



## 4<sup>th</sup> Industrial Advisory Board (IAB) Meeting

## **Center for Precision Forming (CPF)**

(www.CPForming.org)

-NSF I/UCRC at the Ohio State University and Virginia Commonwealth University-April 30-May 1, 2008

Hilton Garden Inn Richmond Innsbrook, 4050 Cox Road, Glen Allen, VA 23060 804-521-2900, 804-521-2901 Fax (Please call and reserve your own room, mention VCU- CPF Meeting) www.richmondinnsbrook.gardeninn.com

## Wednesday, April 30

Wednesday, April 30	
12:00-	Lunch
13:00	Welcoming Remarks –
	Dean Jamison & Directors T Altan and M. Koc & NSF Director and Center Evaluator
13:30	Introductions
14:00	Program Overview – Taylan Altan and Muammer Koc
14:20	Technical Session I (each presentation 20 minutes with Q&A)
	<b>Project 1.1 - Warm Hydroforming and Stamping of AI, Mg and Stainless Steel</b> (OSU) (FE simulation and experiments in warm deep drawing of AI and Mg sheet, progress and future plans),
	Project 1.3 –Quality Control in Forming of AHSS- Springback and its Variation (OSU-VCU) (tool design and manufacturing, planned experiments, determination of E modulus variation, improvement of springback prediction using FEA),
	Project 2.2b – Determination of Al Alloy Sheet Properties at Elevated Temperature using the Hydraulic Bulge Test (VCU) (Warm Hydraulic Bulge Test results on Al, Mg and Stainless Steel Alloys will be discussed. Future plans will be presented)
15:20	Break/Networking
15:40	Technical Session II (each presentation 20 minutes with Q&A
	Project 2.3a– Investigation Galling Behavior in Forming AHSS (OSU) (Twist Compression Test and Strip Drawing Test to evaluate various die materials/coatings and lubricants with DP600 GI/GA and TRIP 680 GA)  Project 2.3b – Evaluation of Various Stamping and Lubricants in Forming AHSS (OSU) (Deep Drawing and Ironing Tests to evaluate the performance of six different stamping lubricants with DP590 GA that was supplied by Radar Industries)  Project 2.4 – Development of Die Wear Testing Method and Apparatus for Cold and Warm Forming of Light Alloys (VCU) (Die wear test results on several tool steel (D2, Vancron, Vanadis, Carmo, etc.) and DP 600 will be presented. Future plans for system design and measurements will be discussed)  Project 3.1 –Micro/Nano- Engineered Functional Surfaces for Fuel Cells, Heat & Mass Transfer Applications (VCU) (Process, Tool and System designs for micro-manufacturing of engineered surfaces for fuel cells, fuel processors and heat/mass transfer applications will be discussed. Cold and hot compaction experimental results on micro-scale porous surfaces will be presented)
17:20	Adjourn for the day
19:00	Reception and Dinner (TBD)









## Thursday, May 1

THUI Suu	y, way i
8:00	Technical Session III (each presentation 20 minutes with Q&A)
	CPF 5.1: Evaluation of bendability of AHSS (OSU)
	<ul> <li>CPF 5.2: Prediction and elimination of edge cracking of AHSS in stretch flanging (OSU)</li> </ul>
	<ul> <li>CPF 5.3: Die life issues in trimming/cutting/blanking dies for AHSS fabrication (VCU</li> </ul>
	<ul> <li>CPF 5.4: Warm forming of engineered blanks- Al, Mg, Ti and AHSS (VCU)</li> </ul>
	<ul> <li>CPF 5.5: Hot stamping of boron steels (OSU)</li> </ul>
	<ul> <li>CPF 5.6: Applications of servo-drive presses in stamping (OSU)</li> </ul>
	<ul> <li>CPF 5.7: Instrumented Electromagnetic Ring Expansion for Determination of Constitutive</li> </ul>
	Relations for High Strain Rate Forming
	•
10:00	Discussion of projects / future plans
	<ul> <li>LIFE Form Summaries and Discussions,</li> </ul>
	<ul> <li>Project voting/selections,</li> </ul>
	<ul> <li>CPF Operational Report (Finances, Inter-Institutional Agreement, IP issues),</li> </ul>
	<ul> <li>Approval of IAB minutes,</li> </ul>
	New Business,
	<ul> <li>Selection of 5th IAB date (will be held in Columbus, OH)</li> </ul>
	This session is open only to CPF Members and selected guests as approved by IAB Chairman and Co-Directors IN ADVANCE OF MEETING.
12:00	Working lunch (box lunches) & Adjournment

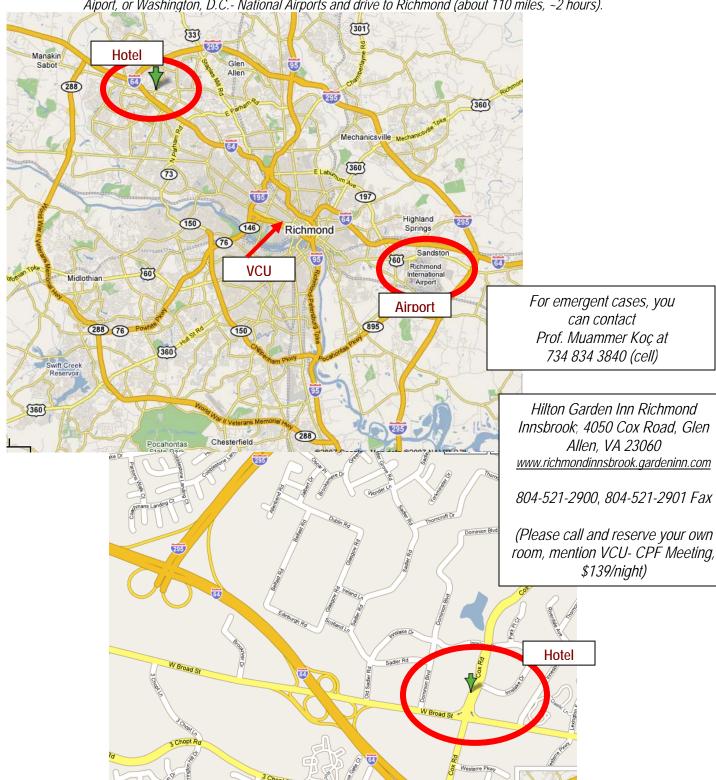




CPR

Ath MR will be hold in Hilton Corden in an 4050 Cay Rd. Clan Allen Virginia (northwest section of greater Richmond). There

4th IAB will be held in Hilton Garden in on 4050 Cox Rd, Glen Allen, Virginia (northwest section of greater Richmond). There are direct flights to Richmond International Airport from major hubs. Alternatively, you can fly into Washington, D.C.- Dulles Aiport, or Washington, D.C.- National Airports and drive to Richmond (about 110 miles, ~2 hours).





NSF Industry/University Cooperative Research Center on Precision Forming (CPF)
- Ohio State University (OSU) and Virginia Commonwealth University (VCU) -



