

CONFERENCE TIME TABLE

All meeting rooms are in the Gainesville Hilton Inn except for the Monday morning session which will be held at the J. Wayne Reitz Union Auditorium on the Campus of the University of Florida, Gainesville.

SUNDAY, APRIL 16

Registration and Reception—
6:00—8:00 pm, Gainesville Hilton Inn,
Rooms Beta-Gamma-Delta

MONDAY, APRIL 17

Breakfast 7:00 am, Gainesville Hilton Inn, Room Alpha
Registration 8:00 am, Gainesville Hilton Inn, Alcove
Opening Session 9:15 am, J. Wayne Reitz Union Auditorium
Morning Break 10:00—10:30 am
Sessions 1, 2 10:30 am, Rooms 361-362-363, 346-347
Luncheon 12:00—1:30 pm, Room Alpha
Sessions 3, 4 1:30 pm, Rooms Beta-Gamma-Delta,
Epsilon-Sigma-Omega
Afternoon Break 3:00—3:30 pm
Sessions 5, 6 3:30 pm, Rooms Beta-Gamma-Delta,
Epsilon-Sigma-Omega
Reception 6:00—7:00 pm, Room Alpha
Dinner 7:00—9:00 pm, Room Alpha

TUESDAY, APRIL 18

Breakfast 7:00 am, Room Alpha
Registration 8:00 am, Alcove
Sessions 7, 8 8:30 am, Rooms Beta-Gamma-Delta,
Epsilon-Sigma-Omega
Morning Break 10:00—10:30 am
Sessions 9, 10 10:30 am, Rooms Beta-Gamma, Delta,
Epsilon-Sigma-Omega
Luncheon 12:00—1:30 pm, Room Alpha
Sessions 11, 12 1:30 pm, Rooms Beta-Gamma, Delta,
Epsilon-Sigma-Omega
Afternoon Break 3:00—3:30 pm
Sessions 13, 14 3:30 pm, Rooms Beta-Gamma-Delta,
Epsilon-Sigma-Omega
Evening Free

WEDNESDAY, APRIL 19

Breakfast 7:00 am, Room Alpha
Registration 8:00 am, Alcove
Sessions 15, 16 8:30 am, Rooms Beta-Gamma-Delta,
Epsilon-Sigma-Omega
Program
Concludes 10:00 am

PROCEEDINGS

Each fully paid registrant attending the Conference will receive a hardcover bound copy of the PROCEEDINGS (8½ x 11 inches). Additional copies may be purchased at the time of registration for \$25.00. After April 19, 1978 the PROCEEDINGS will be available from the Society of Manufacturing Engineers, 20501 Ford Road, P.O. Box 930, Dearborn, Michigan 48128.

ASME
CSME
SME
AIIE
ASM
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AIME

With the participation of the following:

University of Florida
in Gainesville

Site of the SIXTH NORTH AMERICAN METALWORKING RESEARCH CONFERENCE

APRIL 16-19, 1978, GAINESVILLE, FLORIDA

Society of Manufacturing Engineers
20501 Ford Road, P.O. Box 930
Dearborn, Michigan 48128



Scientific, Engineering and
Research Personnel
in the Field of
Metalworking
Please take note:
An International Conference
on Metalworking and
Manufacturing

NON PROFIT ORG.
U. S. POSTAGE
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REGISTRATION TIME AND LOCATION

SUNDAY, APRIL 16, 1978—6:00-8:00 P.M.

Rooms Beta-Gamma-Delta

Gainesville Hilton Inn, 2900 S. W. 13 Street

Gainesville, Florida

MONDAY/TUESDAY/WEDNESDAY,

APRIL 17, 18, 19, 1978

8:00 A.M. in the Alcove • Gainesville Hilton Inn

PRE-REGISTRATION

Pre-registration by mail is required before April 1 to assure accommodations. A block of rooms is reserved at the Gainesville Hilton Inn.

Please give your complete mailing address on the pre-registration card. The registration fee is \$150.00. A check for this amount payable to "NAMRC-VI CONFERENCE," should accompany the pre-registration card.

