International Institution for Production Engineering Research

NEWSLETTER

N° 27 – October 2005

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Contents

The next issue of the Newsletter is scheduled for April 2006. 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 preferably before **March 15th 2006**

Johan Meijer (Technical Secretary)

1. From the President

Dear colleagues

At the end of the General Assembly in Antalya, I took over the Presidency of our unique organisation. It is not without anxiety, that I am following in the footsteps of our great past presidents.

As I have said in my letter to you, I will work on continuous improvements of our organisation to make it a better instrument for all of us in our manufacturing engineering research and education work to enhance the manufacturing industry.

But the strength and impact of CIRP depends completely on the use of the organisation, i.e. your and my use in our research and education work. Therefore my message in this note is an encouragement to make good use of the unique network, the research results in the Annals, seminars, conferences etc. to strengthen your research and education and through this strengthen CIRP.

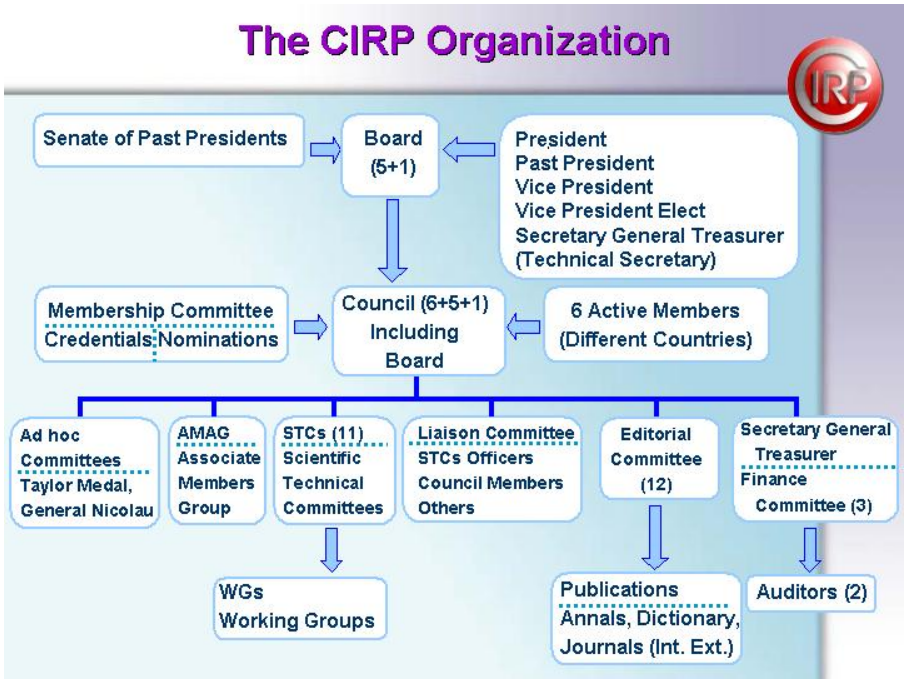
A strong CIRP is one of the means to put manufacturing engineering on the international agenda to improve the wealth creation in the world and stimulate manufacturing in the development countries. CIRP gets stronger by being used. I am looking forward to work with you in the development of CIRP.

My best wishes

Leo Alting

2. About CIRP

The **International Institution for Production Research** (CIRP) was founded in 1951 as **C**ollège **I**nternational pour la **R**echerche en **P**roductique to bring together research workers studying the application of scientific methods to production technology.



