

Product Lifecycle Management Industrial Partners Meeting November 29, 2007

John Sullivan

Director

Center for Advanced Manufacturing

Mileta Tomovic

Co-Director

PLM Center of Excellence

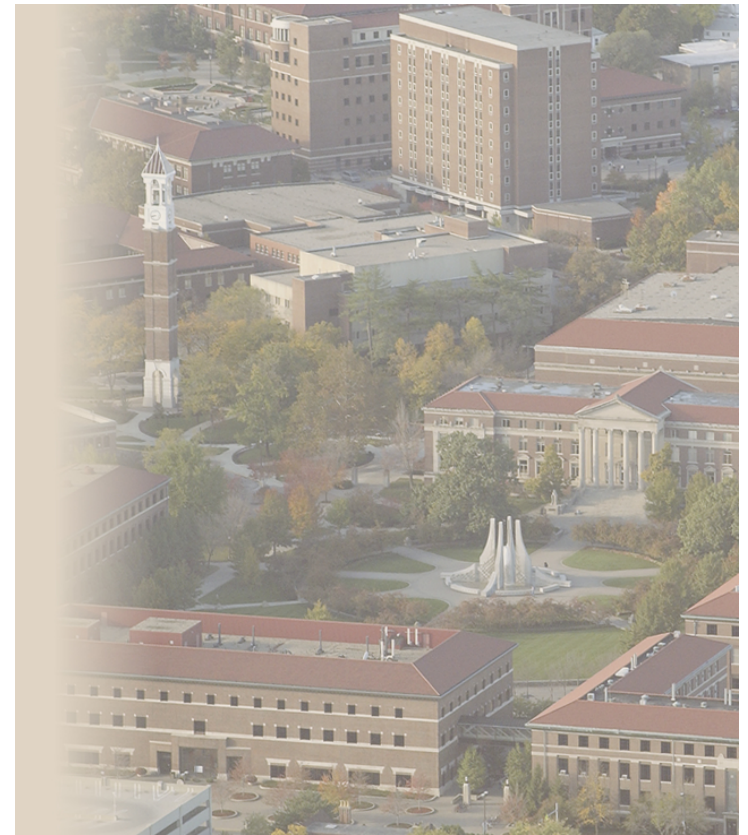
Christoph Hoffmann

Co-Director

PLM Center of Excellence

Richard Couch

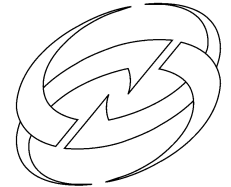
Director of Engagement



Today's Agenda

- 8:30 – 9:00 Registration and Coffee
- 9:00 – 9:30 Welcome and Center Overview – Richard Couch
- 9:30 – 10:00 Prof. Karthik Ramani – Configuration Driven Design for Knowledge Reuse During Product Lifecycle
- 10:00 – 10:30 Prof. Cynthia Tomovic – PLM Metrics
- BREAK
- 10:30 – 11:00 Prof. Nathan Hartman - Examination of Data Exchange between Contemporary CAD Tools
- 11:00 – 11:30 Prof. Ganesh Subbarayan – A procedure of Analysis of Feasibility and Uncertainty in Distributed Product Development Environments
- 11:30 – 12:00 Prof. Walid Aref - Exploratory Research in Database Systems Support for Product Lifecycle Management
- 12:00 – 12:30 Lunch
- 12:30 – 1:00 SME and NSF Overview – Prof. Mark French
- 1:00 – 1:30 PLM Certificate Program – Prof. Nathan Hartman
- 1:30 – 2:15 Dr. Michael Grieves – PLM Challenges and Opportunities
- BREAK
- 2:15 – 3:00 Open Discussion
- 3:00 – 4:00 Review of Proposed Projects – Advisory Board Members Only

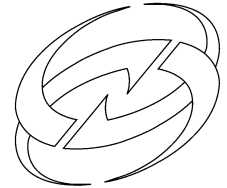
Product Lifecycle Management Center of Excellence



Mission

- Promote the advancement and implementation of the PLM vision through industry partnerships and public and private grants in **Discovery, Engagement, and Learning**.
- Provide the means where advanced technologies that allow for the implementation of PLM can be researched, applied, taught and disseminated.
 - **Research** the technology
 - **Apply** the research to real-world problem
 - **Teach** those technologies to students
 - **Disseminate** them as valuable business practices

Product Lifecycle Management Center of Excellence



Goal

- Create an environment and demonstration center where components of PLM can be researched, studied, implemented, and shared.
- Provide educational PLM experiences for undergraduate and graduate students who will understand the PLM vision, implementation strategies, and applications so they can help industry successfully integrate PLM as a business strategy.
- Provide industry practitioners PLM training materials for professional advancement.