CONFERENCE LOCATION

All technical sessions will be held in the Gainesville Hilton Inn. The opening session will be held at the J. Wayne Reitz Union Auditorium on the Campus of the University of Florida.

TRANSPORTATION

By Air
Gainesville is served by Eastern Airlines (from Atlanta and Miami) and Florida Airlines (from Jacksonville). Limousine service is available from the Gainesville Airport to the Hilton Inn. It is also feasible to fly to Jacksonville and to drive a rental car to Gainesville (80 miles).

By Auto

From I-75, take the southernmost exit for Gainesville (S.R. 121) east to U.S. 441. Turn north on U.S. 441 and proceed approximately 1 mile. Hilton Inn is on the west (left) side of the road. From Jacksonville, take I-10 west to U.S. 301; 301 south to Waldo, then S.R. 26 to Gainesville. At the second set of traffic lights, turn west (right) on S-232 and proceed to U.S. 441. Turn south on U.S. 441 and proceed about 7 miles. Hilton Inn is on the right.

Transportation between the University of Florida Campus and the Hilton Inn will be provided by bus, when required.

FOR FURTHER INFORMATION, PLEASE CONTACT

Drs. Craig S. Hartley or E. Dow Whitney, Department of Materials Science and Engineering, University of Florida, Gainesville, Florida 32611, U.S.A. Telephone (904) 392-1451.

REGISTRATION FEES

	Participant	Ladies Program
Full Conference Monday or Tuesday only	\$150	\$50
Wednesday only	\$100	\$25
	\$ 80	

The fees include participation at the sessions, breakfast on Monday, Tuesday, and Wednesday, refreshment breaks, lunches on Monday and Tuesday, Conference dinner on Monday, and one copy of the **NAMRC-VI PROCEEDINGS**. Additional copies of the **NAMRC-VI PROCEEDINGS** will be available at the Conference for \$25.00 per copy. The fees do not include accommodations, lunch on Wednesday or dinner on Sunday or Tuesday.

Your pre-registration must be received no later than April 1 and should be confirmed prior to attending the program. This is necessary to assure adequate accommodations.

TAX DEDUCTION OF EXPENSES: An income tax deduction is allowed for expenses of education (including registration fee, travel, meals, lodging) undertaken to maintain and improve professional skills (see Treas. Reg. 1.162-5).

LADIES PROGRAM

An interesting ladies program is being planned for those not participating in the technical sessions. The program will consist of day trips to Silver Springs and St. Augustine, Florida. Since bus and other facilities must be booked in advance of the meeting, we will greatly appreciate early registration so that we may properly plan these events. If you will be accompanied by someone interested in this program, please check the appropriate box on the registration form.

CONFERENCE SPONSORS

- Department of Materials Science and Engineering
University of Florida, Gainesville, Florida
in conjunction with:
- American Society of Mechanical Engineers
 - Canadian Society of Mechanical Engineers
 - Society of Manufacturing Engineers
 - Association of American CIRP Industrial Sponsors
 - American Institute of Industrial Engineers
 - American Society for Metals
 - American Institute of Mining, Metallurgical and Petroleum Engineers

CONFERENCE PROSPECTUS

The Sixth North American Metalworking Research Conference (NAMRC-VI) has, as its purpose and scope, the presentation and discussion of the results of basic and applied metalworking research. The format of the Conference is similar to NAMRC-I held at McMaster University in 1973, NAMRC-II held at the University of Wisconsin in 1974, NAMRC-III held at Carnegie-Mellon University in 1975, NAMRC-IV held at Battelle Columbus Laboratories and Ohio State University in 1976, and NAMRC-V held at the University of Massachusetts in 1977.

The papers presented at this Conference will describe work in the fields of metal forming, metal removal, and manufacturing systems and control.

All papers presented at the Conference are contained in the Conference **PROCEEDINGS** which will form part of a special issue of the **SME Manufacturing Engineering Transactions**, and represent the work conducted in many renowned metalworking research centers in North America, Europe, and Japan.

CONFERENCE ORGANIZATION

The North American Metalworking Conferences have been created by a group in North America dedicated to furthering knowledge, its dissemination and application in the field of materials processing.

