

High Performance Materials, Manufacturing and Product Innovation

Presented By:

Stephen C. Veldhuis Ph.D. P.Eng.

Professor and Director (MMRI)

McMaster Manufacturing Research Institute

McMaster University

Hamilton, Ontario

(Approved for limited circulation)



MMRI

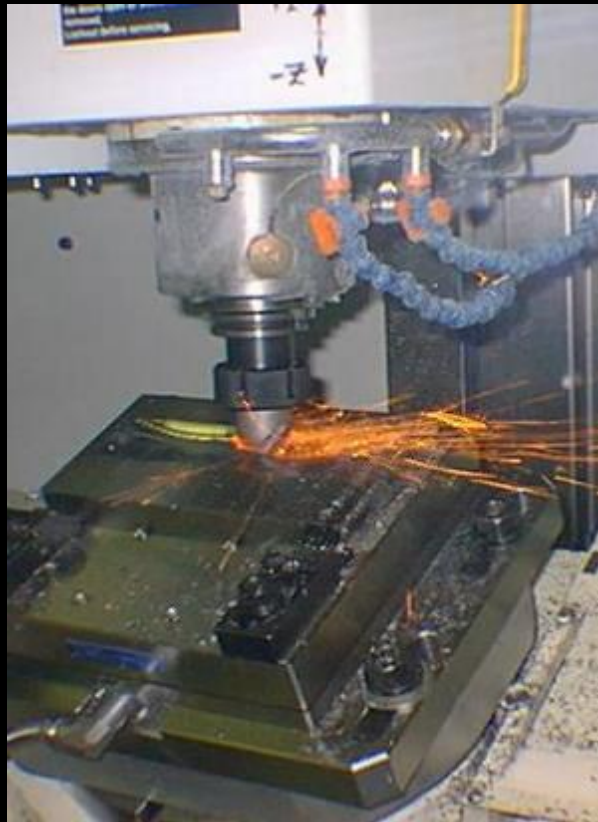
McMaster Manufacturing
Research Institute

