

# Product Lifecycle Management Industrial Advisory Board Meeting April 30, 2009

**John Sullivan**

Director

Center for Advanced  
Manufacturing

**Christoph Hoffmann**

Co-Director

PLM Center of Excellence

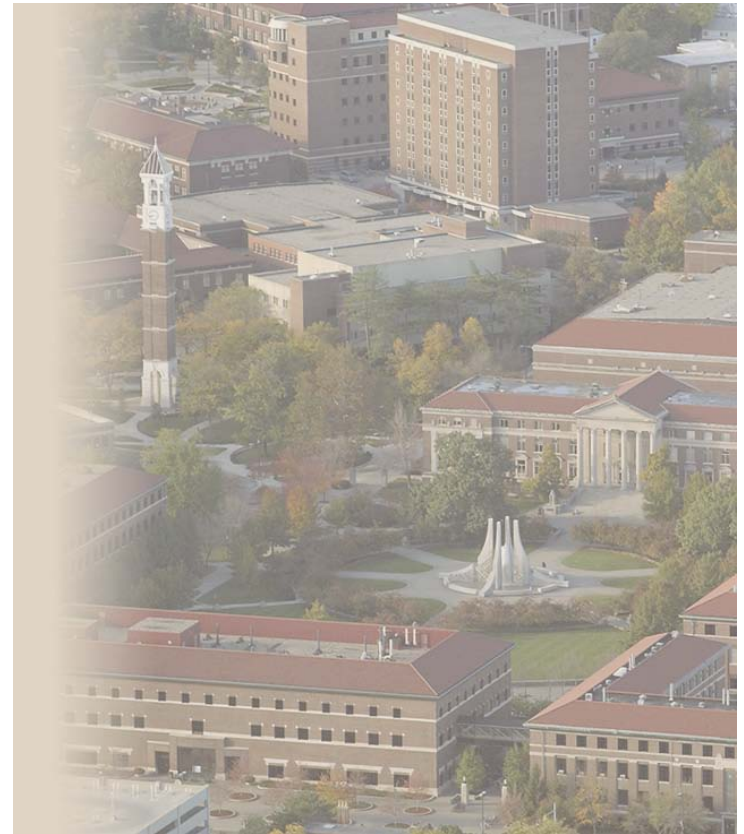
**Nathan Hartman**

Co-Director

PLM Center of Excellence

**Richard Couch**

Director of Engagement



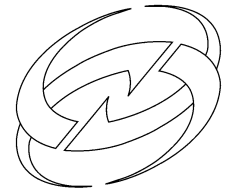
# Status of CAM

- Effective July 1, CAM will no longer be part of Discovery Park.
- Proposal set forth to move CAM to College of Engineering with a presence in Technology.
- Office will likely move back to Potter Engineering Center
- PLM Center of Excellence will continue regardless.

## Today's Agenda

- 8:30 – 9:00 Welcome / Opening Remarks – Prof. John Sullivan, Richard Couch
- 9:00 – 9:45 Robust Computational Geometry for Design, Manufacturing, and Robotics - Prof. Elisha Sacks
- 9:45 – 10:30 Examining the Use of Lightweight 3D Formats on Handheld Devices - Prof. Nathan Hartman
- 10:30 – 10:45 Break
- 10:45 – 11:30 Breaking the Barriers between Product Lifecycle and Working Knowledge™ in Design - Prof. Karthik Ramani
- 11:30 – 12:15 Product Lifecycle Management: Roadmap to Global Sustainability - Prof. Scott Homan
- 12:15 – 1:00 Lunch
- 1:00 – 1:30 PLM Certificate Program Update – Prof. Nate Hartman
- 1:30 – 2:00 PLM Metrics Update – Prof. Lisa Ncube
- 2:00 – 3:00 PLM at Cummins – Chris MacAslan
- 3:00 – 4:00 Dr. Michael Grieves – Virtual Based Design
- 4:00 IAB Member Meeting
- Discovery Park Tours

