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The next issue of the Newsletter is scheduled for April 2007. Your contributions are most appreciated; you may send it to the CIRP office in Paris or directly to the editor at: j.meijer@utwente.nl preferable before March 15th 2007

Johan Meijer (Technical Secretary)
1. From the President

Dear Colleagues,

I would like to take this opportunity to share some thoughts with you, about the future development of CIRP. CIRP has had a leading position in the world of international research in manufacturing and production engineering and has pioneered a multi cultural, multi national environment, whilst simultaneously maintained the highest academic standards for its members. CIRP is an international academy, in the full sense of the term. It is a global organization, which was established even before globalization was a common term! However, manufacturing and production engineering change rapidly and CIRP has to sustain and enhance its position as a leading organization in the world arena of manufacturing research and development:

- CIRP has to meet the challenge of constantly renewing its membership, while maintaining and possibly increasing the academic standards for its members.
- CIRP has to enhance its ties to the manufacturing industry worldwide, and make sure that the industry is aware of the CIRP developments, participates in CIRP and communicates their needs to the CIRP community.
- CIRP has to increase its impact on the global scene since it is a global organization.

There is no doubt that CIRP, as an academic organization, needs discussion and consensus building (and inevitably an adequate time frame) before introducing any changes in its operations. In order to ensure a proper time frame for discussions, but also a coordinated action plan over a period of time, which may exceed that of one year of a presidency, the Board, and particularly the past, current and future CIRP Presidents, are undertaking a discussion focusing on issues such as:

- The CIRP publication policy,
- The restructuring of the work of the STC’s and
- The creation of a CIRP network of younger research scientists.
Despite the problems we encountered in the beginning, with the new publisher, Elsevier, our relationship with them is improving daily. We just renewed/signed with them a contract that is rather beneficial for CIRP. Elsevier is an internationally known publisher that “fits the bill” for an international top organization as is CIRP. Work is also under way for creating one (and perhaps later one more) journal with high CIRP standards being complimentary to the role of our annals. This journal(s) will provide an additional outlay for the work of the CIRP members, the sponsored conferences etc.

As we all know, the STC work is the “backbone” of the CIRP. One needs to be particularly careful with any restructuring. It has to be built upon consensus and common sense. CIRP draws more and more attention both from academia and industry and thus, it needs a flexible structure that will allow the accommodation of the academic interests of our members, whilst simultaneously it will look into new subjects and developments. Therefore, there is a need for possible STC consolidation that would allow a better structuring of both our General Assembly and Paris meetings.

The junior CIRP network, as it has been provisionally named, aims at creating a pool of young researchers, interested in manufacturing and production engineering. There is work underway for establishing the rules and the framework that would allow us to create such a network, without burdening unnecessarily, the General Assembly and the Paris meetings. Last but not least, our Corporate Membership is particularly valuable to us. We plan to pay special attention to their needs and opinions for the benefit of industry and CIRP.

Dear colleagues, it is a great honor for me to serve as CIRP President for the year 2006-2007. I will be glad to welcome you all in Paris, at the end of January, and in the mean time, I am sending you my warmest regards.

George Chryssolouris
2. About CIRP

The International Academy for Production Engineering (CIRP) was founded in 1951 as Collège International pour la Recherche en Productique to stimulate research and education and to create international collaboration within selected fields of production engineering. In the passed 55 years CIRP has developed into a unique international organization covering many fields of production engineering. CIRP is the internationally most recognized organization concerning production engineering.

![The CIRP Organization Diagram]

CIRP has about 500 members (Fellows, Associate Members, Corporate Members) representing over 40 countries. The unique contribution to manufacturing research is acknowledged by leading companies and research institutes, who provide active support through corporate memberships. CIRP is organized in Scientific and Technical Committees (STC’s) which are responsible for the collaborative research:

- Studying new techniques and technologies;
- Organizing cooperative research, comparative testing and standardization;
- Collecting and analyzing bibliographies on manufacturing;
- Publishing synthesis reports on important technical problems;
- Organizing seminars and meetings on specialist topics;
- Preparing internationally accepted terminology;
- Contributing to International standardization organizations;
- Surveying the state of the art of research worldwide.
3. Personal

NAMRI/SME Award for Prof Altan, Lahoti and Oh

The Society of Manufacturing Engineers (SME) and the North American Manufacturing Research Institute (NAMRI/SME) has announced three winners of the prestigious NAMRI/SME S. M. Wu Research Implementation Award named in honor of the late Professor S. M. Wu, University of Michigan, Ann Arbor who was highly respected for his problem-solving research in manufacturing.

The three recipients of the NAMRI/SME S. M. Wu Research Implementation Award are recognized for developing concepts and methods related to the finite element modeling of forming problems that was later commercialized into a Finite Element Method (FEM) package known as DEFORM. The three recipients are:

Taylan Altan
The Ohio State University

Goverdhan D. Lahoti
The Timken Company

Soo Ik Oh
Scientific Forming Technologies Corporation

Scientific Forming Technologies Corporation (SFTC) was incorporated in Ohio in August 1991 by former Battelle employees to provide state-of-the-art process design and analysis technologies to the materials forming industry. SFTC acquired from Battelle the DEFORM business in October 1991, and is currently supporting hundreds of user sites worldwide. DEFORM is one of the most widely used FEM software for metal forming and die analysis by the industry.

