North American Manufacturing Research Institution of SME announces...

SIXTEENTH NORTH AMERICAN MANUFACTURING RESEARCH CONFERENCE

NAMRC XVI
May 25-27, 1988
University of Illinois at Urbana-Champaign
Urbana, Illinois, USA
CONFERENCE PROSPECTUS

The sixteenth North American Manufacturing Research Conference (NAMRC XVI) is designed to provide a forum for the timely presentation and critical discussion of models of basic and applied research in machining, machining, and related manufacturing systems. The papers presented at this conference will describe research in the fields of metal forming, metal machining, grinding, non-traditional processes, machine tools, manufacturing systems, robotics, and related controls. All papers presented at the conference are contained in the proceedings of the conference proceedings and are available for purchase at the registration area.

The conference will consist of three paper tracks: forming, material separation, and manufacturing systems. The paper sessions will consist of the formal presentation of the paper and a discussion period that encourages interaction with the attendees. We urge you to attend and actively participate.

CONFERENCE LOCATION

The conference will be held at the University of Illinois at Urbana-Champaign. All conference sessions, except the General Session and the evening reception, will be held in the Illini Union building, corner of Gaffey and Wright Streets, Urbana, Illinois. The General Session will be held in the Reardon Center for Performing Arts on Goodwin Street and the reception will be held at the Illini Union Center on West Illinois Street.

TRANSPORTATION TO CONFERENCE

ILINOIS, USA

PROCEEDINGS

All registered conference participants will receive one bound copy of the NAMRC XVI Proceedings at conference registration. Additional copies may be purchased at the conference or after June 1 by mail order through the Society of Manufacturing Engineers, One SME Drive, P.O. Box 936, Dearborn, Michigan 48121 USA. Phone (313) 275-1300, Ext. 418. The cost per copy is $10 for NAMRC SME and SME members, $15 for non-members.

PARKING

Conference parking is available at the Illini Union only for those guests who are staying at the Union. Parking for all other conference attendees is limited to metered street and parking garages.

REGISTRATION FEES

The registration fee for NAMRC XVI is $225 US currency for advance registration, and $240 US currency for on-site registration on May 24, 25, and 26. The fee includes entrance to all technical sessions, refreshments, two lunches, the conference banquet, and a bound copy of the conference proceedings. There will be no on-site registration fees nor will there be any refused fees for authors or session chairs.

The student registration fee is $100 US currency in advance or $125 US currency at the door. This fee is a special rate to encourage attendance by students, and includes all technical sessions, and a bound copy of the conference proceedings. Additional banquet and lunch/lunch tickets will be available for purchase at the registration area.

TO REGISTER

Complete and return the registration form with the appropriate fee. Checks, money orders or purchase orders should be made payable to the University of Illinois and should be mailed to: Conference Operations, Room 162, Administration Building, 505 South Wright Street, Urbana, Ill. 61801. Federal Employee Identification Number (F. E. I. N.) must be included on purchase orders. All payments should be in U.S. currency.

LODGING

The primary hotel for the conference is the Illini Union, located on campus. A block of rooms has been reserved for conference participants until April 25, 1989. On-site lodging is also available to meet the individual needs of registrants. The following is a listing of available lodging accommodations. Conference attendees should be aware that they may be required to make their own reservations as early as possible. To reserve the special conference room rates (where applicable) be sure to mention that you will be attending the North American Manufacturing Research Conference.

Bluestone

1411 West Green Street

Urbana, IL 61801

(217) 333-1254

Rates:

$42.00 Single

$48.00 Double

(Tax)

The following hotels also have rooms available for the conference:

Jewett's Castle Lodge

300 South Broadway

Urbana, IL 61801

(217) 331-6180

Rates:

$50.00 Single

$60.00 Double

(Pax tax)

University Inn

302 East John Street

Champaign, IL 61820

(217) 333-2180

Rates:

$50.00 Single

$60.00 Double

(Pax tax)

The rates listed above include a 7% sales tax. Please note that the rates listed above include a 7% sales tax. Please note that the rates listed above include a 7% sales tax. Please note that the rates listed above include a 7% sales tax. Please note that the rates listed above include a 7% sales tax.
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The conference will consist of three paper tracks: forming, metal removal, and manufacturing systems. The paper sessions will consist of the formal presentation of the papers plus a discussion period that encourages interaction with the attendees. We urge you to attend and actively participate.

