



STEP Manufacturing Conference & Demonstration (ISO-TC184/SC4/WG3/T24)

October 1-2, 2008

Connecticut Center for Advanced Technology, Inc. (CCAT)
East Hartford, Connecticut, USA





Connecticut
Center for
Advanced
Technology, Inc.

Facilities



CCAT Collaboration Center
with State-of-the-Art
Conferencing Technology
Seating for 18 people with video-
conferencing capability

CCAT Theater and
Training Facility
Seating for 75 people, both
classroom- and theater-style



Regional Advanced
Manufacturing Capability
Located near the CCAT Advanced Manufacturing Center,
CCAT Laser Applications Laboratory, United Technologies
Research Center (UTRC), and more than 40 aerospace
engine component builders in the Connecticut region



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Technology Resources

Software

CG Tech's Vericut, CNC Software's Mastercam, Pathtrace's Edgecam, Dassault Systemes' SolidWorks, Autodesk, Third Wave Systems' AdvantEdge/Production Module 3D, Manufacturing Automation Laboratory's CutPro/ShopPro, Dassault Systemes' Delmia

Hardware

CNC Machining Center: Multi-axis CNC (TBD)

Laser Technology: Lasertec DMG 80 Powerdrill Shape, 10kW Yb:Glass
Fiber Laser, Laser Drilling Work Cell, P50L Coupled to Work Cell, Nutfield Laser Driller

Other Technology: Kuka Robot

CAD Software: SolidWorks, Autodesk Inventor.

CAM/Verification Solutions: CNC Software's Mastercam, Pathtrace's EdgeCAM, CGTech's Vericut.

Process Analysis Tools: Third Wave Sys. – AdvantEdge/Production Module, DEFORM, MAL

CUTPRO, GrindSIM, ESI-PAM-RTM, ESI-Procast, ESI-Sysweld, Minitab.

Factory Analysis Tools: eVSM, DELMIA QUEST, Production Flow Analysis and Simplification Toolkit (PFAST), ExpertFit, SigmaFlow VSM & Modeler, Visual8 Lean Modeler.

Other Process Modeling: DELMIA V5 – DPM Assembly, DELMIA V5 – Robotics, DELMIA V5 – Ergonomics Complete.

Visualization Tools/Data Converters: 3D Studio Max, TriDef Visualizer, Okino Polytrans, Mercury Amira, TriDef Visualizer, VRSim MiniViz.

Reverse Engineering and Inspection: Rapidform.





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Local Hotels

CCAT Location

222 Pitkin Street
East Hartford, Connecticut 06108 USA

<http://www.ccat.us>

Hotels

Sheraton Hartford Hotel

Preferred Conference Hotel

10 minute walk to CCAT

Newly renovated hotel offering restaurant, indoor pool and fitness center. Easy access and plenty of parking

Rate: Approximately \$79-199 (€50-128)

100 East River Drive

East Hartford , Connecticut 06108 USA

Hartford Marriott Downtown

20 minute walk to CCAT

The Hartford Marriott Downtown hotel rises 22 stories above the Connecticut River in downtown Hartford, CT. This is the newest luxury hotel in Hartford, and the only hotel located on the riverfront

Rate: Approximately \$270-380 (€172-243)

200 Columbus Blvd

Hartford, Connecticut 06103 USA

Hilton Garden Inn

15 minute drive to CCAT

The Hilton Garden Inn Hartford South/Glastonbury is located in the quaint New England suburb of Glastonbury, 3.5 miles southeast of Hartford

Rate: Approximately \$195-250 (€124-160)

85 Glastonbury Blvd

Glastonbury , Connecticut 06033 USA

Regional Interest



Autumn Foliage Information

Foliage season in Connecticut and throughout New England begins in mid-to-late September and extends through mid-to-late October. Peak color throughout New England is estimated to occur in early-mid October 2008. However, depending on the weather at the time, the peak date may be adjusted a few days earlier or later as the season progresses. Beginning in mid September, foresters report the levels of color spread from across the region.

Tips For All Leaf Viewing

- Make hotel reservations in advance.
- Try to plan your trip during mid-week; you will find that roads are quieter giving you more opportunity to enjoy the views.
- Make an adventure out of your trip, explore the region's back roads. Some of the best sights are off the beaten path.
- Don't worry about missing "peak" color. You will still be able to enjoy a full array of colors that can be found before "peak".
- Make time to explore some areas on foot. Hiking allows you to truly experience the foliage.

Other Regional Entertainment

Foxwoods Resort and Casino
<http://www.foxwoods.com/>

Mohegan Sun Resort and Casino
<http://www.mohegansun.com/>

Hartford City Website:
<http://www.hartford.gov/>

Hartford Tourism website:
<http://www.hartford.com/>



Connecticut
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Air Transportation

Local Airport

Hartford/Springfield, Connecticut-Bradley International Airport (Code BDL)

More information: <http://www.bradleyairport.com>

30 minutes drive from CCAT

Northwest Airlines offers non-stop flights to/from Amsterdam (Code AMS) to Hartford-BDL

Rate: Roundtrip approximately \$800 (€512)

More information: Northwest Airlines (<http://www.nwa.com>)

Other Regional Airports

Boston, Massachusetts-Logan International Airport (Code BOS)

More information: <http://www.massport.com>

2 hour drive from CCAT

New York, New York-JFK International Airport (Code JFK)

More information: <http://www.panynj.gov/CommutingTravel/airports/html/kennedy.html>

3 hour drive from CCAT

Providence, Rhode Island-T.F. Green International Airport (Code PVD)

More information: <http://www.pvdairport.com/>

1.5 hour drive from CCAT



Agenda

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- Agenda – Demonstration Day 1
 - Wednesday October 1st
 - Introductions
 - The STEP-NC Concept
 - Feed speed optimization
 - Closed loop machining
 - Cutting tool library
 - Machine tool data model
 - Tool path generation
 - Five axis machining of an Impeller
 - Machining
 - Probing
 - Round table discussion of STEP-NC benefits
 - Boeing perspective
 - NIST perspective
 - CCAT perspective
 - Sandvik perspective
 - Standards developer perspective
- Agenda – Technical Day 2
 - Thursday October 2nd
 - Feed speed optimization
 - Machine tool parameters
 - Shop parameters
 - Machining simulation
 - Discussion of machine tool model
 - Results of testing
 - ISO 13399 Tooling Interface
 - CAM → Tool assembly station
 - Tool assembly station → CNC
 - On and Off machining Probing
 - Measurement features
 - Measurement evaluation
 - Traceability
 - Spindle power
 - Cutter location