The original research of Drs. T. Altan, G. D. Lahoti, and S. I. Oh and their efforts aimed at extending and refining this work and then participating in the transfer of this technology into the world of commercial application is a classic success story that embodies all of the attributes sought by the framers of the S. M. Wu Research Implementation Award.
Doctor honoris causa for Prof. Dr.-Ing. Fritz Klocke

Great honor for Prof. Dr.-Ing. Fritz Klocke, one of the four chairman of the Laboratory for Machine Tools and Production Engineering at the Aachen University of Technology. The Department of Mechanical Engineering of the University Hannover awarded Prof. Dr.-Ing. Fritz Klocke a Doctor honoris causa, honoring his scientific and academic efforts in basic research, cutting and industrial applications. The certificate was presented to Prof. Klocke by the president of the University Hannover, prof. Dr. Ing. Berend Denkena who appreciated Prof. Klocke’s wide research area research area covering cutting electro machining and special topics of metal forming. Additionally Prof. Klocke is committed to a lot of remarkable duties and responsibilities for the society of Production Science.

SME Frederick W. Taylor Research Medal

Taylan Altan was also awarded with the 2006 SME Frederick W. Taylor Research Medal from the Society of Manufacturing Engineers at the Annual Meeting held in Los Angeles. This award was for significant published research leading to better understanding of materials, facilities, principles, operations, and their application to improve manufacturing processes.

Emeritus Professor Erich Thomsen’s 100th birthday.

Erich G. Thomsen has celebrated his 100th birthday on 9 September 2006. Many of his former students, colleagues and friends have joined him for this event. Erich was born in Germany, in 1906. He came to the United States in 1926 where he married Harriette, with whom he travelled the world. Erich joined the University of California in 1951 as Professor of Mechanical Engineering. He acted as a Visiting Professor at the Institute of Production of the Technical University, Aachen, Germany (1962) and at the Catholic University of Santiago, Chile (1965-66). He became Emeritus Professor in 1973. In 1980 he was awarded the SME Frederick W. Taylor Research Medal Award.
Obituaries

Sad news received us at the first day of the General Assembly in Kobe. Eugene Merchant has passed away the day before. Shortly after the GA we got the message that another past president has passed away too.

Dr. M. Eugene Merchant (1913 – 2006)

With the passing of Dr. M. Eugene Merchant we have lost a colleague who was our most willing volunteer, one of the strongest supporters of manufacturing research and a man who had, himself, contributed significantly to manufacturing research history.

From the time I was an engineering student, Gene Merchant was my boss, then my mentor and finally my colleague and friend. He has helped me in my career many times, just as he helped others at Milacron and throughout the field of manufacturing research. He was a brilliant scientist and a true gentleman, always willing to give his time to a colleague. Dr. Merchant’s most referenced research work was based on his Doctoral Dissertation “Theory of Friction and its Part in the Metal Cutting Process” in 1920. He developed a metal cutting theory that researchers still try to build on. He built up a world-class research laboratory at Cincinnati Milling Machine Company, with staff recruited from all over U.S.A. Activities ranged from radioactive tool life testing to analog computer simulations of machine controls, to mechanics of metal forming processes, to improvements in EDM, ECM and drill bit sharpening, and many others. Today there are few manufacturing research labs anywhere in the world of comparable to the lab that Gene Merchant built.

When Gene Merchant first began his study of manufacturing systems he was struck by the amount of complexity and confusion manufacturers had built into their overall systems. He was certain that this could be improved upon and he believed that the new (at that time) digital computers would play a major role in the improvement. He studied these things, wrote about them and eventually convinced others to study them. This was the beginning of CIRP’s STC “O.”

Gene was a leader in the technical organizations of his profession. He served as Vice President of the American Society of Mechanical Engineers (ASME), President of the American Society of Lubrication Engineers (ASLE), President of the Society of Manufacturing Engineers (SME) and Advisor to the SME Education Foundation. He served CIRP as President from 1968 to 1969 and as Chairman of STC “O” from 1966 to 1971. He was a permanent member of the Liaison Committee from 1970 to 2006.
Throughout his career of more than six decades, Dr. Merchant received many honors and awards. In 1955, the Technical and Scientific Societies Council of Cincinnati named him Cincinnati’s Engineer of the Year. In 1968, Dr. Merchant was awarded the ASME Research Medal. In 1986, he was the first to receive an honor named for him, The M. Eugene Merchant Manufacturing Medal, jointly sponsored by the American Society of Mechanical Engineers and the Society of Manufacturing Engineers. He was also recipient of the AM Award of American Machinist Magazine, the National Award of the American Society of Lubrication Engineers, the Research Medal and the Richards Memorial Award of the American Society of Mechanical Engineers.

Dr. Merchant is held in high esteem by colleagues world wide, and he has received many international honors, including The George Schlesinger Prize from the City of Berlin, the Tribology Gold Medal of the Institution of Mechanical Engineers (Great Britain), the Otto Benedikt Prize of the Computer and Automation Institute of Hungary, the Medal of the Polish Institute of Metal Cutting, and an award from King Carl XVI Gustav of Sweden. Gene received Honorary Doctorate Degrees from the University of Vermont, the University of Salford and GMI Institute.

He was dedicated to his family. Every year he led his wife, Helen, their children, and later grandchildren and great-grandchildren, on a wilderness camping and canoeing trip. The highlight of each trip was that Gene, working under primitive conditions, would bake a cake, which thrilled and delighted all the children.

All of his colleagues will greatly miss this cheerful, visionary man and we will try to practice the things he taught us.

