Dear Sir/Madam

It is our great pleasure to invite you to the MTTRF and iAM-CNC Annual Meeting 2013. The Machine Tool Technologies Research Foundation (MTTRF) was established in 2002 for the purpose of supporting the research and education activities on the promotion of machine tool technologies. Its operation was started in 2004 by granting equipment loan awards and scholarship awards to university professors and research scholars.

The first annual conference was held on June 28, 2004 as a two-day program titled MTTRF and OMNI-CNC 2004 Annual Meeting organized by MTTRF with the volunteer effort from members of the IMS-Mechatronics Laboratory of University of California at Davis. Since 2004, MTTRF Annual Meeting has been held every year to present the results of research performed by professors and scholars who are the recipients of the MTTRF Equipment Loan Award.

The 2013 Meeting is a two-day conference consisting of the following two parts:

Part 1: MTTRF 2013 Annual Meeting --- One year activity report by the MTTRF Equipment Loan Award recipients.

Part 2: Reporting the progress of the 5-year iAM-CNC project that has been carried out since July, 2012.

We will be grateful if you could kindly participate in the meeting to learn and evaluate our on-going research and exchange the ideas on further advancement of the machine tool technology research.

We look forward to welcoming you at the MTTRF and iAM-CNC 2013 Annual Meeting.

Sincerely,

Kazuo Yamazaki, Dr. of Eng.
President

MEETING LOCATION & LODGING

The meeting will be held at: Intercontinental Mark Hopkins
No. 1 Nob Hill
San Francisco, CA 94108
USA
Phone:(415)392-3434

The room reservation has to be made through yyamazawa@jps.net to obtain the MTTRF special rate of $145.00 plus 15.5%Tax per night.

MEETING REGISTRATION

The registration form can be obtained from the MTTRF website: http://mttrf.org/. The deadline for registration is May 31, 2013. The registration fee is $500 per person for this meeting. This includes lunch, meeting banquet, coffee breaks during the meeting and proceedings. Payment may be made by money order, bank cashier’s check or company check. Money order, cashier’s check or company checks should be made payable to “MTTRF” and sent to the address shown at the bottom.

The conference fee is refundable only when registration is cancelled in writing and received at MTTRF headquarters before June 7, 2013. For any questions or special requests, please feel free to contact Ms. Yamazawa by phone, fax, or e-mail (yyamazawa@jps.net).

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Machine Tool Technologies Research Foundation
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**SCHEDULE OF EVENTS**

**July 1st (Monday), 2013**

**MTTRF Annual Meeting 2013**
- 07:00am - 08:30am: Registration & Breakfast
- 08:30am - 09:00am: Opening Address
- 09:00am -10:00am: Foundation Presentations
- 10:00am -10:30am: Coffee Break
- 10:30am -12:00am: Equipment Loan Award Lectures
- 12:00pm - 01:30pm: Lunch
- 01:30pm - 03:30pm: Equipment Loan Award Lectures
- 03:30pm - 04:00pm: Coffee Break
- 04:00pm - 05:00pm: Equipment Loan Award Lectures
- 06:00pm - 08:00pm: Meeting Banquet

**July 2nd (Tuesday), 2013**

**MTTRF Annual Meeting 2013**
- 07:00am - 07:45am: Breakfast
- 07:45am - 09:15am: Buses to Davis to visit Mori Seiki USA Factory and DTL
- 09:30am - 10:30am: Equipment Loan Award Lectures
- 10:30am - 12:00pm: Equipment Loan Award Lectures
- 12:00pm - 01:30pm: Lunch
- 01:30pm - 02:30pm: Equipment Loan Award Lectures
- 02:30pm - 03:00pm: Technology Trend Lecture
- 03:00pm - 03:30pm: Coffee Break

**iAM-CNC Annual Meeting 2013**
- 03:30pm - 05:30pm: iAM-CNC Progress Presentations
- 05:30pm - 06:00pm: Concluding Address & Photographs
- 06:00pm - 08:00pm: Farewell Dinner
- 08:00pm - 09:30pm: Buses to return to Mark Hopkins Hotel