# Product Lifecycle Management Center of Excellence



## Mission

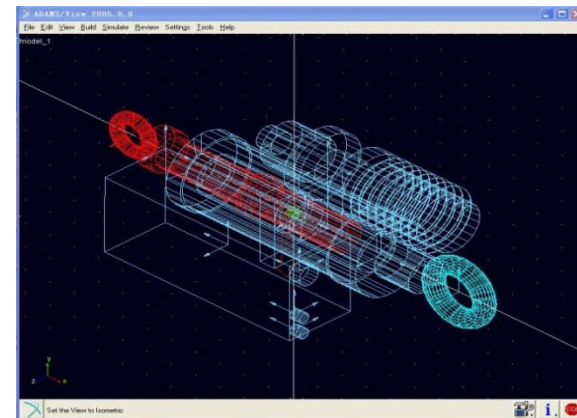
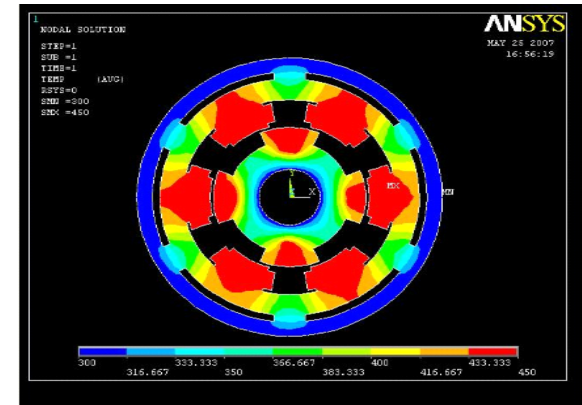
- Promote the advancement and implementation of the PLM vision through industry partnerships and public and private grants in **Discovery, Engagement, and Learning**.
- Provide the means where advanced technologies that allow for the implementation of PLM can be researched, applied, taught and disseminated.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

# Strategic Direction Statement

- The Purdue University Product Lifecycle Management Center of Excellence is dedicated to maintaining a leadership position among academic institutions by expanding our areas of PLM research, engaging new faculty members in projects, and creating new PLM learning opportunities for Purdue students. The PLM Center is a collaborative partnership with the business community that will promote the adoption and advancement of PLM by defining optimal business practices, establishing a holistic approach to unleash the business value and realizing the potential for business transformation. Center research projects will focus on the creation of innovation opportunities; the leveraging of emerging technologies, overcoming challenges of PLM adoption; cultural and organizational issues; creating a blueprint for achieving optimized results and benefits. We will advance the human development and educational needs of industry through the launch of initiatives such as the PLM Certificate Program. The Center shall also assist members with the pursuit of potential IP resulting from projects, placement of students in internships and recruitment of graduates.

# PLM Center of Excellence

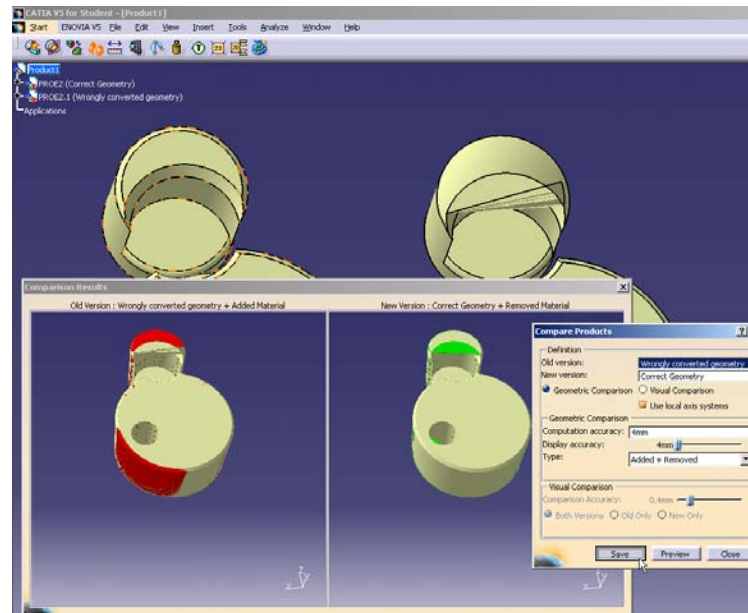
- Interdisciplinary Research Effort:  
Management, Engineering, Science,  
Technology, and Pharmacy
- 750K 3-year Purdue commitment
- Center Membership:
  - Siemens PLM Software
  - Cummins
  - Honda
  - EDS
  - Boeing
  - MSC Software
- Other Support:
  - Procter & Gamble
  - Rolls Royce
  - Eli Lilly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



# PLM Center of Excellence

## • Events

- Advanced Manufacturing Summit – March 25th
- PACE Forum Cancelled
- ASME International Conference on Manufacturing Science and Engineering – October 4-7, 2009





