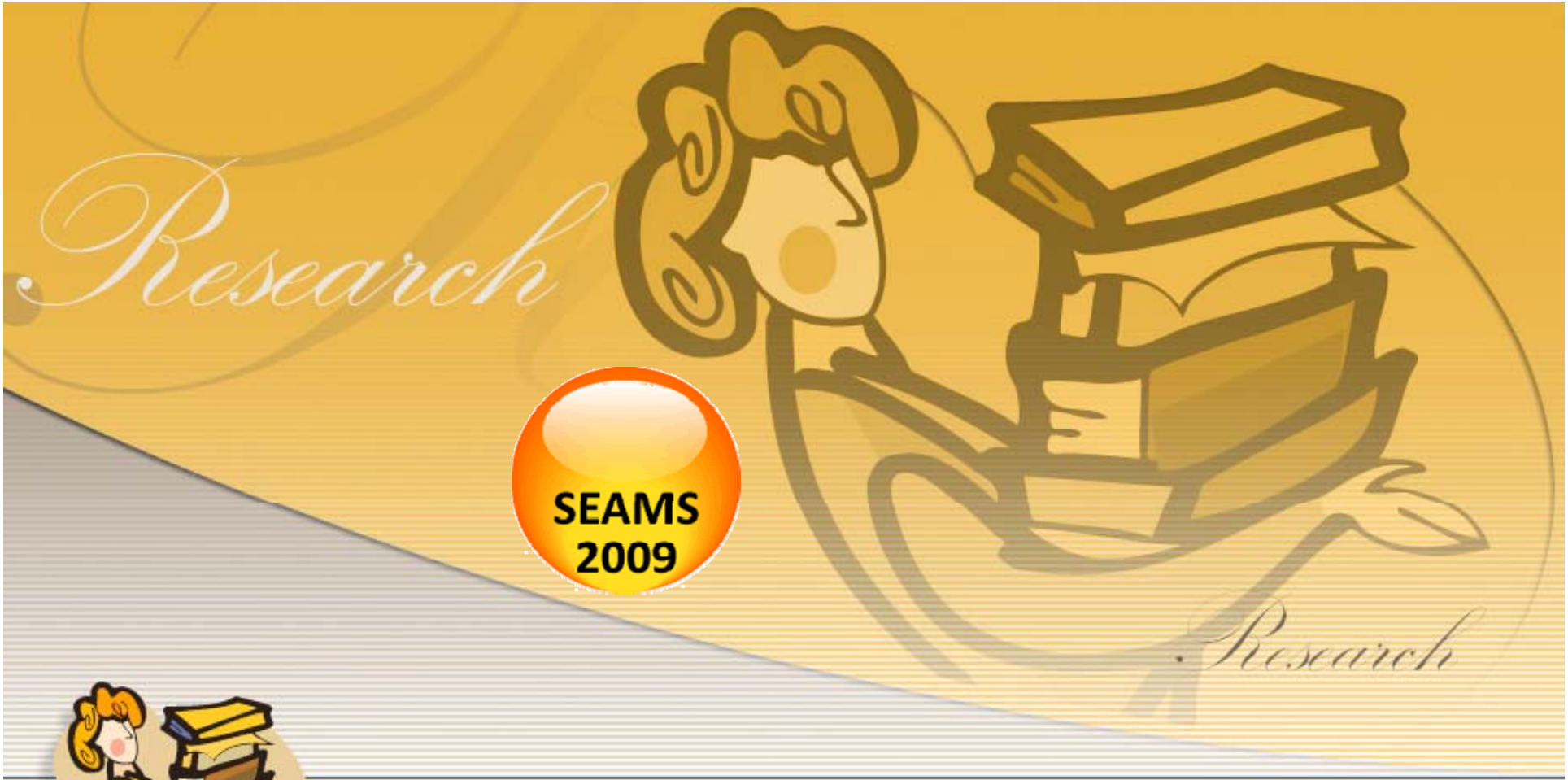


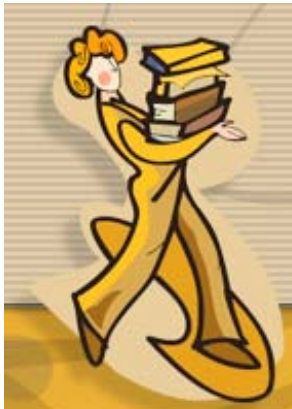
Welcome to SEAMS 2009

Software Engineering for Adaptive and Self-Managing Systems

SEAMS 2009 Program
Tuesday, May 19 Afternoon

- **16:00 — Report SEAMS Steering Committee Meeting**
  SEAMS 2010 and SEAMS 2011 Outlook
  R. de Lemos, University of Coimbra, Portugal