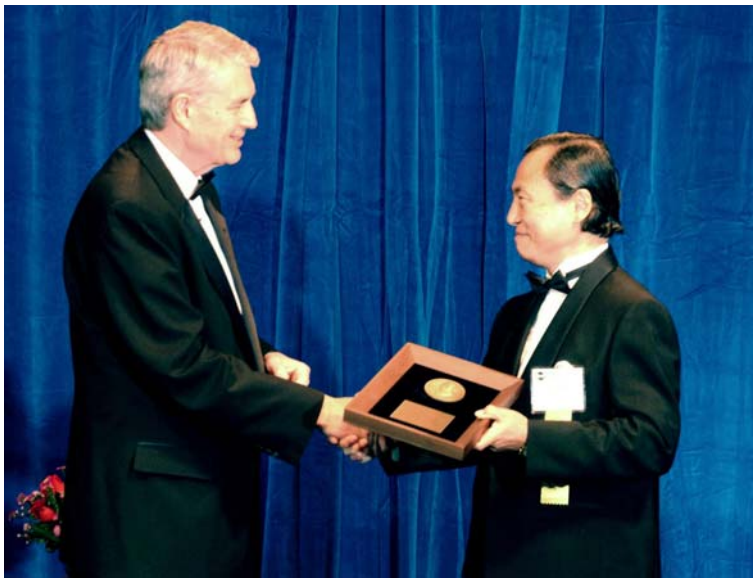
At present, CIRP has about 500 members representing some 40 different countries. The unique contribution of CIRP to manufacturing research is acknowledged by many of the world's leading companies and research institutes, who provide active support through the associate membership.

Today, CIRP is turning its attention to the use of computerized methods for manufacturing control, automation, robotics, interfacing and the computer-integrated factory of the future. The CIRP is organized in Scientific and Technical Committees (STC's) that are the groups responsible for coordinating the collaborative research. The main activities are:

- 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

Professor Ichiro Inasaki receives F.W. Taylor Medal



Professor Ichiro Inasaki has been elected to receive the 2005 Frederick. W. Taylor medal of the Society of Manufacturing Engineers (SME) for his research leading to a better understanding of materials facilities, principles, and operations, and their application to improve manufacturing processes. Formal presentation of this award has taken place at the Annual Award Banquet of SME in Baltimore, Maryland

Honorary colloquium for Professor Horst Weber

The Fraunhofer Institute for Machine Tools and Forming Technology IWU Chemnitz has organized a colloquium „Innovation cutting methods“ on September 9, 2005 to honor emeritus professor Horst Weber's 80th birthday. He was one of the pilots in research and teaching in production engineering in Germany.

Photo: From left to right: Prof. Reimund Neugebauer, Director of the Fraunhofer Institute for Machine Tools and Forming Technology IWU Chemnitz, Mrs. Annelies Weber, Emeritus Prof. Horst Weber a, Prof. Klaus-Jürgen Matthes, Rector of the Chemnitz University of Technology.

Professor Ekkard Brinksmeier President of euspen

At the International Conference of the European Society for Precision Engineering and Nanotechnology in Montpellier, the council elected Professor Ekkard Brinksmeier, University of Bremen, as president for a term of two years. Eu**spen** was established in 1999 and is now a self-supporting, not-for-profit-membership organization focusing on precision Engineering and Nanotechnology with nearly 600 individual members and approximately 80 corporate members from industrial organizations world-wide. Eu**spen** also cooperates with the American and Japanese societies for precision Engineering, ASPE and JSPE, publishing the journal „Precision Engineering" amongst others. The International eu**spen** Conference 2006 will take place in Baden, Austria. In 2007 Professor Brinksmeier will complete his presidency organizing the International eu**spen** Conference in Bremen.

New SME Fellows

The Society of Manufacturing Engineers (SME) has elected eight manufacturing industry leaders to the Society's College of Fellows for 2005. These recipients are recognized by SME, their peers and the manufacturing community as key contributors to the social, technical and educational progress of manufacturing. "Selection as an SME Fellow is truly recognition of distinguished accomplishment," said Gene Nelson, 2005 SME president. SME salutes them for their leadership, their innovation and their earnest dedication to the service of the profession." The 2005 Fellows will be installed on Saturday, November 5, 2005 in conjunction with the SME Board of Directors' Fall Meeting in Dearborn, Mich.

Yusuf Altintas, PhD, professor, University of British Columbia, Vancouver, BC, Canada. An accomplished educator and researcher, Altintas' research contributions to machine tools and machining technologies are recognized worldwide, especially his work in machine tool controls. He is also an expert in kinemetrics.