# Previous PLM Center Projects

- PDM Investigation, Evaluation, Implementation, and Demonstration for PLM – Dr. Craig Miller
- Development of a Streamlined Methodology to Showcase the PLM Projects in Immersive Virtual Environments – Dr. Nathan Hartman
- Models to Support Auto-ID Based Process Control Systems in PLM – Dr. Edie Schmidt
- Integrated Sensing and Diagnostics for Product Life Cycle Health Management of Gas Turbine Engines : Application to Wire Harnesses and Connectors – Dr. Douglas Adams E)
- PLM Metrics (1, 2, &3) – Prof. Cynthia Tomovic
- Next Generation DHM for Assessing Short Duration Events in Work Analysis & Design - Prof. Vince Duffy
- 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
- Advancing Product Lifecycle Management through Multi-Disciplinary Optimization – Prof. Mark French
- Creation of Design Spaces and Exploration Through Visualization and Configuration – Prof. Karthik Ramani



# Current Center Projects

- Robust Computational Geometry for Design, Manufacturing, and Robotics - Prof. Elisha Sacks
- Examining the Use of Lightweight 3D Formats on Handheld Devices - Prof. Nathan Hartman
- Breaking the Barriers between Product Lifecycle and Working Knowledge™ in Design - Prof. Karthik Ramani
- Product Lifecycle Management: Roadmap to Global Sustainability - Prof. Scott Homan

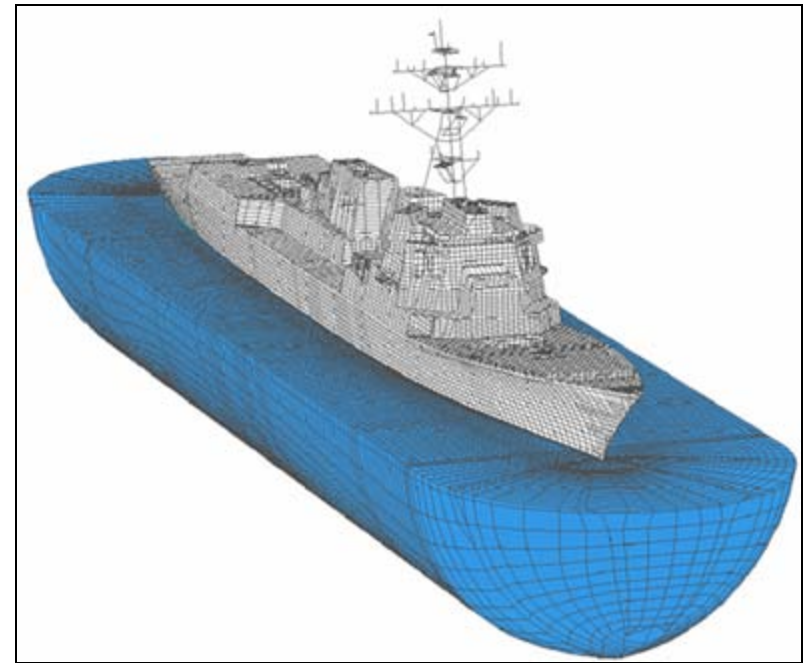
# Other PLM Activities

- Prof. Pat Connolly - NSF Proposal
- PLM Hub
- Envision Center
- Rolls Royce Project



# Other Engagements

- Caterpillar
- John Deere
- Biomet
- Lockheed Martin
- Oracle
- Emerson
- American Axle

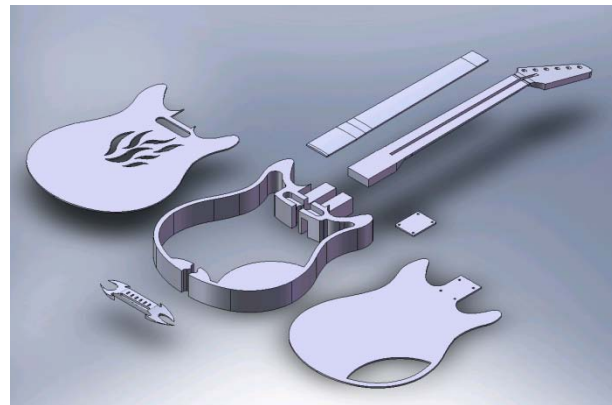


# PLM Certificate Program

- Initially conceived and developed with Boeing
- Three 10 week classes covering Catia, Enovia, Delmia
- 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
- Scheduled to kick off in June
- Licensing hurdle cleared with DSS

# SME and NSF PLM Grants

- \$274,000 SME award to Dr. Mileta Tomovic for the development of Curriculum Modules in Product Lifecycle Management (Completed)
- \$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. (In Product Build Stage)



# Industrial Partners Membership

- 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

# NCAA Basketball Tournament

■ Purdue 76

■ Washington 74