The papers presented at this Conference were selected by the Scientific Committee of NAMRC from a large number of submissions. All Conference arrangements were made by the NAMRC-VI Organizing Committee.

SCIENTIFIC COMMITTEE

B. Avitzor Lehigh University	I. Ham Pennsylvania State University
J. Bollinger University of Wisconsin	S. Kobayashi University of California
G. Boothroyd University of Massachusetts	S. Ramalingam Georgia Institute of Technology
L. Colwell University of Michigan	W. Rice, Chairman Queens University
N. Corak Massachusetts Institute of Technology	J. Schey Waterloo University
D. Fiench Waterloo University	M. Shaw Arizona State University
J. Frisch University of California	B. von Turkovich University of Vermont

ORGANIZING COMMITTEE

J. T. Black American Institute of Industrial Engineers	C. J. Kayser Society of Manufacturing Engineers
B. Cheri National Science Foundation	L. Kops Canadian Society of Mechanical Engineers
M. De Vries American Society of Mechanical Engineers	L. Malvern University of Florida
H. L. Giegel American Society for Metals	A. R. Thomson American Association of CIRP Industrial Sponsors
C. S. Hartley, Co-Chairman University of Florida	E. D. Whitney, Co-Chairman University of Florida
A. E. Hoffmann American Institute of Mining Metallurgical and Petroleum Engineers	

SUNDAY, APRIL 16, 1978

6:00-8:00 pm. Registration, Gainesville Hilton Inn, Rooms Beta-Gamma-Delta

MONDAY, APRIL 17, 1978

7:00 am. Breakfast, Gainesville Hilton Inn, Room Alpha
 8:00 am. Registration, Gainesville Hilton Inn, Alcové

OPENING SESSION 9:15 am J. Wayne Reitz Union Auditorium

CHAIRMAN

William B. Rice, Chairman, Scientific Committee, NAMRC-VI and Head Mechanical Engineering Department, Queen's University, Kingston, Ontario

SPEAKERS

Words of Welcome, Wayne H. Chen, Dean of the College of Engineering, University of Florida
 Introductory Remarks, William B. Rice
 Announcements, Craig S. Hartley, Department of Materials Science and Engineering

COFFEE BREAK 10:00-10:30 am

SESSION 1 10:30 am, J. Wayne Reitz Union, Rooms 361-362-363

CO-CHAIRMEN

T. Altan, Battelle Columbus Laboratories, Columbus, Ohio
 R. Fanning, Alcoa Aluminum Company, New Kensington, Pennsylvania

AUTHORS

"Prediction of Flow in Forging and Extrusion Using UBET." A. N. Bramley, Leeds University, England, J. I. Thornton, GKN Group Research, England.
 "Note on an Approximate Deformation Analysis of Strain Rate Sensitive Materials." Y. Tomita, Kobe University, Kobe Japan, R. Sowerby, McMaster University, Ontario, Canada, and Y. Seguchi, Kobe University, Kobe, Japan
 "An Engineering Approach to the Matrix Operator Technique for Slip Line Field Construction." R. D. Venter, University of Toronto, Toronto, Canada, R. L. Hewitt, National Research Council of Canada, Ottawa, Canada, and W. Johnson, Cambridge University, Cambridge, England
 "An Analytical Model for Side Spread in Rolling of Flat Products." W. R. D. Wilson and K. F. Kennedy, University of Massachusetts, Amherst, Massachusetts

SESSION 2 10:30 am, J. Wayne Reitz Union, Rooms 346-347

CO-CHAIRMEN

D. T. Koenig, General Electric Company, Schenectady, New York
 B. F. von Turkovich, University of Vermont, Burlington, Vermont

AUTHORS

"An Adaptive Control System for the ECM Process." R. E. Fromson, Westinghouse Research Laboratories, Pittsburgh, Pennsylvania
 "A Study of An Adaptive Control System for Milling with Force Constraint." J. Tlusty, A. Cowley, and M. A. A. Elbestawi, McMaster University, Hamilton, Ontario, Canada
 "Use of Manual Adaptive Control in the Evaluation of New Metal Cutting Tools." L. Fuch, K. Obermiller, Carnegie-Mellon University, Pittsburgh, Pennsylvania, A. Shuster, Kennametal Inc., Latrobe, Pennsylvania, and M. C. Shaw, Arizona State University, Tempe, Arizona