Ichiro Inasaki, PhD, dean of faculty of science and technology, Keio University, Yokohama-shi, Japan. Inasaki has made outstanding contributions in the science of manufacturing research, most notably for minimal fluid grinding and international cooperation in manufacturing engineering research. He is the recipient of the 2005 SME Frederick W. Taylor Research Medal.

Duc Truong Pham, PhD, OBE, FReng, professor of computer-controlled manufacture, Manufacturing Engineering Centre, Cardiff University, Wales, UK. Pham is an international leader in manufacturing engineering research, including robotics, rapid prototyping and virtual reality. He is known for the widespread and successful transfer of such technologies from academia to industry.

Ralph Resnick, chief technology officer, Ex One Company, Irwin, Pa., US. Resnick has helped to pioneer research and development manufacturing in the United States, actively promoting the need for industry and academia to collaborate closely to transition new science to factory floors.

Krishnaswamy Srinivasan, PhD, professor and chairperson, Ohio State University, Columbus, Ohio, US. In addition to significant contributions in the application of dynamic system modeling and control, Srinivasan, a leader in manufacturing education and research, has developed techniques that improve quality and productivity in a variety of applications.

John W. Sutherland, PhD, Richard and Elizabeth Henes chair professor of mechanical engineering, Michigan Technological University, Houghton, Mich., US. Recognized by his peers as a driving force for improving the environmental performance of manufacturing, Sutherland pioneered the introduction of courses in environmentally responsible design and manufacture at Michigan Technological University.

Rafael Wertheim, Dr. Ing, director of engineering services, ISCAR, Kiriat, Bialik, Israel. As director of engineering services at ISCAR, Wertheim's contributions to the field of manufacturing engineering research and education cover theoretical work and practical applications. He has demonstrated world-class competence in his research covering the broad area of metal cutting and machining, developing new tool designs and their applications. He is the 2004 recipient of the SME Frederick W. Taylor Research Medal.

Terry Wohlers, president, Wohlers Associates, Fort Collins, Colo., US. His annual Wohlers Report is the industry standard for analysis of the rapid prototyping, manufacturing and tooling industries. For the past 25 years, Wohlers' focus has been on education, research and practice in design and manufacturing.

4. Elsevier contract signed

From 2007 on Elsevier will print our Annals. The contract has been signed by the Secretary General Didier Dumur (middle) during the 55th General Assembly on 24 August 2005. Left Mr. Karel Nederveen, Vice President of Elsevier NY, right Mr. David Sleeman, commissioning editor from Elsevier London. The copyright of the Annals will remain by CIRP and the format will not change for the time being. The greatest benefit, however, will come from Elsevier's marketing power by selling more Annals. This will result in a wider distribution of our scientific work and more financial profit too. It should also result in an improved position in the citation index as shown in the Journal Citation Reports:

5. Science Citation Index

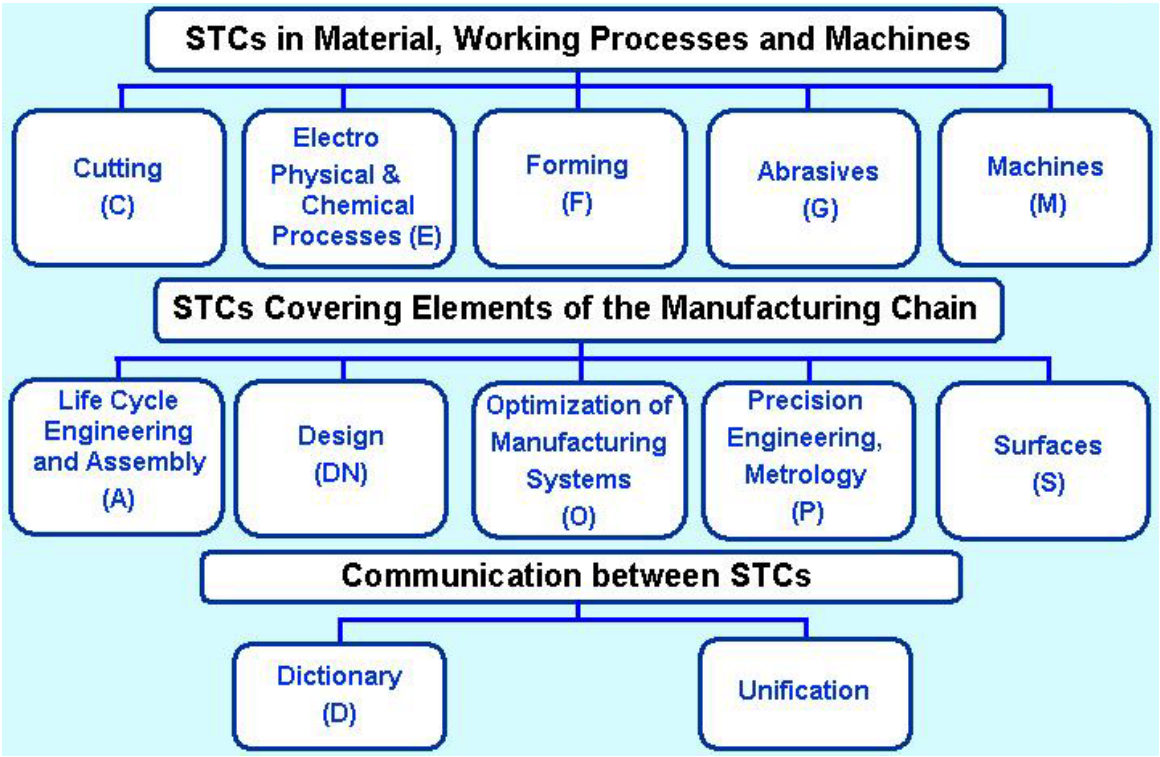
CIRP Annals – Manufacturing Technology:

	2003	**2004**
Impact Factor	0.974	0.973
Cited Half Life	-	> 10

A Cited Half Life of 10 means that 50% of the citations is from articles older than 10 years. A high CHL means that articles are still valuable after many years. For journals in the area of "Engineering, Manufacturing" the mean CHL is estimated to be 5 years. The score in the top class >10 means very good.

6. 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.



7. Associate Members News

With 49 AM's the meeting on 23 August was well attended The meeting was opened by the president Prof. Inasaki and chaired by the past president Prof. Veron and moderated by Mr. Minguez as AMAG Vice-Chair.

In his address Prof. Veron underlined the need for a strong interaction between academia and industry and the need to stimulate personal contacts and easy access to CIRP experts and their students. It was further noted that work is ongoing to improve the benefits of Associate Members.

Next seven AM companies presented new developments, five of them originating from Turkey as host country. They impressed the audience by showing a vital fast growing economy. The companies are working hard to improve product quality and complying with international standards and European legislation.

The foundation of modern Turkey took place in 1923 when a republic was declared with Mustafa Kemal Atatürk as President. A series of reforms has lead to the adoption of the Gregorian calendar, the introduction of a modified Latin alphabet and the adoption of new civil, commercial and penal codes based on European models. In 1945 Turkey has joined the United Nations and became a member of the NATO alliance in 1952. In August 1949 Turkey has joined the Council of Europe shortly after its foundation. Turkey recently has enjoyed healthy growth rates of 8%. The country is with an Area of 769,604 km² relative big and the Population of 70.7 million is very young (average 30 years).

The following companies presented their new developments:

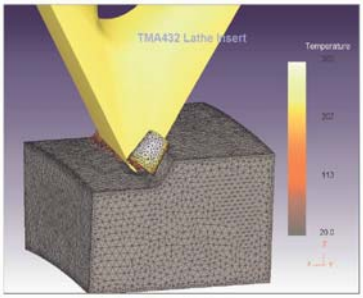
Arcelik (Turkey): Mr. Cem Dokmen. Arcelik is a home appliances company with seven plants in Turkey (cem.dokmen@arcelik.com). Of the companies many brands, BEKO is the best known and has the highest level of brand recognition in Turkey (among all consumer products). The company has many technical innovations and is the first to develop direct-drive washing machines and variable speed dish-washers. The company has received many awards for design, innovation and quality and places considerable emphasis on social and environmental responsibilities and activities.