Richard L. Kegg

Professor MILTON C. SHAW, 1915 - 2006

Professor Milton C. Shaw, Honorary Member (1980) and Past-President of CIRP (1961) passed away on September 7, 2006 in Tempe, Arizona, USA. He was the first CIRP member from the U.S. He was invited by General Nicolau in 1952 to attend the CIRP meeting in Leuven, Belgium. Since then Milton and his dear wife, Mary Jane Shaw attended most of the CIRP General Assemblies. Professor Shaw was very active in both G and C groups and had contributed numerous technical papers and presented keynote lectures. He was also very active in the cooperative research between various members of the CIRP in these two groups. In our publication on “Forty Years CIRP,” Shaw wrote the following: “My wife and I have
greatly enjoyed our association with CIRP through the years not only because of the opportunities it has offered but also because of the opportunity to form many strong social ties. One of the key benefits I derived from my association with CIRP was the fact that it resulted in attracting many very talented co-workers to my laboratory many of whom are now members of CIRP.”

The Shaws enjoyed lasting friendship with many CIRP members. He was a role model and a mentor for many researchers that followed him. The first modern text book in the U.S. on “The Metal Cutting Principles,” was written in 1953 by Shaw during his tenure at MIT (the 2nd revised edition came in 2005). We all will miss him dearly at the General Assemblies but will remember his many outstanding contributions to manufacturing science and technology.

Stillwater Ranga Komanduri
4. General Assembly 2006

Highlights of the presidential opening address

CIRP is the leading international academy for production engineering. We have and will continuously develop our organization to accommodate the development in industry. The unique character as “a circle of friends” was maintained over 50 years. Also the aims of CIRP are still valid:

- promote scientific production engineering research
- establish permanent relationships between researchers
- convene conferences of researchers to consolidate and publish results

CIRP has followed the development of production engineering to the situation today with a dynamic and complex production industry facing many new challenges. We have a large impact on production engineering research and education on an international scale – enhancing the basis for a competitive industry.

Manufacturing plays a major role in creating sustainable industrial growth and wealth in the world. The industry is today developing more rapidly than ever and many new important trends can be identified.

- ICT – Information and Communication Technology
- New materials and new design paradigms needed
- Miniaturization and precision engineering
- Integrative approaches
- Production systems and network

Within ICT trends/challenges are focused around: distributed and collaborative design process modeling and process planning; digital to physical environment integrators; enterprise technology (digital production platform of the future). Full utilization of ICT in a global world is in rapid progress.

To realize new products, advances in materials science form the basis for new products and services. We see many new materials like ceramics, polymers, metal alloys, biomaterials, intelligent materials etc. A strong trend/development is seen within miniaturization and precision engineering: new machining procedures for micro- and nanomanufacturing, challenges in scaling down macro to micro; micro
handling and measuring devices; high speed nanometer positioning, new design principles.

Within the trend of integrative approach we see: different disciplines, new ways of integrating emerging and new technologies, changes in manufacturing systems; combination of new materials, electronics and mechanical components. Also the changes in production systems and network are coming rapidly (flexible and reconfigurable distributed design and production.

Other trends are growing international cooperation, focus on international education and industrial innovation. The globalization raises the difficult issue how to handle intellectual property rights.

Looking at all these trends we foresee a future, which forces us to look at production from a holistic viewpoint. It is not sufficient to look at individual disciplines to set the new agenda for production. This brings us to the question is: Is CIRP ready to address the new challenges? The aim is the same, but to address the challenges we must:

- broaden the scope of production engineering
- include new and bordering fields
- broaden some of our existing fields
- adapt a multi-disciplinary view on many subjects

We have so far been developing CIRP by continuous improvements but we should speed up our development processes. We have to discuss:

- A new/revised strategy for CIRP (Mission, Vision, Goals)
- A stronger leadership, presidential periods should be increased.
- A flexible topic structure of STC’s and working groups.
- A new recruitment policy for instance by establishing a Junior Academy of young researchers, attending CIRP seminars from which fellows and associate members can be recruited.

We will start the process making CIRP ready to address the challenges of the future.

The 2005 - 2006 presidency in retrospection

CIRP – An International Academy with an exiting future.

After the 60th General Assembly in Kobe I became Past President and in this short note I would like to share with you some of the good experiences and results in my time as your President. First I would like to express my appreciation to the Board, the Council and the Liaison Committee for their support and positive cooperation during my presidency. And also bring my warmest thanks to what I call the
presidential group i.e. President, Vice President and Vice President Elect when we discussed the initiatives that could be taken to enhance the development of CIRP. The Presidential Group ensures continuity in the initiatives.

It was good to experience the positive working atmosphere where all wanted to do their best for our organization. CIRP is a unique organization which has an important role to play in promoting scientific research in production engineering to stimulate a world wide growth in the wealth creating production industry. To enhance the possibilities for CIRP to play its important role many good decisions have been made the last year. Among these decisions I would like to mention:

- Change of name and title, an important decision to reflect our mission and goal
- The establishment of a new CIRP international journal (Editor in chief Prof. Monostori) to publish seminar papers
- The establishment of an international network of young researchers affiliated with CIRP (in charge: Vice President F. Klocke). This network will be important in the recruitment of associate members and fellows.
- Improvement of the work in the STC’s to get more time for the business issues

Further important work has been initiated to create a more flexible STC structure to enable CIRP to broaden its scope in accordance with the development in the manufacturing industry, i.e. new topics, cross-multidisciplinary approaches. In the Liaison Committee a positive discussion ended up in a consolidation process headed by the President. Possibly the present 10 STC’s can be consolidated into 3-4 larger STC’s allowing for more flexibility in the future. A very important step for CIRP is to adapt to the future requirements for production/manufacturing engineering. In my view, we further have to discuss and resolve our strategy/mission and leadership to strengthen our position as an international academy to promote research and education in production engineering and attract young students and researchers to the field. I have been so glad to experience the energy and dedication within the CIRP members all. This points toward a bright future for CIRP.