CONFERENCE LOCATION

The conference will be held at the University of Illinois at Urbana-Champaign. All conference sessions, except the General Session and the evening reception, will be held in the Illini Union building, located near Green and Wright Streets, Urbana, Illinois. The General Session will be held in the Auditorium Theater on the University of Illinois campus.

TRANSPORTATION TO CONFERENCE

Champaign-Urbana is served by the following airlines: TWA, Pudumuki, Continental Express, Caribou, Midway, and Allegheny. Local service companies provide limousine service at a reasonable cost from the Willard University Airport to the University of Illinois campus on a daily basis and will meet all incoming flights. Travel time from the airport to the Illini Union is just fifteen minutes. AMTRAK service is available from Chicago and points south. Located in the central Illinois area, Champaign-Urbana is an hour east of the major midwestern cities: Chicago (134 miles), St. Louis (135 miles), and Indianapolis (130 miles). Each is conveniently served via interstate highways I-57, I-72, and I-74 respectively.

The primary hotel for the conference is the Illini Union, located on campus. A block of rooms has been reserved for conference participants until April 28, 1988. Other lodging is also available to meet the individual needs of registrants. The following is a listing of available lodging alternatives. Conference attendees are urged to make their own reservations as early as possible. To receive the special conference room rates (where applicable) please be sure to mention that you are attending the North American Manufacturing Research Conference.

Illini Union

1401 West Green Street

Urbana, IL 61801

Rates: $42.00 Single

$86.00 Double

(Plus Tax)

The following hotels also have rooms available for the conference:

Juno's Castle Lodge

209 South Broadway

Urbana, IL 61801

(217) 348-8500

(800) 525-5857

University Inn

202 East John Street

Champaign, IL 61820

(217) 344-2100

(800) 322-1569

Rates: $50.00 Single

$100.00 Double

(Plus Tax)

(Plus Tax)

PROCEEDINGS

All registered conference participants will receive one bound copy of the NAMRC XVI Proceedings at conference registration. Additional copies may be purchased at the conference or, after June 1, by mail order through the Society for Manufacturing Engineers. Contact SME, 2500 Olentangy Blvd., Columbus, Ohio 43215 USA. Phone (614) 321-2240. The cost per copy is $60 (for NAMRC, SME and SME members, $30 for non-members).

PARKING

Conference parking is available at the Illini Union only for those guests whose staying at the Union. Parking for all other conference attendees is limited to metered street and garage facilities in the vicinity of the Illini Union.

FURTHER INFORMATION

For further conference information, please call Joan Cherowath at the Office of Conference and Inspections (217) 333-2803 or Professor Shiv Kapoor (217) 333-3423. Inquiries regarding conference attendees will be accepted at (217) 333-5090 and will be posted to a bulletin board near the registration area.
SIXTEENTH NORTH AMERICAN MANUFACTURING RESEARCH CONFERENCE (NAMRC XVI)

TECHNICAL SESSIONS AND PROGRAM

TUESDAY, MAY 24
5:00-8:45 p.m.
REGISTRATION AND RECEPTION
Ilani Union

NAMRI/SME BOARD OF DIRECTORS MEETING
Ilani Union, General Lounge

WEDNESDAY, MAY 25
8:00-8:45 a.m.
REGISTRATION
Kroonert Center

8:45-10:00 a.m.
GENERAL SESSION
Kroonert Center, Festival Theater

INTRODUCTIONS
Mr. Karpov, Chairman of the Organizing Committee

WELCOMING REMARKS
Mr. Van Valkenburg, Dean, College of Engineering
R. Neff, Vice-Chairman for Academic Affairs, University of Illinois at Urbana-Champaign
T. Albers, President, NARM/SME
Professor and Director, Engineering Research Center
Ohio State University

KEYNOTE ADDRESS:
"Advanced Technology Needs in Manufacturing"
Dr. Fred Maschmeyer, Manager, Manufacturing Systems Department, Research Staff, Ford Motor Company, Dearborn, Michigan