Kale Kalip (Turkey): Mr. Murat Toprak (mtoprak@kalekalip.com.tr) Kale Kalip is a Turkish defense and aerospace company with a rapidly expanding range of products. The company is involved in many collaborations with main aerospace and defense companies and is accredited to many international standards. Kale Kalip is a six sigma company and emphasizes the importance of "meet(ing) and exceed(ing) customer expectations".

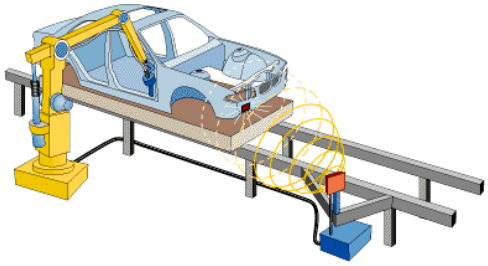
Tofas (Turkey) Dr. Orhan Alankus (orhana@tofas.com.tr) Tofas is a Turkish car maker with Fiat and Koc as shareholders. The company produces 250,000 cars per year with exports valued at $0.8 b. Dr Alankus outlined the companies current R&D capabilities and the R&D strategy up to 2010 in addition to Tofas production technology and an overview of the companies mould and die capabilities. The company has 10 to 20 projects with Turkish universities.

Turk Traktor (Turkey) Mr. Siyami Eser (siyamie@turktraktor.com.tr) Turk Traktor produces 35,000 tractors per year with four different models. Mr Eser outlined the companies R&D capabilities; which for example include stereo-lithography rapid prototyping and swirl measurement (for diesel engine design). The second half of the presentation covered the production engineering function in Turk Traktor. A recent initiative is the development of information kiosks for the shop floor which will provides operators with instructions for over 8000 assembly tasks.

TEI (Tusas Engine Industry - Turkey) Mr. Erhan Tayyar (erhan@tei-tr.com) TEI is a joint venture between GE and the Turkish company TAI. The activities are aero engine assembly and overhaul and parts manufacturing. Total sales in 2005 are projected to be $95m of which over 90% are exports. The



company is involved in numerous civil and military aero-engine programs in addition to international aerospace R&D programs. In the second part of the presentation, Mr. Tayyar outlined a particular manufacturing research requirement at TEI. This relates to optimization of a current turning process using simulation software; the objectives of which are reduced manufacturing cost and processing time and minimizing the residual stresses due to machining. Some details on the machining operations were also provided.



Fraunhofer Institute for Information and Data Processing. (Germany): Dr. Olaf Sauer olaf.sauer@iitb.fraunhofer.de) described production monitoring combined with object identification and tracking: a step towards real time management a development project in which the number of information systems in a large automotive company are being reduced to a 'minimum'. A specific aspect of this system incorporates automatic tracking of car bodies during production to allow for integration of process monitoring information and product information. Another objective of the development is to reduce non-value-adding tasks such as scanning barcodes.

TechSolve (USA): Dr. Anil Srivastava Srivastava@TechSolve.org) outlined the services provided by TechSolve including 'lean enterprise transformation', 'environmental and energy', strategic procurement and process optimization in addition to training programs in machining and manufacturing. Current research activities were also reviewed; two of which are an intelligent grinding system (GIGAS) and a 'self-diagnostics' machine performance monitoring system (IMS).

The full minutes written by the AMAG Secretary J. Barry (Element Six) are available on CIRPnet.