Our corporate members are important in focusing our research on industrial issues and in sharing their knowledge with us – also here I see a strong dedication to play a role.

My year as President has been rewarding and I would like to thank my colleagues in the Presidential Group, the Board, the Council and the Liaison Committee and all the members for the support which made many decisions possible. I would like to thank the secretariat for the support, guidance and help.

Thank you - good luck to CIRP
  - CIRP that makes a difference

Leo Alting, Past President
Elections at the General Assembly

Board and Council Members

President
Vice President
Vice President Elect
Past President
Secretary General Treasurer
Techical Secretary
Council Members
Professor G. Chryssolouris
Professor F. Klocke
Professor R. Hocken
Professor L. Alting
Professor D. Dumur
Professor J. Meijer
Professor J. McGeough
Professor L. De Chiffre
Professor D. Dornfeld
Professor F. Kimura
Professor A. Nee
Professor F. Van Houten

New Fellows

Prof. D. Allen (UK)
Prof. D. Ceglarek (Poland)
Dr. F. Hashimoto (USA)
Prof. A. Weckenmann (Germany)

Prof. H. Bley (Germany)
Prof. L. Galantucci (Italy)
Prof. S. Smith (USA)

Honorary Fellow

Professor M. Véron (France)

New Associate Members

Prof. J-H. Ahn (Korea)
Prof. C. Brecher (Germany)
Prof. J. Fleischer (Germany)
Dr. P. Koshy (Canada)
Prof. W. Sihn (Austria)
Prof. L. Settineri (Italy)

Dr. J. Allwood (UK)
Prof. P. Cunha (Portugal)
Dr. S. Kara (Australia)
Dr. R. M'Saoubi (France)
Dr. S. Bruschi (Italy)
Prof. M. Zaeh (Germany)

New Emeritus Fellows

Prof. J. Corbett (UK)
Prof. H. Kunzmann (Germany)
Prof. B. Lindström (Sweden)
Prof. G. Pritschow (Germany)

Prof. M. Kiuchi (Japan)
Prof. W.S. Lau (Hong Kong)
Prof. V. Portman (Israel)
Mr. J. Vigneau (France)
New Corporate Members

Asahi Diamond Industrial Europe, France  Dr. V. Hays
CIC marGUNE, Spain  Dr. X. de Maidagan
Coskunoz A.S., Turkey  Mr. E. Acay
EADS CCR, France  Mr. H. Falgarone
Inspire, Switzerland  Dr. K. Wegener
Multimedia University, Malaysia  Dr. P. Brevern
Sumitomo Electric Hardmetal Corp., Japan  Mr. N. Kitagawa
Toyota Motor Corporation, Japan  Messrs. T. Hayama & H. Yoshimura
Tusas Engine Industries, Turkey  Mr. E. Tayyar
Uddeholm Tooling, Sweden  Mr. S. Gunnarsson
VDW, Germany  Dr. T. Würtz
Yamazaki Mazak, Japan  Dr. A. Nagae

Taylor Medal

The Taylor medal was awarded to
Dr. X. Lu (USA)

General Nicolau Award

Prof. Nam P. Suh receives the
General Nicolau Award
5. From the STC’s

There are two kinds of STC’s. Five STC’s covering the Processes and Machine and five covering the Manufacturing chain as shown below.

<table>
<thead>
<tr>
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<th>Chairman</th>
<th>Vice Chairman</th>
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<td>M</td>
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<td>S. Smith</td>
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<td>H. Hansen</td>
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STC Dn (Design)
The STC Dn is preparing the 17th CIRP STC Design Seminar: The Future of Product Development to be held in Berlin, Germany, on March 26-28, 2007. Product development is one of the most important drivers of innovation. To a large extent economic growth and welfare of enterprises depend on that. Methods, procedures and systems are challenged to evoke, to enable and to support innovation. The approaches are on a change. Customers are more involved in the scenario of product development, as individualized products are demanded. As the global economy is rising, more distributed product development has to happen and nevertheless it should have close contact to manufacturing. The functionality still is dominating, but sustainability is an upcoming must. Answers can only be composed out of a variety of solutions where psychological, economical and technical research results are taken into account. For Further information see: Meetings Seminars, conferences.
A. Y. C Nee, STC Dn Chairman

STC M (Machines)
The STC M is focussing on the Digital Modelling of Machine Tools, Process – Machine Tool Structure and CNC system, Mechatronics and 5 axis Multi-Functional Machines. A series of presentations and papers have been given by both academic and industrial members of the STC M sessions, working groups and sponsored conferences. Digital Modelling of Machines covers mathematical simulation of machine tool structure, control and machining process in virtual environment with the objective to design the machine and process most optimally in order to eliminate or reduce costly prototypes and machining trials. A keynote paper was prepared and presented in Virtual Machine tools (CIRP Annals, Vol. II, 2005). The Mechatronics activities include sensors, actuators, and intelligent devices added to the machine tools in order to make the process more smart and self calibrating. The focus of Multi-functional machines activities are the design of machine tools which can mill, drill, turn, grind and measure. In particular, 5 axis trajectory generation, control and synchronizing simultaneously moving drives to minimize the machining errors. In addition to regular papers, we invite members from academia and industry to give presentations related to the listed areas which lead to keynote articles.
Y. Altintas, STC M Chairman
STC P (Precision Engineering, Metrology)

