

*No papers*

**AMERICAN INSTITUTE OF  
ELECTRICAL ENGINEERS**

*Twelfth Annual*  
**MACHINE TOOLS  
INDUSTRY  
CONFERENCE  
PROGRAM**



**October 16, 17, 18, 1961**  
**FAUST HOTEL**  
**ROCKFORD, ILLINOIS**



*Sponsored by*  
**The**  
**Machine Tool Industry Committee**  
**N. P. BASHOR, Chairman**

*and the*  
**Rock River Valley Section**  
**R. M. FRIDDLE, Chairman**



8:00-12:00 A.M. — REGISTRATION

Advance registrations may be picked up at the hotel Sunday, October 15, 6 P.M. to 9 P.M.

**FIELD TRIPS**

Choose either (A) or (B)

8:45 A.M.

**(A) THE INGERSOLL MILLING MACHINE CO.**

Builders of some of the world's largest milling machines, this company will exhibit several special machines which should be of interest to all.

and

**BARBER-COLMAN CO.**

This company is composed of many divisions of diversified product manufacture. This tour will cover the Machine Tool Division, whose principal products are lathes and gear hobbing machines.

**(B) EKSTROM-CARLSON & CO.**

A relative newcomer to the field of manufacturers of numerically controlled machines, this company will have both a profiler and a drafting and engineering machine in assembly during this tour. Standard machines will also be on exhibit.

and

**MATTISON MACHINE WORKS**

Builders of some of the world's largest grinders, this company will exhibit both horizontal spindle surface grinders and vertical spindle rotary surface grinders. Some industrial type woodworking equipment will also be on display.

**AFTERNOON SESSION**

K. M. NELSON, *Conference Program Chairman*

2:05 P.M.—WELCOME

N. P. BASHOR—Conference General Chairman  
Mr. Bashor is Manager, Electrical Controls Division, W. F. and John Barnes Company.

2:15 P.M.—"THE COMMON EUROPEAN MARKET AND ITS EFFECTS ON THE AMERICAN MACHINE TOOL INDUSTRY"

ELMER TANGERMAN, McGraw-Hill Publications  
Mr. Tangerman is Editor of *Product Engineering Magazine*. He has served as editor and has had a great deal of experience with several technical magazines serving the Machine Tool Industry. Travel in Europe by him and his staff members keep him abreast of the European markets. The vast experience gained in association with technical magazines which cover the Machine Tools Industry as a whole both here and abroad enables Mr. Tangerman to give us an unbiased report.

N. L. CABAN, *Session Chairman*

2:45 P.M.—SILICON CONTROL RECTIFIERS

E. VON ZASTROW, General Electric Company  
Mr. Von Zastrow is an Application Engineer in the Rectifier Components Department. He is well qualified to discuss basic control rectifier theory and application in-as-much as he has been associated with this new activity for several years.

3:15 P.M.—APPLICATION OF SILICON CONTROLLED RECTIFIERS TO MOTOR DRIVES

A. W. HARRINGTON, Louis Allis Company  
Mr. Harrington is Chief Application Engineer. His paper deals with the application of SCR's to adjustable speed drives as compared to other methods.

3:45 P.M.—DISCUSSION PERIOD ON SCR PAPERS

Two, five minute prepared discussions followed by an open question and answer period.

4:30 P.M.—NEW ELECTRICAL PRODUCTS FOR MACHINE TOOLS

A series of four, 5 minute talks.  
"A STATIC STARTER"  
R. L. Robertson, Allis Chalmers Company  
"A STATIC HIGH PERFORMANCE SPEED REGULATOR"  
Louis R. Tresino, Westinghouse Electric Corporation  
"A NEW STATIC VOLTAGE REGULATOR"  
John W. Martin, Sola Electric Division  
"A NEW MODULAR CONTROL SYSTEM"  
Dale C. Walker, Square D Company

**EVENING SESSION**

7:30 P.M.—BANQUET—Ballroom

Banquet Speaker—WILLIAM HINES  
Mr. Hines is Science editor of the Washington, D. C., *Star*. One of the most knowledgeable newsmen in the United States on all aspects of Project Mercury. His talk "Our Man in Space—What's Ahead" will be most informative.

**MORNING SESSION**

B. T. ANDERSON, *Session Chairman*

9:00 A.M.—RECENT DEVELOPMENTS IN CONTACT AND CONTACT MATERIALS

MERLE SWINEHART, Cutler Hammer, Inc.  
Mr. Swinehart is a Development Research Engineer specializing in Contact Material Research. His paper covers an analysis of the various types and characteristics of contacts both new and old.

9:40 A.M.—NUMERICAL GAGING

R. A. VICTOR, University of California  
J. B. BRYAN, University of California  
Mr. Victor and Mr. Bryan are Technical Advisors to the Machine Shops—Lawrence Radiation Laboratory—Livermore, California. The paper deals with the gaging of complex precision parts using numerical control methods to reduce inspection time and handling.