PLM Center of Excellence

Characteristics

- Interdisciplinary Research Effort:
Management, Engineering, Science,
Technology, and Pharmacy
- 750K 3-year Purdue commitment
- Center Membership:
 - IBM
 - EDS
 - Boeing
- Other Support:
 - Procter & Gamble
 - Rolls Royce
 - Eli Lilly
 - General Motors (PACE Program)
 - Cummins
- Software:
 - Dassault Systemes
 - IBM
 - Unigraphics
 - PTC
 - Autodesk



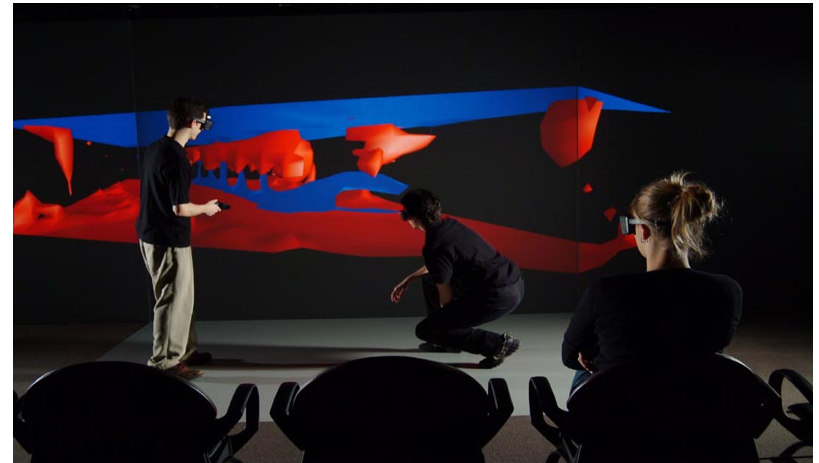
PLM Center of Excellence

- Upcoming Events
 - High Performance Computing Workshop ~ April 8, 2008
 - Advanced Manufacturing Summit ~ May 6, 2008
 - Purdue PLM Conference ~ September 8-10, 2008



Envision Center

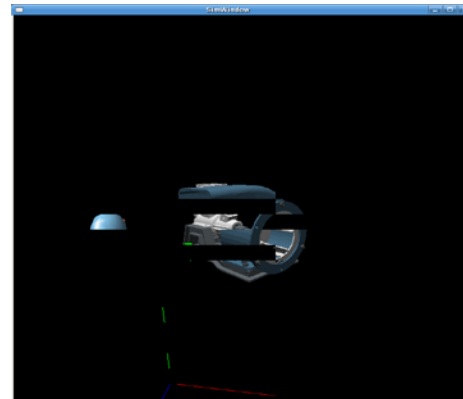
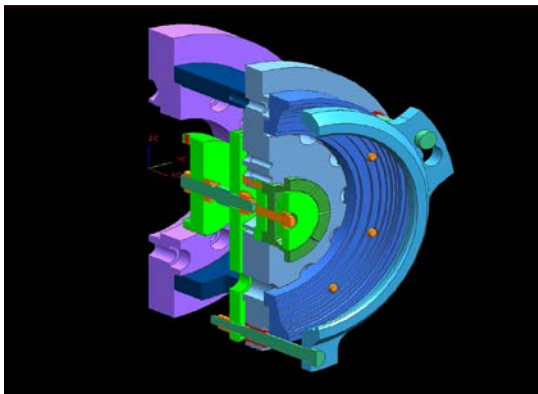
- 1. Funded by Purdue, NSF, IBM and Intel
- 2. Interdisciplinary Research facility
(14 departments)
- 3. Includes PLM showcase workstations donated through IBM SUR Grant



Current Proprietary Projects

Royce Rolls Phase III: Creation of tool libraries to facilitate digital simulation and evaluation for manufacturing planning. Create methodology for capturing 2D legacy manufacturing data in the creation of 3D manufacturing models. T/C Engineering and Community integration and Supplier Communication – Prof. Nathan Hartman