Recent research in coordinate metrology has lead to the construction of a number of coordinate measuring machines (CMMs) designed to measure microfeatures, including fuel injector nozzles, inkjet printer components, and the geometry of MEMs devices. One of the most challenging aspects of such micrometrology has been the realization of probing systems capable of accessing such small features while maintaining a high resolution and low measurement uncertainty commensurate with the CMM’s high-accuracy positioning capability. The past several meetings of STC-P have featured new developments in CMM microprobing in both the commercial (Werth and Mitutoyo) and research laboratory (TU Eindhoven, PTB, and NIST) arenas. A number of probes have now been demonstrated with spherical tips less than 100 micrometers diameter with resolutions of less than 10 nanometers. A number of technical approaches have proven successful, including optical sensing of probe stylus displacement and workpiece contact detection via a change of signal from a stylus mechanically excited at its resonant frequency. Comparisons of several microprobes of different designs, measuring 1mm ring gages, have demonstrated agreement at the level of ± 100 nm. Ongoing research is focused on reducing errors due to frictional forces that can dominate the performance of contact probes in the limit of very small sizes. A useful overview of CMM probe technology, including a number of microprobes, can be found in the STP-P Keynote Paper “Probing Systems in Dimensional Metrology” by A. Weckenmann, et al, CIRP Annals Vol 53/2, 2004

W. T. Estler Chairman, CIRP STC-P

6. Science Citation Index

The latest Science Citation index numbers about the Annals show again a decrease in impact factor from 0.974 first year to 0.973 last year and 0.891 now as shown below.

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<th>Impact Factor</th>
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Although 0.891 is a good number it is important to change the trend by referring to CIRP papers For detailed information see http://portal.isiknowledge.com
7. Corporate Members News

CMAG Meeting held on August 22nd, 2006 in Kobe, Japan

In his welcome, Prof. Inasaki stressed that the cooperation between academia and industry is the purpose of the CMAG group promoting information exchange between universities and industry. Dr. Mori mentioned the importance of manufacturing in the industrial world and said that a big effort is necessary to the new tendencies. He also highlighted the need of revitalizing Engineering as being fundamental to attract new generations.


Prof. Alting underlined in his address the importance of the CMAG lunch to foster personal relations between the industrial CMAG members and the academic members to articulate the needs of manufacturing industry on the scientific research agenda.

Company Presentations CMAG Co-Chair. Juan M Minguez.

Mori Seiki (Japan) by dr. Makoto Fujishima (fujisima@moriseiki.co.jp ). Mori Seiki was established in 1948 as "The Machine Tool Company” and is one of the most relevant machine tool builders in Japan now and employs 3502 people in three sites; Iga, Nara and Chiba Campus. The company applies innovative methods in production; reducing the production time for machine tools from 18 days to 6 days. The main activities in R&D are focused on the reduction of vibrations, improved accuracy, application of direct drive systems and remote monitoring systems.

Toyota (Japan) by mr. Yoshimura (hiromi_yoshimura@mail.toyota.co.jp ). Toyota Motor Company produced 7.541.000 vehicles, has sales in 170 countries and operates 52 manufacturing companies in 27 overseas countries. Toyota is very concerned and committed with environmental technologies and produced the first hybrid car in 1997 resulting in a cumulative world-wide total of 360.000 hybrid vehicles. Topics related to production
technologies are focused in *Global competition:* Maintaining uniform quality across the world and constructing production lines capable of low-cost manufacturing. *Protection of Global Environment:* Reducing energy consumption and minimizing waste (dry or near-dry cutting and chip processing). *Diversified Customer needs:* Constructing production lines requiring short shutdown periods for retooling and different models.

**Mitsubishi Materials Kobe Tools Corporation (Japan)** by dr.Yamada (yayamada@mmc.co.jp). Mitsubishi Materials Kobe Tools started its activities as Cutting Tool division of KOBE STEEL, LTD in 1911 producing the first HSS drills in Japan. In 2000, the company became a member in Mitsubishi Materials Kobe Tools Corporation. The main products are drills, endmills, gear cutters and broaches. The main research activities are in the development and application of new coatings, new carbide substrates and new cutting edge geometries. Excellent cutting performance and longer life in machining has been achieved with the newly developed coated carbide endmills.

**Korea Institute of Machinery and Materials KIMM (Korea)** by dr.K.H Whang (hwk@kimm.re.kr). The Korea Institute KIMM was founded in 1991. Presently, 470 persons are involved. The main Institute is located in Daejon with the Materials Research Centre located in Changwon. The R&D activities are: intelligent and precision machinery (micro- and nano- scale manufacturing), environment and energy machinery, system engineering research, advanced structure materials and new functional materials.
8. From the secretariat

Elsevier our new Publisher

After many years with Colibri we have changed to Elsevier as publisher for the Annals. This was in effect already with Part One, the Annals of the August meeting. Maybe it did not catch your eye because the quality is as good as it was. A side effect was that the delivery was too late. It was compensated by the publisher by delivering a series of Annals and by Prof. Moriwaki who very quickly provided a CD for all attendees at the conference site. This was a good opportunity to check if a paper version is really needed. Although some members never carry the heavy book with them, the general feeling was still that only an electronic version will not be an improvement.

The renewed contract is signed by Christopher Greenwell, Publisher (left) and Didier Dumur, CIRP (right) on 23 October 2006 in Paris.
Submission of papers streamlined

From now on, authors will send their paper directly to a specified email address, which will automatically download their paper file on the CIRP ftp site, where the secretariat, the EC Members and STC Chairmen can open it. Automatically-generated emails will be sent in return to authors and to the CIRP secretariat as a receipt.

Electronic votes

This year new Fellows and the Taylor medal award were voted by electronic ballots which worked out to be very successful.

Annals online

The full papers of the CIRP Annals Vol.1 & 2 are available on the web back to year 1980. You can have access with your CIRP codes through the page “Publications”. The Annals will be online on 15 on June 15 for Vol.1 and December 1st for Vol.2.