LUNCHEON 12:00-1:30 pm, Gainesville Hilton Inn

SESSION 3 1:30 pm, Gainesville Hilton Inn, Rooms Beta-Gamma-Delta

CO-CHAIRMEN

R. Komanduri, General Electric Company, Schenectady, New York
 L. E. Malvern, University of Florida, Gainesville, Florida

AUTHORS

"Lubrication Effects During the Hydrostatic Extrusion of Aluminum Wire." R. Lugosi and A. T. Male, Westinghouse R&D Center, Pittsburgh, Pennsylvania
 "Surface Defect Development During Hydrostatic Extrusion of Aluminum Wire." R. Lugosi and A. T. Male, Westinghouse R&D Center, Pittsburgh, Pennsylvania
 "Similarities in Mechanics of Extrusion and Continuous Chip Formation." J. N. Garner, Northern Telecom Canada Ltd., Lachine, Quebec, Canada, and W. B. Rice, Queen's University at Kingston, Ontario, Canada

SESSION 4 1:30 pm, Gainesville Hilton Inn, Rooms Epsilon-Sigma-Omega

CO-CHAIRMEN

L. V. Colwell, University of Michigan, Ann Arbor, Michigan
 M. Field, Mercut Research Associates, Cincinnati, Ohio

AUTHORS

"Economic Models for Process Planning." V. A. Tiptis, S. A. Vogel, Mercut Research Associates, Cincinnati, Ohio, H. L. Gegel, Wright Patterson Air Force Base, Ohio
 "The Economics of Peripheral Milling." I. Yellowley, A. Wong, Westinghouse Canada, Ltd., and B. DeSmit, McMaster University, Hamilton, Ontario, Canada
 "A Methodology for Improved Process Planning of Machining Operations Through Efficient Experimentation." R. E. DeVor, W. J. Zdeblick, University of Illinois, Urbana, Illinois, V. A. Tiptis, and S. Buescher, Mercut Research Associates, Cincinnati, Ohio

COFFEE BREAK 3:00-3:30 pm

SESSION 5 3:30 pm, Gainesville Hilton Inn, Rooms Beta-Gamma-Delta

CO-CHAIRMEN

W. B. Rice, Queen's University at Kingston, Ontario, Canada
 H. Rogers, Drexel Institute of Technology, Philadelphia, Pennsylvania

AUTHORS

"An Approximation Method for Calculation of Forming Operations." K. Lange, M. Rehnitz, and K. Roll, Universität Stuttgart, Stuttgart, West Germany
 "Analysis of Metal Flow in Nosing of Tubular Products." G. D. Lahoti, and T. Altan, Battelle Columbus Laboratories, Columbus, Ohio
 "Analysis of Thickness Reduction Deep Drawing with Simultaneous Ironing." V. Nagpal, Battelle Columbus Laboratories, Columbus, Ohio.
 "Finite Element Analysis of Round to Square Extrusion Processes." W. Webster and R. Davis, University of Missouri-Rolla, Rolla, Missouri

SESSION 6 3:30 pm, Gainesville Hilton Inn, Rooms Epsilon-Sigma-Omega

CO-CHAIRMEN

S. Ramalingam, Georgia Institute of Technology, Atlanta, Georgia
 N. Zlatin, Consultant to Mercut Research Associates, Cincinnati, Ohio

AUTHORS

"Computer Hierarchy and Multi-Processor System for the Control of Flexible Manufacturing Systems." G. Stute and D. Binder, Universität Stuttgart, Seidenstrasse, Germany
 "Transfer Line Efficiency as Affected by Stochastic Station Stoppages." A. Villa, Istituto Elettrotecnico Nazionale Galileo Ferraris, Torino, Italy, and S. Rossetto, Politecnico di Torino, Torino, Italy
 "Quantitative Design Tools for Computerized Manufacturing Systems." J. J. Solberg, Purdue University, West Lafayette, Indiana
 "An Application of Set Theory to the Verification of N/C Tapes." D. C. Gosard, Massachusetts Institute of Technology, Cambridge, Massachusetts, and F. S. Tsuchiya, MITS