10:00-10:30 a.m.
COFFEE BREAK

10:30-12:00 noon
SESSION 1 Ilani Union


B. Co-Chairmen: R. Komanduri, National Science Foundation, Washington, D.C. and S. M. Copley, University of Southern California


2. "Surface Layer Damage in the Grinding of Advanced Engineering Ceramics" G. Spurr and J. R. T. Ho, Technische Universität Berlin, West Germany

3. "Mechanisms of Material Removal in the Lapping of Non-Oxide Ceramics" G. Spurr and J. Sabo, Technische Universität Berlin, West Germany

C. Co-Chairmen: A. Jonee, John Deere, Moline, Illinois and J. C. Clark, Purdue University, Indiana


2. "Pattern Recognition Approach for Group Technology Implementation" E. P. Goumides, C. P. Him, and L. Ham, Pennsylvania State University

3. "Automotive Group Technology Classification from Feature Models" J. J. Shah and A. Bhunagari, Arizona State University

6:00 p.m.
COCKTAILS
Ilani Union Ballroom

7:00-9:00 p.m.
CONFERENCE BANQUET
Ilani Union Ballroom

THURSDAY, MAY 26
8:30-10:00 a.m.
SESSION 4 Ilani Union


2. "Flexible Cold Forging" R. D. Hansen and L. Hanssreim, Technical University of Denmark, Denmark


4. "Investigation of a New Upper Face to Study the Formability of Materials for Cold Forming" D. V. Williams


12:00-1:30 p.m.
NAMRI/SME LUNCHEON
Ilani Union Ballroom

1:30-2:00 p.m.
SESSION 5 Ilani Union


2. "Ultrasonic Vibratory Punching of Glass — Epoxy Printed Wiring Board" Y. Ogasawara, K. Katayachi, and H. Hachisu, Mitsubishi Electric Corporation, Amagasaki, Japan


1. "Torsion Parameters for Erosion Rate and Tool Wear in EDM" K. P. Rajurkar and J. S. Springer, University of South Dakota, Lincoln

2. "The Phase Shift Between Cutting Force and Tool Displacement During Turning with Vitrifying Tool" D. A. Macdougall, German University, Pennsylvania


C. Co-Chairmen: W. A. Kline, Klenbic Inc., Raleigh, North Carolina, and M. Groves, Lehigh University, Pennsylvania


2. "A Vapour Deposited Temperature/Pressure Sensor for Indium Tin Oxide/Acetone" M. Khosla and J. A. Stowers, Queen’s University, Kingston, Ontario, Canada

COFFEE BREAK

10:00-10:30 a.m.

THURSDAY, MAY 26

6:00 p.m.

COCKTAILS  
Hilton Union Ballroom

7:00-9:00 p.m.

CONFERENCE BANQUET  
Hilton Union Ballroom

12:30-12:00 noon

SESSION 1  
Hilton Union ABC

1. "Cutting Force Model for Tool Condition Monitoring when Turning with Ceramic Tools", G. Warmke and A. Jensen, Universität Kaiserslautern, West Germany
3. "Investigation on Tool Wear Mechanisms in Milling of Titanium Alloys", W. Wang and Y. Z. Zhang, Nanjing Aeronautical Institute, China
C. Co-Chairmen: R. Srinivasan, T. J. Watson Research Center, IBM, Yorktown Heights, New York, and F. C. Furse, Tennessee Technological University
2. "Development of Software Modules for a Flexible Manufacturing System for Sheet Metal Parts", M. Grogg and U. Seifried, University of Erlangen-Nuremberg, Germany

LUNCHEON  
Hilton Union Ballroom

1:30-2:00 p.m.

SESSION 2  
Hilton Union ABC

A. Co-Chairmen: A. Konevskich, University of Illinois at Urbana-Champaign, and K. F. Kennedy, Alcoa Laboratory
B. Co-Chairmen: J. A. Magnel, University of Edinburgh, United Kingdom and J. Smidkamp, Galtrea Inc., Porto Alegre, Brazil
1. "Sensing Parameters for Erosion Rate and Tool Wear in EDM", R. P. Raghuram and J. E. Springer, University of Nebraska-Lincoln
C. Co-Chairmen: W. A. Kline, Kaisermetal Inc., Raleigh, North Carolina and M. Groux, Lehigh University, Pennsylvania
2. "A Vapour Deposited Temperature/Pressure Sensor for Industrial Robots/Automation", W. Xiaomi and J. Jeeves, Queen's University, Kingston, Ontario, Canada

REFRESHMENT BREAK

3:45-5:00 p.m.