McMaster Manufacturing Research Institute

Material
Development

Manufacturing

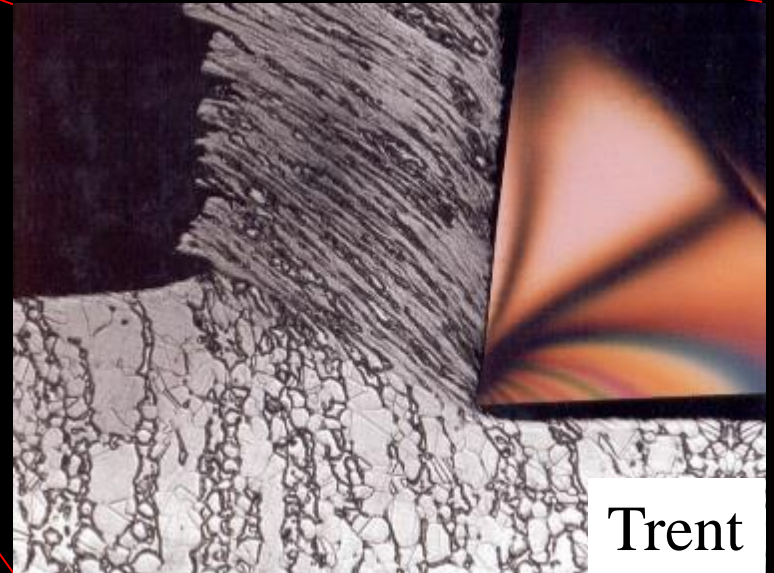
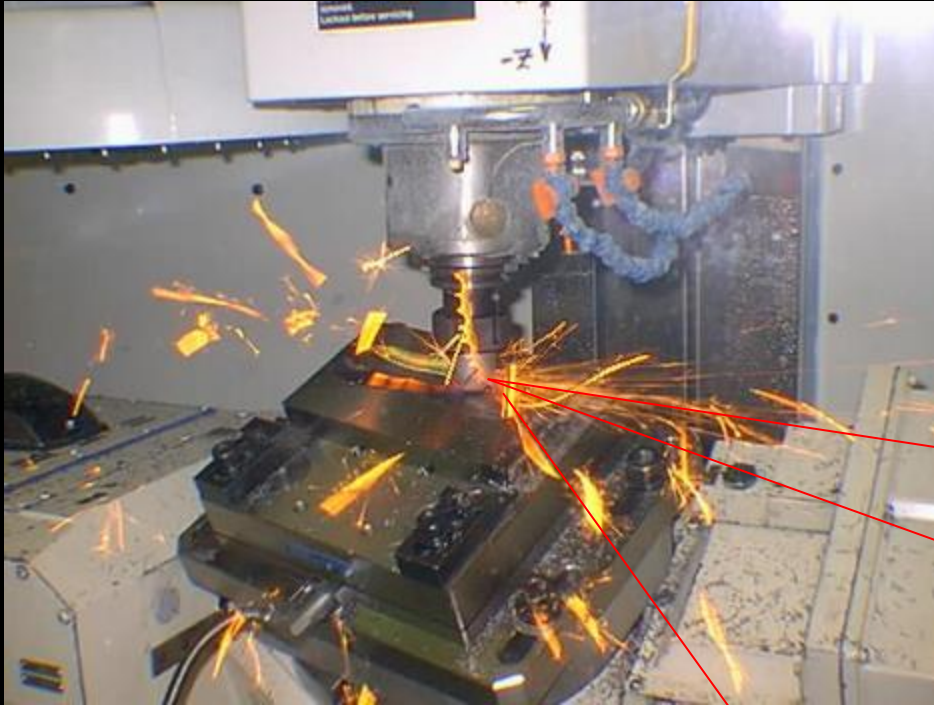
Final Products



McMaster Manufacturing Research Institute



Machining Systems Lab - Look at Manufacturing Differently

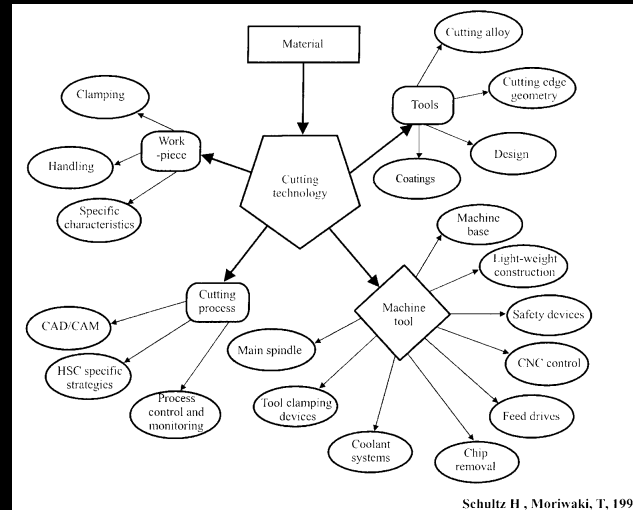


Trent

Set Process Parameters

Decisions

- 100's of decisions dictate
 - Productivity
 - Quality
 - Cost
 - Robustness
- Impact
 - Competitiveness
 - Canada's ability to retain economic activity and jobs



Traditional Activity

Automotive

- Cost
 - Add performance at same or lower cost
 - Meet government safety and emission regulations
- Productivity
 - Most plants produce 300,000 units +
- Quality
 - Meet expectations



Traditional Activity

Aerospace

- Safety
 - Cannot pull over while flying to fix a problem
- Performance
 - Fuel is a major operating cost
 - \$60,000 to fly to UK
 - Weight reduction
 - Challenging Materials