**PRESENTATION TOPICS**

**MTTRF Annual Meeting 2013**
- An investigation of parameters in cone frustum testing on a 5-axis machining centre, *Prof. Byrne, Univ. College Dublin*
- Precision Machine Design Research & Education at MIT, *Prof. Culpepper, MIT*
- Flexible manufacturing of modified involute gears, *Prof. Goch, Univ. Bremen*
- End milling of CFRP, *Prof. Hosokawa, Kanazawa University*
- Fundamental Study of the On-Machine Measurement in the Machining Center with a Touch Trigger Probe, *Prof. Ihara, Osaka Institute of Technology*
- Milled surface generation model for time domain simulation, *Prof. Campatelli, Univ. of Florence*
- Machine Tool Characterization and Machining Strategies for Energy Efficient Manufacturing, *Prof. Lauwers, Katholieke Universiteit Leuven*
- Measuring, modeling and compensating of thermally caused location errors of rotary axes, *Prof. Wegener, ETH Zurich*
- Manufacturing research and education program at UC Davis, *Prof. Soshi, UC Davis*
- On-line Chatter Detection and Avoidance on CNC Machining Centers, *Prof. Altintas, Univ. of British Columbia*
- Quantifying the Improvements in Rapid Prototyping and Product Life Cycles Created by Machining, *Prof. Dornfeld, UC Berkeley*
- Energy saving in point-to-point control of industrial machines using a simple motion trajectory, *Prof. Uchiyama, Toyohashi University of Technology*

**iAM-CNC Annual Meeting 2013**
- Productivity Optimization for Rotary Ultrasonic Machining of Zerodur Glass-Ceramics
- Micro/Nano Machining Research Efforts at the IMS Laboratory
- A Comparison Study on the Optimal Fabrication Method for Micro-scale Gyroscopes using EDM, Chemical Etching or Micro Mechanical Milling
Machine Tool Technologies Research Foundation

A machine tool is an extremely important piece of equipment known as a "Mother Machine", which is a necessary resource to promote the manufacturing activities in this society. For this reason, it is essential to promote human resources who can develop innovative technologies for advanced machine tool systems by encouraging the excellent scholars, educators and students to join and study in these fields.

In order to achieve this, Machine Tool Technologies Research Foundation (MTTRF; Headquarters in San Francisco USA, http://www.mttrf.org/) was established on October 25, 2002 as a nonprofit organization to help the activities of educators, students, professional researchers and technical specialists by providing them with machine tools, other manufacturing equipment, software and cash funds.

MTTRF envisions itself as a diversified foundation which values the following services through fields of academia as well as industry. To grow internationally as a well-known foundation, we strive to maintain the foundation with dignity and the highest ethical standards:

1. To provide the free loan of equipment and software to educators, students, professional researchers and technical specialists to conduct research and educational activities.

2. To provide scholarship funds to students and post graduate researchers to study and perform research in fields related to machine tool systems.

3. To communicate with educators, engineers and specialists in fields related to machine tool technologies to spread understanding about the latest information and encourage collaboration among the experts.

4. To provide funds to educators, professional researchers, meritorious students and engineering experts to publish their knowledge.

5. To hold conferences on research developments.

6. To provide funds and administrative services to facilitate conferences and meetings for students, educators, professional researchers and technology specialists.

7. To finance travel and registration fees so that educators, meritorious students and professional researchers may attend professional conferences, meetings and seminars.

8. To finance travel expenses so that meritorious students, professional researchers and educators may visit educational and research institutes, public organizations and industries to exchange technological knowledge or study the emerging technologies.

The Foundation was approved as a nonprofit public organization by the Federal Government of United States of America under the Federal Internal Revenue Code 501 (c) (3) as well as by the Franchise Tax Board of the State Government of California in 2003.

The 1st annual meeting was held on June 30, 2004. Equipment Loan Awards went to two professors from Japanese universities, and a Distinguished Service Award to a professor from a Chinese university.

The 9th annual meeting was held on June 24–26, 2012 in Iga, Japan.

The 2013 Annual Meeting is the 10th Anniversary Annual Meeting.

MTTRF is currently supporting 14 universities in 8 countries by providing 20 state-of-the-art CNC machine tool systems for the promotion of their education and research activities.

iAM -CNC PROJECT

"iAM-CNC" is a 5-year project launched in 2012 at both the IMS-Mechatronics Laboratory of University of California, Davis and at the Precision Manufacturing Center of University of California, Berkeley aiming at the development of high end application technologies of traditional and non-traditional machining for high value added parts production. The essential concept of the project is to study the feasible and innovative strategies to produce the sophisticated parts made of high performance materials using various material removal processes for achieving better quality, better productivity, and lower manufacturing cost.

In the study, application oriented integration of various machining processes will be analyzed and evaluated to understand and clarify the link between the manufacturing process design and actual machining process behavior resulting in pragmatic process modeling.

High-end machine tool system, such as multi-axis multi-process integrated CNC machine tool, which endeavors mechanical machining, laser machining, ultrasonic machining, electric discharge machining of novel materials with high performance custom tooling, custom fixture and CAM system will be studied based on the scientific approach utilizing digital instrumentation and model based process simulation during the project. iAM-CNC stands for “Integrated Application Machining by a CNC machine tool system.”