AUTHORS

"Verification and Analysis of Some Dynamic Cutting Force Coefficient Data." J. Tlusty and B. S. Rao, McMaster University, Hamilton, Ontario, Canada
 "Optimizing Dynamic Force in Shock Excitation Testing." T. Moriwaki, K. Iwata, Kobe University, Kobe, Japan, and S. Ueno, Japan Society for the Promotion of Machine Industry, Japan
 "Origin and Control of Noise in Aluminum Extrusion Cur-Off Saw." J. G. Bollinger and M. F. DeVries, University of Wisconsin, Madison, Wisconsin
 "A Fundamental Study of Regenerative Chatter Under Orthogonal Cutting." C. Poli, University of Massachusetts, Amherst, Massachusetts, Y. Nozawa, Komatsu Manufacturing Company, Ltd., Tokyo, Japan, and J. Otsuka, Research Laboratory of Precision Machinery and Electronics, Tokyo Institute of Technology, Yokohama, Japan.

LUNCHEON 12:00-1:30 pm

SESSION 11 1:30 pm, Gainesville Hilton Inn, Rooms Beta-Gamma-Delta

CO-CHAIRMEN

W. Hoford, University of Michigan, Ann Arbor, Michigan
 A. T. Male, Westinghouse Research and Development Center, Pittsburgh, Pennsylvania

AUTHORS

"Effect of Tool and Workpiece Geometries Upon Bending Forces and Springback in 90° V-Die Bending of HSLA Steel Plate." R. J. Shippell and K. J. Weinmann, Michigan Technological University, Houghton, Michigan
 "Free Bulge Forming of Tubes Under Internal Pressure and Axial Compression." W. J. Sauer, A. Gotera, F. Robb and P. Huang, Carnegie-Mellon University, Pittsburgh, Pennsylvania
 "Analysis of Tungsten Carbide Components for Very High Pressure Manufacturing Equipment." C. Boer, Carleton University, Ottawa, Canada, R. D. Venter, University of Toronto, Canada, and M. C. Demalherbe, Carleton University, Ottawa, Canada

"Static and Dynamic Analysis of Large Deflection of Elastic-Plastic Thin Plates." H. Kitagawa, E. Nakamachi, and Y. Tomita, Osaka University, Osaka, Japan

SESSION 12 1:30 pm, Gainesville Hilton Inn, Rooms Epsilon-Sigma-Omega

CO-CHAIRMEN

M. M. Barash, Purdue University, West Lafayette, Indiana
 M. H. Cook, Massachusetts Institute of Technology, Cambridge, Massachusetts

AUTHORS

"Automatic Positioning and Assembly Under Micro-computer Control via Acoustic Phase Monitoring." J. J. Tanormina, Scientific Atlanta, Atlanta, Georgia, and S. Buckley, Massachusetts Institute of Technology, Cambridge, Massachusetts
 "Computer Aided Design and Manufacture of Dies for Long Hot Forgings." Y. K. Chan and W. A. Knight, University of Birmingham, England
 "Analysis of Form Errors of Cylindrical Parts and Their Graphical Representation." A. A. Elgaby and L. Kops, McGill University, Montreal, Quebec, Canada

COFFEE BREAK 3:00-3:30 pm

SESSION 13 3:30 pm, Gainesville Hilton Inn, Rooms Beta-Gamma-Delta

CO-CHAIRMEN

H. L. Gegel, Air Force Materials Laboratory, Wright Patterson Air Force Base, Ohio
 E. C. Jameson, Raycon Corporation, Ann Arbor, Michigan

AUTHORS

"A Note on Tension Testing Combined with Cross Rolling." S. Sobrappour, Pahlavi University, Shiraz, Iran, A. H. D. ... of California, ...