Opportunity

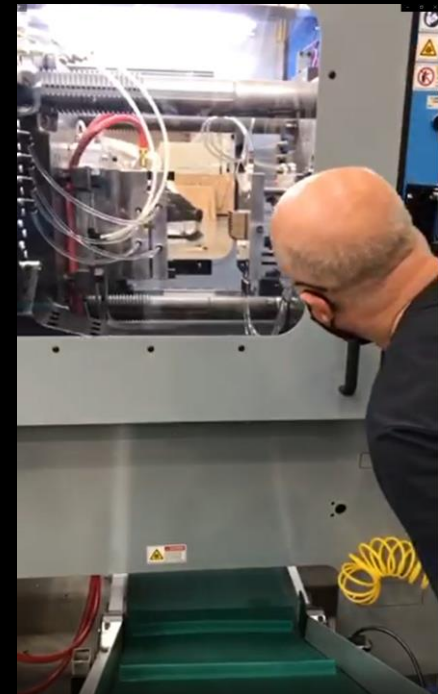
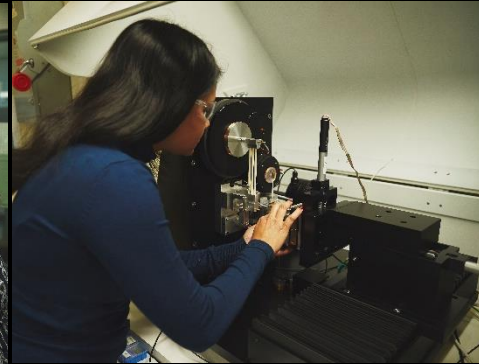
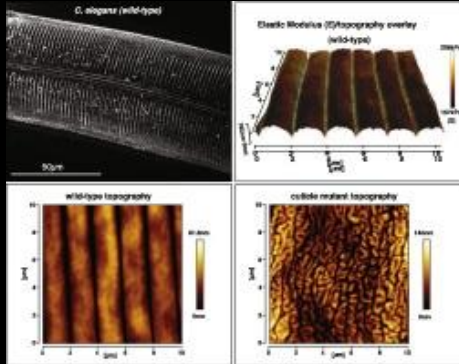
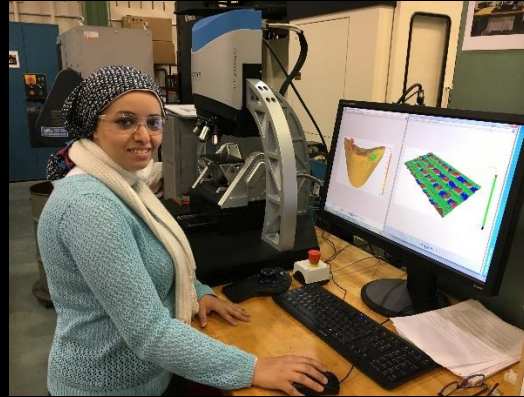
Medical Devices

- Consistency
- Safety
- Cost
- Productivity



Unique Capability

CCEM



Work together to realize innovative products and service.

- **New ones or improved ones**

**Creating
Opportunities**

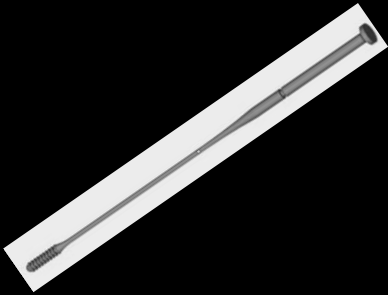


- Help with Charactering materials and relating to processing
- Support prototyping and scale up to mass production
 - Design for manufacturing in Canada
- Leverage hospital purchasing with innovative ideas from within the medical community