10:35—PUTTING NUMERICAL POSITIONING CONTROL TO WORK

A. O. HOLMBERG, Miehle-Goss-Dexter, Inc.  
Mr. Holmberg is Executive Vice President—Manufacturing. His paper deals with the operating economic justification of Numerically Controlled Machine Tools.

11:15 A.M.—REPORT ON ELECTRICAL STANDARDS—MACHINE TOOLS

E. J. LOEFFLER, Warner and Swasey Company  
Mr. Loeffler is Chief Control Engineer — Warner and Swasey Company. His report covers latest progress in connection with the following standards:  
EIA Electronic Construction Standards for Machine Tools  
NFPA Machine Tool Electrical Standard No. 79T  
NMTBA Machine Tool Electrical Standards

12:30 A.M.—LUNCHEON—Ballroom

Luncheon Speaker—PROF. ROBERT O. HARVEY  
Professor Harvey is Professor of Finance at the University of Illinois. An outstanding record of educational achievement and specialist in land valuation. His talk "Progress in Prospective" will be enlightening.

**AFTERNOON SESSION**

N. G. ALVIS, *Session Chairman*

SERVO CONTROL OF MACHINE TOOLS

This session is intended to acquaint us with the advantages and disadvantages of Oil, AC. and DC. power for servo control applications in machine tools.

Each of the first three papers discusses basic servo theory and covers a specific type of high power level servo. The final paper covers use of servo mechanism control on machine tools to reduce operator effort and to increase machine accuracy.

2:00 P.M.—A. C. HIGH POWER LEVEL SERVOS

MARTIN GLASBERG, Diehl Manufacturing Company, Manager, Electronics Department

2:25 P.M.—D. C. HIGH POWER LEVEL SERVOS

B. B. FINNEGAN, Reliance Electric and Engineering Company, Application Engineer, Motor and Control Systems

2:50 P.M.—ELECTRO-HYDRAULIC SYSTEMS FOR MACHINE TOOLS

RAY G. SPENCER, Vickers Inc. Assistant Chief Engineer, Servo Products Section

3:30 P.M.—APPLICATION OF SERVOS TO MACHINE TOOLS

DR. CHARLES K. TAFT  
Assistant Professor of Engineering, Case Institute of Technology

4:00 P.M.—Panel discussion and question and answer period on Servos.



**MORNING SESSION**

9:00 A.M.—INHERENT MOTOR PROTECTION

L. S. SHERMAN, General Electric Company

Mr. Sherman is Product Planner - Small A.C. Motor and Generator Department and has been closely associated with the development of the Inherent Motor Protection Device.

9:40 A.M.—ELECTRICAL MACHINING PROVIDES A NEW ERA IN MACHINE TOOL CAPABILITY

E. J. KRABACHER and DR. P. E. BERGHAUSEN, Cincinnati Milling Machine Company

Mr. Krabacher is Senior Research Supervisor and Dr. Berghausen is Research Associate. This paper describes the way in which electrical discharge machining, electrolytic grinding, and electrochemical machining are extending and expanding present manufacturing capabilities.

10:35 A.M.—NEW ELECTRICAL PRODUCTS FOR MACHINE TOOLS

A Series of five, 5 minute talks.

"A VERSATILE THREE-IN-ONE PUSHBUTTON LINE"  
Mr. Roland Russo, The Clark Controller Company

"NEW 10 AMPERE-300 VOLT INDUSTRIAL RELAY"  
Mr. B. D. Campbell, General Electric Company

"A NEW MEMORY LATCH DESIGN FOR CONTROL CIRCUIT RELAY"  
Mr. W. L. Hampton, Cutler-Hammer Corp.

"NEW FEATURES IN AN OVERLOAD RELAY"  
Mr. Edward C. Fensholt, Allen-Bradley Company

"WATER COOLED SPECIAL PURPOSE MOTORS"  
Mr. Walter E. Eichelberger, Louis Allis Company

11:25 A.M.—LET'S CHALLENGE THE COLLEGE STUDENT

DON FITZPATRICK, Allen-Bradley Company

**FIELD TRIPS**

**Choose either (C) or (D)**

1:00 P.M.

(C) MICRO-SWITCH—Division of Minneapolis-Honeywell Regulator Co., Freeport, Illinois

A leading manufacturer of industrial switches for all applications. This tour will cover all phases of manufacture and testing of this extremely diversified product line.

and

FAIRBANKS MORSE & CO., Freeport, Illinois

This plant manufactures the smaller sizes of motors for this company. All phases of motor manufacture and testing will be covered.

(D) SUNDSTRAND CORP., Machine Tool Division, Belvidere, Illinois

A leading manufacturer of numerically controlled machine tools. This tour will feature the use of numerically controlled machines in the actual production of parts for new machines. A practical demonstration of numerical control in action.

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