CONFERENCE DINNER

Docktails (cash bar) 6:00-7:00 pm, Gainesville Hilton Inn
Dinner and Program 7:00-9:00 pm, Gainesville Hilton Inn

TUESDAY, APRIL 18, 1978

SESSION 7 8:30 am, Gainesville Hilton Inn, Rooms Beta-Gamma-Delta

CO-CHAIRMEN

H. Kuhn, University of Pittsburgh, Pittsburgh, Pennsylvania
P. J. Wray, U.S. Steel Research Laboratory, Monroeville, Pennsylvania

AUTHORS

"Effects and Applications of Geometry Variations on the Combined Forward-Backward Extrusion," R. P. McDermott, Michigan Screw Products, Centerline, Michigan
"The Effect of Backward Extrusion on Material Properties," R. L. Davis and H. D. Keith, University of Missouri-Rolla, Rolla, Missouri
"Residual Stress Control in Cold, Precision Swaged Rifle Barrels," A. L. Hoffmann and K. R. Iyer, Battelle Columbus Laboratories, Columbus, Ohio
"Factors Causing Internal Crack in Multistage Extrusion," T. Mikki, T. Tamano and S. Yamamoto, Nippon Steel Corporation, Japan

SESSION 8 8:30 am, Gainesville Hilton Inn, Rooms Epsilon-Sigma-Omega

CO-CHAIRMEN

M. F. DeVries, University of Wisconsin, Madison, Wisconsin
C. Jun, Kennametal Company, Latrobe, Pennsylvania

AUTHORS

"Investigation of Cemented Carbide Tools Behavior in the Milling Operations," A. Ber, Technion-Israel Institute of Technology, Haifa, Israel (currently on sabbatical leave at Ford Motor Company, Dearborn, Michigan), and H. Lat, Technion-Israel Institute of Technology, Haifa, Israel
"Analytical Strategies for Automatic Tracking of Tool Wear," L. V. Colwell, J. C. Mazur, and W. R. DeVries, University of Michigan, Ann Arbor, Michigan
"An Experimental Validation of the Abrasive Tool Wear Theory and the Conceptual Design of Ferrous Alloys for Machinability," S. Ramalingam and G. Fauling, Georgia Institute of Technology, Atlanta, Georgia
"Tool-Life of P/M Drills and Taps," W. E. Henderer and B. F. von Turkovich, University of Vermont, Burlington, Vermont

COFFEE BREAK 10:00-10:30 am

SESSION 9 10:30 am, Gainesville Hilton Inn, Rooms Beta-Gamma-Delta

CO-CHAIRMEN

M. Dewpenpek, U.S. Steel Research Laboratory, Monroeville, Pennsylvania
E. H. Lee, Stanford University, Stanford, California

AUTHORS

"Optimum Processing Parameters for Floating Plug Tube Drawing," C. S. Hartley, University of Florida, Gainesville, Florida
"A Review of the Electro-Magnetic Forming of Powdered Materials," W. Johnson, D. Williams, and S. Clvens, University of Cambridge, Cambridge, England
"On the Forging of Metals Using Rate Sensitive Sheets as Solid Lubricant," A. Ludovico and F. Jovane, Universita di Bari, Italy
"A Finite Element Analysis of Extrusion Forging," G. W. Rowe, and P. Hartley, University of Birmingham, Birmingham, England

SESSION 10 10:30 am, Gainesville Hilton Inn, Rooms Epsilon-Sigma-Omega

CO-CHAIRMEN

C. J. Oxford, Jr., National Twist Drill and Tool Division of Lear, Stegler, Rochester, Michigan
V. A. Tipnis, Meitout Research Associates, Cincinnati, Ohio

and E. G. Thomsen, University of California, Berkeley, California
"A Numerical Analysis of the Double Tension Test and Its Relation to the Evaluation of Cutting Tool Materials," A. Teseng, C. T. Haagen, and J. T. Berry, Georgia Institute of Technology, Atlanta, Georgia
"Effect of Material Parameters on the Limiting Strain in Cup Tests on Sheet Metals," H. Conrad, K. Ozaki, and C. Yin, University of Kentucky, Lexington, Kentucky