The CIRP website

Looking at the website you will see some changes already now and more in future. The Council has decided to update the website in accordance with our position as a leading academy. This will be done in two steps: 1. The secretariat will continuously improve the current site. 2. A new design will be made and thoroughly tested and discussed before implementation. Next steps will be discussed during the January meeting in Paris. Members who want to update the new membership titles e.g. in German, are reminded to respond on the mail sent by the secretariat earlier.

The use of the web is still going up. The most hits were in September, after the General Assembly in Kobe but the most Kbytes however has been transferred in October.
Flyers for Corporate membership

The Flyers to recruit new Corporate members are updated in line with the new names and titles. Those who want to receive new flyers just ask the Secretariat.

New Meeting place in Paris

With the new meeting place "la Maison de la Mutualité", better known under the name "la Mutualité" the problems where to have your coat will be definitely solved. There is enough meeting space for all the STC’s now.

9. Meetings Seminars, conferences

**CIRP International Seminar on Assembly Systems -ISAS 2006**

15-17 November 2006, Stuttgart, Germany.


**Contact:** E. Westkämper, [www.cirp2006.iff.uni-stuttgart.de](http://www.cirp2006.iff.uni-stuttgart.de)

**COMA 07**

31 January-2 February 2007, Stellenbosch, South Africa,

The International Conference on Competitive Manufacturing (COMA ’07) is taking place for the third time. The main objective of the conference is to present recent developments, research results and industrial experience related to the improvement of competitiveness in the field of manufacturing. A further objective of the conference is to be a generator of innovative ideas and fruitful collaboration both locally and abroad.

**Contact:** D. Dimitrov, coma@sun.ac.za  [http://www.ie.sun.ac.za/coma](http://www.ie.sun.ac.za/coma)

**International Conference on Smart Machining Systems / M**

13-15 March 2007, NIST, Gaitersburg USA

**Topics:** The program consist of presentations on all aspects of SMS technologies: Smart machine tool components such as spindles, drive systems, tooling, controls; Machine tool and process condition monitoring; Machine tool performance characterization and tracking; Predictive tolerance analysis and control; Process quality control and improvement; Robust optimization and other mathematical modeling tools for machining environments with high levels of uncertainty; Process modeling including Modeling of the tool-material–work-material interaction including Finite Element Modeling, measurement of material properties at high
strain rates, cutting modeling, thermal modeling at the tool-chip interface and others; Modeling of the machine tool system including high speed machining, simulation of machined surface, machine tool dynamics; Data standardization and requirements for CNC; Use of knowledge and information modeling for SMS; Concurrent engineering for SMS integration into earlier stages of the product life cycle. Selected papers will be published in the CIRP Journal of Manufacturing Systems.

**Contact:** Dr. Alkan Donmez, NIST, icsms@nist.gov  http://www.mel.nist.gov/sms

### 6th International Conference on High Speed Machining / C
**21-22 March 2007, San Sebastian, Spain**

High Speed Machining Conferences have already achieved a recognised role among scientists, engineers and industrialists interested on knowing the state of the art, exchanging information, sharing their experiences and improvements, and discussing trends and even roadmaps for future. Due to its various approaches, the Conference is thought to stimulate cross fertilization of the different disciplines and technologies involved in cutting, promoting the widespread HSM applications.

**Contact:** R. Bueno  http://www.highspeedmachining.org/eng

### 10th CIRP International Seminar on Computer-Aided Tolerancing
**21-23 March 2007 Erlangen, Germany**


**Contact:** A. Weckenmann  albert.weckenmann@qfm.uni-erlangen.de  http://www.cat2007.de

### 17th CIRP International Design Seminar,
**27-28 March 2007, Berlin, Germany**

**Topics:** design theory, creativity and competence, early phases, knowledge processing, man-machine-interaction, designing by the customer, product individualization, converse engineering, product development and digital factory, collaborative engineering, globalization, mechatronics, complexity management, functional mock-ups, simulation, evaluation, VR/AR, interoperability, grid computing, product lifecycle management, reverse engineering,
The conference is organized by the CIRP STC Design and Berliner Kreis., a German association of design researchers, organises with the support of Fraunhofer IPK, IWF of TU Berlin and the EU network of excellence Virtual Research Lab – Knowledge Community for Production and will be held at the Production Technology Centre (PTZ) in Berlin. Both representatives of leading industries and major software vendors and researchers with high reputation will give presentations composing a holistic future view of product development covering aspects such as design theory, product development processes, digital factory, collaborative engineering, mechatronics, simulation, knowledge processing, VR/AR and product lifecycle management.

Accompanying an industrial and scientific exhibition will take place which gives the chance to come in touch with the latest and newest developments of IT tools and services along the whole cycle of product development. The intention is to configure the exhibition by a triad of presentations from IT system and service vendors and OEMs and suppliers will present their products and IT system applications respectively. Well-known national and international research institutions show a unique collection of current scientific research results.

**Contact:** F.L. Krause, frank.-l.krause@ipk.fraunhofer.de  [http://www.ipk.fhg.de/cirp2007](http://www.ipk.fhg.de/cirp2007)

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**International Symposium on Electro-Machining (ISEM15)**

**April 2007  Irwin, USA**

**Topics:** EDM, ECM, USM, LBM. PAM, Water Jet, Abrasive Water Jet, Abrasive Flow and Rapid Prototyping Processes

**Contact:** [ralph.resnick@extrudehone.com](mailto:ralph.resnick@extrudehone.com)

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**3rd Workshop on Optical Measurement Techniques for Structures and Systems**

**28 – 29 May 2007, Leuven, Belgium**

This workshop is a forum for users and researchers developing and working with optical measurement techniques. Different techniques are covered like: Digital Image Correlation, Laser Doppler flow visualization: Particle Image, Velocimetry, laser Doppler Anemometry, Electronic Speckle Pattern Interferometry, Holography, Shearography, Optical fibre sensors, Laser scanners, CCD-LED measurements, Infrared thermography, Signal and image processing, Modeling from optical measurement data.