- **SEAMS 2010**
  - **With ICSE 2010 in Capetown, South Africa**
  - **General Chair: Rogério de Lemos, University of Coimbra, Portugal**
  - **Program Chair: Mauro Pezzè, University of Lugano, Switzerland**
- **SEAMS 2011**
  - **With ICSE 2011 in Honolulu, Hawaii, USA**
  - **General Chair: Holger Giese, Hasso Plattner Institute, Berlin, Germany**
  - **Program Chair: Betty Cheng, Michigan State University, USA**

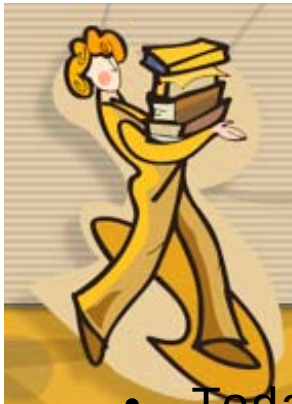


SEAMS 2009 Program
Tuesday, May 19 Afternoon

- **16:10 — SEAMS Brainstorming Fishbowl Panel**

  J. Magee, Imperial College, UK & H.A. Müller, Univ. of Victoria, Canada

  - **SEAMS challenge projects**
  - **Define SEAMS patterns**
  - **SEAMS models**
  - **SEAMS benchmarks (e.g., Znn.com)**
  - **Self-adaptive versus self-organizing**
  - **Making control loops explicit**
  - **Managing and leveraging uncertainty — trade-offs between flexibility and assurance**



Dynamical Software Systems

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- Today, there are several research communities dealing with highly dynamical and evolving software-intensive systems
- The fundamental assumption
  - The execution environment for these systems will not be known a priori at design time—only be partially known
  - Thus, the application environment of such a system cannot be anticipated statically at design time
- One strategy to approach this problem
  - To reconcile the static view with the dynamic view by breaking the traditional division among software development phases and by moving some activities from design time to run time
- What the approaches of different communities have in common is
  - To push design decisions towards run-time
  - To exhibit capabilities to reason about the system's own state and its environment
  - Different communities concentrate on different business goals and technological solutions

Biological Systems —Uncertainty

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- The internal mechanisms of humans continuously work together to maintain essential variables within physiological limits—the n-dimensional viability zone

- The goal of human self-managing behavior is directly linked to survivability
  - If the external or internal environment pushes the system outside its physiological equilibrium zone, the system will work towards returning to the equilibrium zone

Managing Tradeoffs

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- From satisfaction of requirements through traditional, top-down engineering

- To satisfaction of requirements ***by regulation*** of complex, decentralized systems

How much environment uncertainty can we afford? What's the cost?
What benefits do we accrue by accommodating context uncertainty?

16:00 Fishbowl Panel

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- A ***fishbowl conversation*** is a form of dialog that can be used when discussing topics within large groups.
- The advantage of Fishbowl is that it allows the entire group to participate in a conversation—no slides.

Fishbowl Participation

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- Six chairs — one empty chair
- Any member of the audience can, at any time, join the fishbowl by occupying the empty chair and then participate in the discussion; only people in the fishbowl can speak.
- When this happens, an existing member of the fishbowl voluntarily leaves the panel to create an empty chair
- Jeff is the enforcer ☺
- The discussion continues with participants frequently entering and leaving the fishbowl.

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Keep in mind—the more you get involved in this workshop, the more you will get out of it!

Thank you!

SEAMS 2009

- Organizers
- Program Committee
- Authors
- Attendees
- Sponsors
- ICSE 2009 Chiefs

Sponsoring Organizations

Corporate Organizations

Supporting Organizations

ICSE 2009
31th International Conference on Software Engineering
The Westin Bayshore Vancouver, British Columbia, Canada
May 16 – 24, 2009 http://www.cs.uoregon.edu/events/icse2009

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Enjoy ICSE 2009!!