SESSION 14 3:30 pm, Gainesville Hilton Inn, Rooms Epsilon-Sigma-Omega

CO-CHAIRMEN

R. S. Hahn, Cincinnati Milacron-Heald, Worcester, Massachusetts
C. H. Kahng, Michigan Technological University, Houghton, Michigan

AUTHORS

"Application of Nonlinear Goal Programming to Machining Variable Optimization," P. C. Subba Rao and C. H. Jacobs, Georgia Institute of Technology, Atlanta, Georgia
"Optimizing Machining Parameters in a Realistic Manufacturing Environment," R. W. Wusk, R. P. Davis and M. H. Agee, Virginia Polytechnic Institute and State University, Blacksburg, Virginia
"A Study of the Influence of Hard Inclusions on Carbide Tool Wear Utilizing a Powder Metal Technique," J. D. Byrd and B. L. Ferguson, Republic Steel Research Center, Independence, Ohio
"On the Performance of Unsymmetrical Multi-Edge Tools for BTA Hole Machining Test Results," V. Lathovic and M. O. M. Osman, Concordia University, Montreal, Quebec, Canada

EVENING FREE

WEDNESDAY, APRIL 19, 1978

SESSION 1 8:30 am, Gainesville Hilton Inn, Rooms Beta-Gamma-Delta

CO-CHAIRMEN

H. Conrad, University of Kentucky, Lexington, Kentucky
A. Hoffmann, Battelle Columbus Laboratories, Columbus, Ohio

AUTHORS

"Sub-Surface Damage During Machining 1020 Carbon Steel," A. A. Radwan, Georgia Institute of Technology, Atlanta, Georgia
"Residual Stress Distributions—A Probabilistic Design," J. T. Black, R. H. Cohen, Ohio State University, Columbus, Ohio, D. Brenneiser, Wanskuck Company, Providence, Rhode Island

SESSION 2 8:30 am, Gainesville Hilton Inn, Rooms Epsilon-Sigma-Omega

CO-CHAIRMEN

E. E. Miller, Western Electric Company, Winston-Salem, North Carolina
E. P. Patterson, University of Florida, Gainesville, Florida

AUTHORS

"A Mathematical Model for Electro-Discharge Machined Surface Roughness," S. M. Pandit and K. P. Rajurkar, Michigan Technological University, Houghton, Michigan
"Characterization of Coated Abrasive Wear by Statistical Invariants," S. M. Wu, S. G. Kapoor, and M. F. DeVries, University of Wisconsin, Madison, Wisconsin
"Identification of the Discharge Profile in Electro Discharge Machining (EDM)," S. K. Bhattacharyya and M. F. El-Wenstlawy, The University of Birmingham, Birmingham, England

ADJOURNMENT 10:00 AM

HOUSING INFORMATION—NAMRC-VI, APRIL 16-19, 1978

Please fill in form below and mail by April 1 to:
Dr. C. S. Hartley
Department of Materials Science & Engineering
University of Florida
Gainesville, Florida 32611

NAME _____ PHONE _____
ADDRESS _____
CITY/STATE _____

Roommate preference _____
Date of arrival _____
Departure _____

Single \$20-\$28 (one person/night)
Double \$26-\$34 (two people/night)

If the Gainesville Hilton Inn is full, we will send a list of area lodging so that you can make your own reservations. Please return this form to:
Gainesville Hilton Inn • Reservation Manager
2900 S.W. 13 Street • Gainesville, Florida 32608

*If you wish transportation from the Gainesville Airport to the Hilton please fill in flight number, date, and time of arrival.

CONFERENCE REGISTRATION NAMRC-VI, APRIL 16-19, 1978

Please fill in form below and mail by April 1 to:
Dr. C. S. Hartley
Department of Materials Science & Engineering
University of Florida
Gainesville, Florida 32611

NAME _____ PHONE _____
BUSINESS ADDRESS _____
CITY/STATE _____

Is your wife attending? Yes No

Please enclose check or money order with registration. Make checks payable to: NAMRC-VI CONFERENCE

For program information, please call:
Dr. Craig Hartley (904) 392-1457 or
Dr. E. Dow Whitney (904) 392-1456