**Contact:** Prof. J-P Kruth, jean-pierre.kruth@mech.kuleuven.be [http://www.optimess.org/](http://www.optimess.org/)
4th International Working Conference TQM – Advances & Intelligent Approaches / O
27-30 May 2007, Belgrade, Serbia and Montenegro

The objective of the Third Conference is to provide an international forum for the exchange of knowledge, experience, research results and information about various aspects of the state-of-the-art and the future development of total quality management. The Conference covers philosophical, scientific and practical concepts concerning research, development and application of TQM-based advanced approaches. The topics are: Business excellence models; TQM & manufacturing management; World class performance; Attractive quality; Robust engineering; Six sigma model; Intelligent quality tools and methods; Virtual factory and virtual quality; Intelligent metrology in manufacturing; Intelligent and virtual CMM; Business process improvement;

Contact: Prof. Vidosav D. MAJSTOROVIĆ, majnem@EUnet.yu, www.mas.bg.ac.yu

40th CIRP International Seminar on Manufacturing Systems
30 May-1st June 2007, Liverpool, UK

This conference is focused on all key important areas of manufacturing systems especially on new paradigms, technology and methodology. This long-standing series of international seminar provides a unique platform for the dissemination and exchanges on the latest advances in manufacturing systems. The objectives are:
- To stimulate technical and scientific discussions on manufacturing systems and their implications to industry
- To provide an international platform for the exchange of the latest ideas and developments on manufacturing systems.
- To act as a driver for new research themes and international networking.

Contact: K.K.B.Hon, cirpms@liv.ac.uk, http://www.liv.ac.uk/cirpms

20th International Conference on Computer-Aided Production Engineering (CAPE),
6-8 June 2007, Glasgow, Scotland

The next CAPE conference in this long-standing series is to be held at Glasgow Caledonian University, Glasgow, Scotland 6-8 June 2007. A full programme of keynote addresses by leading researchers and industrialists, specific topic presentations, industrial visits and a social programme for accompanying persons are already being organised. The CAPE is sponsored by CIRP as well as the UK Institution of Mechanical Engineers. Papers will be included in the Journal of Engineering Manufacture. Contact: prof. Anjali De Silva, A.DeSilva@gcal.ac.uk
IV International Conference on Advances in Production Engineering / C
7-9 June 2007, Warsaw, Poland
Contact: K. Jemielniak

14th International CIRP Life Cycle Engineering Seminar
11 – 13 June 2007, Tokyo, Japan
LCE 2007 is intended to foster the exchange of visions, recent developments and research findings in the field of life cycle engineering at an international level. Papers are invited from prospective authors from industry, universities and research institutions. Contributions in the form of case studies and practices, as well as theoretical and experimental research, are encouraged. The topics are: Life cycle engineering, design, management, assessment and costing, Integrated product policy, Sustainable consumption. Product-service systems, Service engineering, Sustainable business models, Design for environment/sustainability, Sustainable production, Sustainable supply chain management, Recycling, reuse and remanufacturing technologies, Reverse logistics, Maintenance engineering, Plant asset management, Energy saving technologies, Life cycle engineering education.
Contact: Shozo Takata takata@waseda.jp http://cirp-lce2007.jspe.or.jp/

4th International Conference & Exhibition on Design & Production of Machines &Dies/Molds / F
21-23 June 2007, Turkey
This Conference will be held at Altin Yunus Hotel with five star facilities in Cesme, a small town near Izmir on the westernmost tip of Turkey on the Aegean coast with fine beaches. It is close to historical sights like Ephesus and Bergamon. Izmir also hosts one of the largest industrial zones of Turkey with several Universities. The region is well served by the International Adnan Menderes airport.
Contact: Prof. Dr. Bilgin Kaftanoglu, bilgink@metu.edu.tr, www.diemold.org

2nd International Conference on Changeable, Agile, Reconfigurable and Virtual Production (CARV 2007)
22-24 July 2007, Toronto, Canada
The conference mission is to provide the international scientific community with a dedicated stage for debate and exchange of ideas and experiences. Contributions are welcome from both research projects and industrial case
studies in the aforementioned field. Breakthrough advances, creative ideas and perspectives on future challenges are expected to create new focus points and to boost further international research.


Contact: Prof H A. ElMaraghy, carv2007@carv-production.com www.carv-production.com

CIRP ICME 2006
Intelligent Computation in Manufacturing Engineering
25-28 July, Ischia, Italy

This 5th edition of the Seminar will examine the applications of intelligent computation and related methodologies including expert systems, fuzzy logic, neural networks, multi agents, etc., as well as hybrid systems combining one or more of these techniques as applied to manufacturing engineering problems. The main scope of the Seminar is to provide an international forum for the exchange of the knowledge, information, experience and results as well as the review of progress and discussion on the state-of-the-art and future trends in intelligent computation methods and tools applied to manufacturing processes. Special sessions will be dedicated to two EC’s FP6 Networks of Excellence whose activities are focused on the areas of Innovative Production Systems and Micro Manufacture.