Cummins: Virtual WorkCell Project – Prof. Vince Duffy & Prof. Nathan Hartman



Current Center Projects

- Prof. Cynthia Tomovic - PLM Metrics
- Prof. Karthik Ramani – Configuration Driven Design for Knowledge Reuse During Product Lifecycle
- Prof. Nathan Hartman - Examination of Data Exchange between Contemporary CAD Tools
- Prof. Ganesh Subbarayan – A procedure of Analysis of Feasibility and Uncertainty in Distributed Product Development Environments
- Prof. Walid Aref - Exploratory Research in Database Systems Support for Product Lifecycle Management

PLM Certificate Program

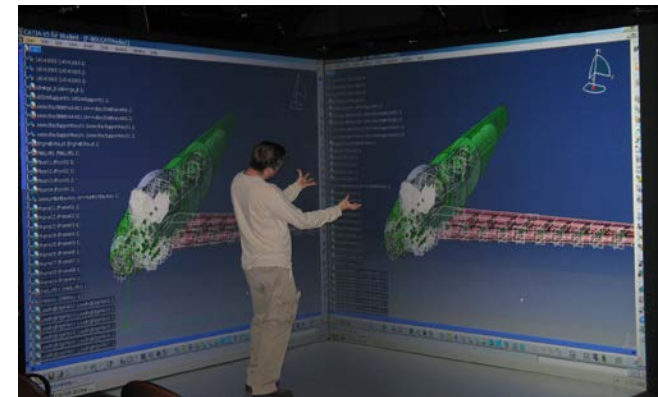
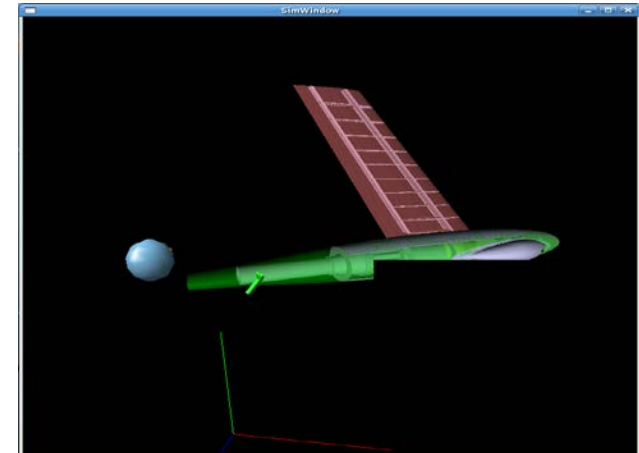
- Initially conceived and developed with Boeing
- Three 10 week classes covering Catia, Enovia, Delma
- 2 hour lecture via Adobe Connect and 2 hour lab each week
- Offered through the Purdue Continuing Education Program
- <http://www2.tech.purdue.edu/centers/plm/index.html>
- Additional investment by CAM and PLM CoE of \$100K
- Currently wrapping up the first Enovia Course.

Proposed Projects

- Advancing PLM through Multi-Disciplinary Optimization - Prof. Mark French
- Uncopiable 3 Objects: Inserting Product GenuinityTesting into the PLM Process – Profs. Aliaga and Atallah
- Creation of design spaces and exploration through visualization and configuration – Prof. Karthik Ramani
- Collaborative Integration of Virtual Technology into the Product Lifecycle – Profs. McWilliams and Ncube
- Automated Synthesis of System Reliability Model and Analysis – Profs. Zhang and Tomovic.
- Innovative Design and Development of Optical Automatic Transmission Range Sensor – Profs. Zhang and Peroulis.

Other PLMActivities

- PLM & PACE Newsletters
- Over 1500 students/yr using
Dassault, Pro-E, and UGS
- TeamCenter Community
- CAM Annual Report
- PLM Short Course
- Focal point for PACE Activities



SME and NSF PLM Grants

- \$274,000 SME award to Dr. Mileta Tomovic for the development of Curriculum Modules in Product Lifecycle Management - Over 280 teaching modules placed in the public domain.
- \$1,500,000 Phase 2 NSF grant to Dr. Tomovic to establish Regional PLM Center of Excellence and coordinate distribution of PLM modules to leading Community Colleges.

Our Goals Today!

- Update Current Members on Project Progress.
- Inform our attendees of the PLM efforts at Purdue.
- Sign up new members!

Industrial Partners Membership

- IAB Executive Membership \$50,000
- Associate Membership \$15,000
- Joint projects developed between the Partner and the PLM Center of Excellence
 - Cost dependent on scope of the project
- Intellectual Property Agreement
 - General PLM Center of Excellence agreement signed by all members
 - Specific IP agreements for company projects when required