TOURS OF MECHANICAL AND INDUSTRIAL ENGINEERING LABORATORIES

5:00 p.m.

WINE AND CHEESE RECEPTION

Lever Family Center, Third Floor

6:00 p.m.

NAMPI/SME MEMBERSHIP MEETING

Lever Family Center, Room 407

ASME P&I EXECUTIVE COMMITTEE MEETING

Levin Family Center, Room 407

DINNER ON YOUR OWN

Friday, May 27

8:30-10:00 a.m.

SESSION 7  
Hilton Union

A. Co-Chairmen: M. Deveroux, Clarkson University and K. A. Syron, University of Missouri-Columbia
2. "Experimental and Numerical Comparison of Sheet Straining", B. B. Yoo, B. S. Roh, and N. Kach, University of Michigan
LUNCHEON Elri Union Ballroom
1:30-3:00 p.m.

SESSION 2 Elri Union
A. Co-Chairman: K. Konopelov, University of Illinois at Urbana-Champaign, and R. F. Kennedy, Asea Laboratories, Alcoa Center, Pennsylvania
1. "A Novel Approach to Metal Flow Prediction and Analysis for Drawing of Complex Shapes", M. Kamin, Ontario Center for Advanced Manufacturing, Canada
2. "Computer Aided Simulation of Shape Rolling Process", M. Kuchle and J. Tanyiunas, University of Tokyo, Japan
3. "Analysis of the Ring Compression Test Using a General Friction Model and the Upper Bound Elemental Technique", P. H. Hansan, N. Kay, and P. Christensen, Technical University of Denmark, Denmark
4. "Strategic for Friction Modeling in Computer Simulatations of Metal Forming", W. J. D. Wilson, Northwestern University, Illinois
B. Co-Chairmen: B. Klemes, University of Minnesota and P. Bandara, General Motors Research Laboratories, Warren, Michigan
3. "Mechanical and Material Influences on Machined Surface in Precision Turning of Steel with Ceramics", J. P. Warcheke and P. Behr, University Karlsruhe, West Germany
C. Co-Chairmen: M. Czygorda, Stanford University, California and M. Piggott, Coolidge Instrument of Technology, United Kingdom
2. "Hydraulic Servo System Design for Noncircular Machining", J. C. Tsao and M. Tomiyama, University of California at Berkeley
3. "Improving Robotic Positioning Accuracy by Local Interpolation", E. Masoud, Texas A&M University

3:00-3:30 p.m.
REFRESHMENT BREAK

3:30-5:00 p.m.
SESSION 3 Elri Union
1. "AFIT: An Automated Forging Design System", J. P. Tang and S. J. Oh, Battelle Columbus Division, Columbus, Ohio
2. "Application-Oriented CAD System for Multi-Stage Tooling Design for Cold Forging", W. Mielke and K. Langer, Universität Stuttgart, West Germany
3. "Three-Dimensional Finite Element Analysis of Metal Forming Processes with Special Reference to Boundary Conditions", Cao Li-Ji, T. Y. Chung, and W. Q. Chen, Fudan University, China
2. "High-Speed Turning -- Areas of Applications and Typical Problems", D. Villa, F. Lombardi and R. Leoi, Politecnico di Torino, Italy
C. Co-Chairmen: C. R. Lee, Purdue University, Indiana and W. Zehle, Marut Research Associates, Cincinnati, Ohio
B. Chairman: R. Komanduri, National Science Foundation, Washington, D.C.
"Panel on Machining Research"
Panelists: M. T. DeFay, National Science Foundation, Washington, D.C.
C. Way, Ford Motor Company, Dearborn, Michigan
W. Zehle, Marut Research Associates, Cincinnati, Ohio
C. Co-Chairmen: A. Warrnc, National Bureau of Standards, Gaithersburg, Maryland and T. F. Conte, University of Illinois at Urbana-Champaign
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