Contact: Roberto Teti: tetiro@unina.it

10th CIRP Intl Workshop on Modelling of Machining Operations / C
27-28 Aug 2007, Reggio Calabria, Italy

The aim is to bring professionals both from industry and from academy to present and discuss recent advances in Modelling of the Cutting Process and Machining Operations and to give the participants an opportunity to develop networking interactions. The program will deal with: Modelling of 2D and 3D machining processes, High-speed cutting and hard machining, Tribological aspects during cutting, Precision and micromachining, Dynamics and stability of machining operations, Monitoring and diagnostics of machining operations, Non-conventional modelling and optimisation of machining by artificial intelligence methods, neural networks, genetic algorithms, etc, Evolutionary Computations. Selected and fully reviewed articles will be taken into account for publication in the Journal of Machining Science and Technology.

Contact: Prof. F. Micari, micari@dtpm.unipa.it http://cirp10ws.unical.it
Industrial tools can be described as one of the most important driving forces of modern manufacturing technologies. As nowadays the production and economy can be described as turbulent, full of changes, competition, opportunities and risks, the same is valid also for tool development and production. Since all material processing and tool manufacturing activities are under severe time pressure, contemporary toolmakers use a computer supported digital world to evaluate their ideas and their processing technologies before making a real tool. For these reasons a modern computer can be viewed as one of the most efficient tools for making real tools! New material processing and tool manufacturing technologies, virtual manufacturing, intelligence systems, rapid tooling, tools for flexible and small quantity production, management of tool making, new materials and their treatments, concurrent processes and part (re)design methods,... all these topics will be discussed during the gathering of respected specialists, engineers, researchers and scientists coming from the industry, research institutions or academia. Info: http://www.tecos.si/icit

ICFG 2007 International Cold Forging Group Plenary meeting, 16-19 September 2007, Padova, Italy,

4th International CIRP-sponsored Conference on Digital Enterprise Technology (DET 2007) 19–21 September 2007, Bath, UK

The aim of DET 2007 is to provide an international forum for the exchange of leading edge scientific knowledge and industrial experience regarding the development and integration of the various aspects of DET. The 2007 conference will address the key areas of DET, from the digital definition of products to the modelling and optimisation of processes, factories and production networks. New research in PDM/PLM and Enterprise Integration will also be reported.

Four special sessions will be organised seeking to cluster the contributions and discussions in new and emerging areas including, “Emergent Syntheses in Complex Networks”, “Verification of Products, Processes and Systems”, “Production Systems Evolution” and “Interoperability”. DET2007 will also facilitate the exploration of future and evolving standards for the application of DET technologies by the international research community.

Contact: prof. Paul G. Maropoulos, University of Bath  admin@det-conf.org.uk
http://www.det-conf.org.uk
2nd ICNFT International Conference on New Forming Technology  
20-21 September 2007, Bremen, Germany

4th International Seminar on Digital Enterprise Technology, DET 07  
24-26 September 2007, Bath, UK

3rd ICTMP, International Conference on Tribology in Manufacturing Processes  
24-26 September 2007, Yokohama, Japan  
Contact: A. Azushima

LANE’07 – Laser Assisted Net shape Engineering  
24-28 September 2007, Erlangen, Germany,  

6th “THE” Coatings Conference  
25-26 October 2007, Hannover, Germany

VRAP’07 - International Conference on Advanced Research in Virtual & Rapid Prototyping  
October 2007, Portugal

21-23 March 2008, Toronto, Canada  
Contact: H. ElMaraghy

15th International CIRP Life Cycle Engineering Conference,  
April 2008 Sydney, Australia

18th CIRP International Design Seminar  
2008, Enschede, Netherlands

41st CIRP International Seminar on Manufacturing Systems  
2008, Japan  
Contact K. Ueda

19th CIRP International Design Seminar  
30 - 31 March 2009, Cranfield, UK
10. Miscellaneous

New Books
Among all manufacturing processes, forging technology has a special place because it can be used to produce parts of superior mechanical properties with minimum waste of material. Process selection and optimization are important because of the ever-increasing costs of material, energy, and labor. This reference book reviews the fundamentals of forging technology, the principal variables of the forging process and their interactions, and computer-aided techniques such as finite element analysis (FEA) for forging process and tooling design. Topics addressed include the flow behavior of the forged material under processing conditions; die geometry and die materials; friction and lubrication; the mechanics of deformation (strains and stresses); the characteristics of forging equipment; the geometry, tolerances, surface finish and mechanical properties of forgings; and the effects of the process on the environment. A major emphasis is on the latest developments in the design of forging operations and dies, and process modeling using FEA is discussed in all of the relevant chapters.

Contact: Taylan Altan, Center for Precision Forming (CPF) www.cpforming.org

Academic Positions

Full Professorship in Manufacturing Automation and Production Systems
A position is available at the University of Erlangen-Nuremberg. The successor to Prof. Dr.-Ing. Klaus Feldmann will be appointed from April 2008 to represent the discipline in research and teaching. We are seeking a personality with an outstanding track record in research in the area of production automation focused on the assembly of mechatronic products and on electronics production. Willingness for interdisciplinary scientific co-operation in support of the current research objectives of the faculty is desired, especially in the areas of light weight construction, mechatronics and medical technology.

Contact: Prof. M. Geiger: geiger@lft.uni-erlangen.de http://www.lft.uni-erlangen.de

Full Professor in Industrial Information Technology
A position is available as professor in Industrial Information Technology at the Technical University of Berlin and simultaneously at the Fraunhofer Institute of Production Systems and Design Technology. It will be the successor of Prof. Dr.-Ing. Frank-Lothar Krause. Further information is available at: http://www.personalabteilung.tu-berlin.de/jobs.html