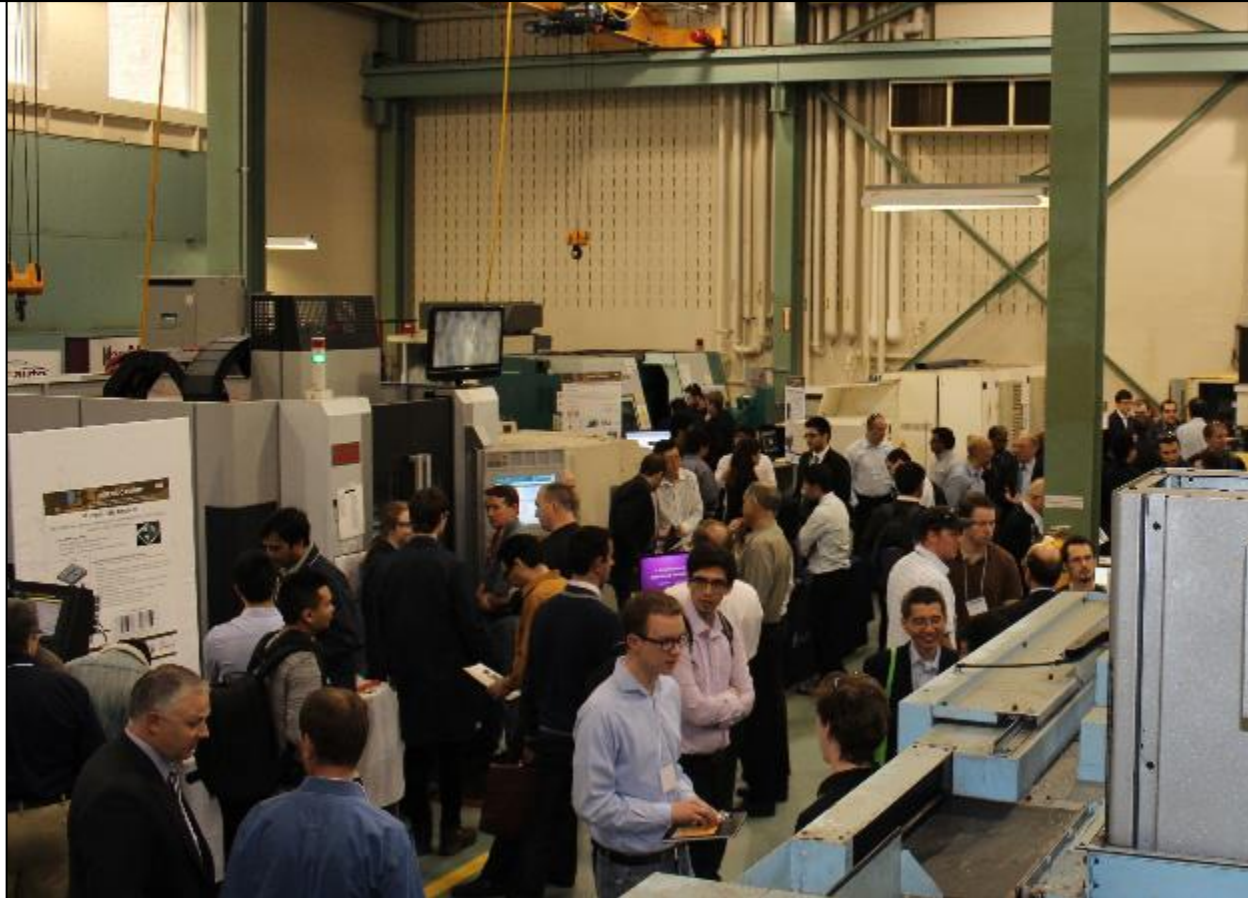
Examples



Centre of Excellence in Protective
Equipment and Materials (CEPEM)



McMaster Manufacturing Forum and Industry Open House



Manufacturing A Renaissance

MMRI – Annual Industry Open House

Stephen C. Veldhuis Ph.D., P.Eng.

Professor and Director

McMaster Manufacturing Research Institute (MMRI)

Tel: (905) 525-9140 e. 27044

Mobile: (905) 512-2992

Email: veldhu@mcmaster.ca

Web: <http://mmri.mcmaster.ca>

Public: <http://scholar.google.ca/citations?user=X8eOTIoAAAAJ>