8. General Assembly in Antalya Turkey

Opening Address by professor Inasaki

Distinguished guests, CIRP Colleagues, and dear friends. In the name of the CIRP council, it is my honour to welcome you all to the 55th General Assembly in Antalya, such a beautiful and historical place in Turkey. This is the first time that the CIRP General Assembly is officially held in Turkey. Antalya that is called as the Turkish Riviera is in the center of very important historical sites. "Go and find me the Paradise on Earth" Attalos II, the King of Pergamon, ordered to his soldiers 2000 years ago. After the long journey the place was found and named "Attaleia". The people of Pergamon have built a beautiful city in this land where we are now. I am convinced that all participants will enjoy this historical place on the Mediterranean coast. More important, as you know, Turkey is being developed rapidly today in terms of science, technology and industrialization. There is, therefore, great significance for the CIRP of having the General Assembly meeting here in Turkey.

I would like to express my appreciation to Professor Kaftanoglu and all members of the organizing committee and my special thanks to the Ladies of the Committee who planned and organized an interesting and attractive program for the accompanying persons. Today in this General Assembly, we have more than 420 participants. The participants have arrived from over 43 countries. On behalf of the CIRP, I would like to express my gratitude to Professor Akbulut, President of Middle East Technical University and Dr. Alankus, Director of R&D in Turkish Automotive Industry for giving lectures at the

opening session, and all of those who sponsored this meeting.

As stated in the "Visionary Manufacturing Challenges for 2020" published by the National Research Council in the U.S. in 1998, manufacturing will remain one of the principal means by which wealth is created. Everybody must recognize that the manufacturing becomes more and more important to facilitate and maintain sustainable development for the life of human being.

During this General Assembly, we will have opportunities to meet each other and discuss various themes of papers and presentations, through which we may have chances to share our achievements, developments and activities. I wish a pleasant and fruitful week here in Antalya.

And Closing address

Ladies and gentlemen, and my dear friends, now it is the time to hand over the office to the next president Leo Alting.

Dear colleagues, your efforts and support are essential for the General Assembly. I would like to thank all of you for your invaluable help during the past week. This one year as President of CIRP was an invaluable experience for me to learn how to manage such a big international organization as CIRP. It was really an irreplaceable opportunity for me. I have been caught by the magnetic power of CIRP. I understand that I have an important role as one of the senior members of CIRP. I brace myself up to back up further development of CIRP in the future. Now I would like to hand over the presidency to the successor, my good friend Leo Alting. **Your are the new president of CIRP**.

Round table

The round table is always one of the highlights during the General Assembly.

Professor Inasaki reminded the role of CIRP to promote the development of production technologies by scientific research and to promote the cooperative research work among members. What is most important for the future development of production technologies is to foster excellent engineers in this field. However, the number of students being interested in production technology is decreasing. So it is necessary to seriously discuss this issue in our CIRP community how to cope this problem. Professor Byrne and professor Dornfeld have prepared the meeting; professor Byrne has chaired this round table.

Two speakers introduced the problem:

1."*Engineering Education in Universities – A Paradigm Shift*" by Hendrik van Brussel.

2."*A 21st Century Engineering Education for Leading concurrent Discovery and Innovation*" by A. Galip Ulsoy

Comments were given by the professors K. Osakada, H. Bley, L. Monostori and M. Shpitalni, followed by an open discussion which was summarised by prof. D. Dornfeld as follows:

What do we learn from such discussions?

- The view of what the issues are, depends on where you are sitting. For the 'developed' countries the situation maybe troubling. For 'newly developing' countries this is a great opportunity. There is no lack of excellent students in India or China.
- We see that, thanks to information technology and Communication, 'the world is flat' meaning that the technical or business opportunity impedance mismatch between different parts of the world is very low. In fact the 'world is flat' (see T. Friedman book by same name recently published).
- The solution is that we should 'stand on a box' to be able to look just over the heads of the competitors to see where the opportunities lie.
- One means to accomplish that was proposed research project based learning experiences. This allows self learning opportunities on: • systems aspects • improvement of communication abilities • emphasis on creativity and entrepreneurship • international experiences.
- But we must not forget the social/society aspects.
- Our friends in the business schools, whom we often criticize, are experts at assessing social impact, and communication, for new products and systems. We can learn from them.
- This should be the role of CIRP to make the box we stand on, to see over this flat world, to see the opportunities

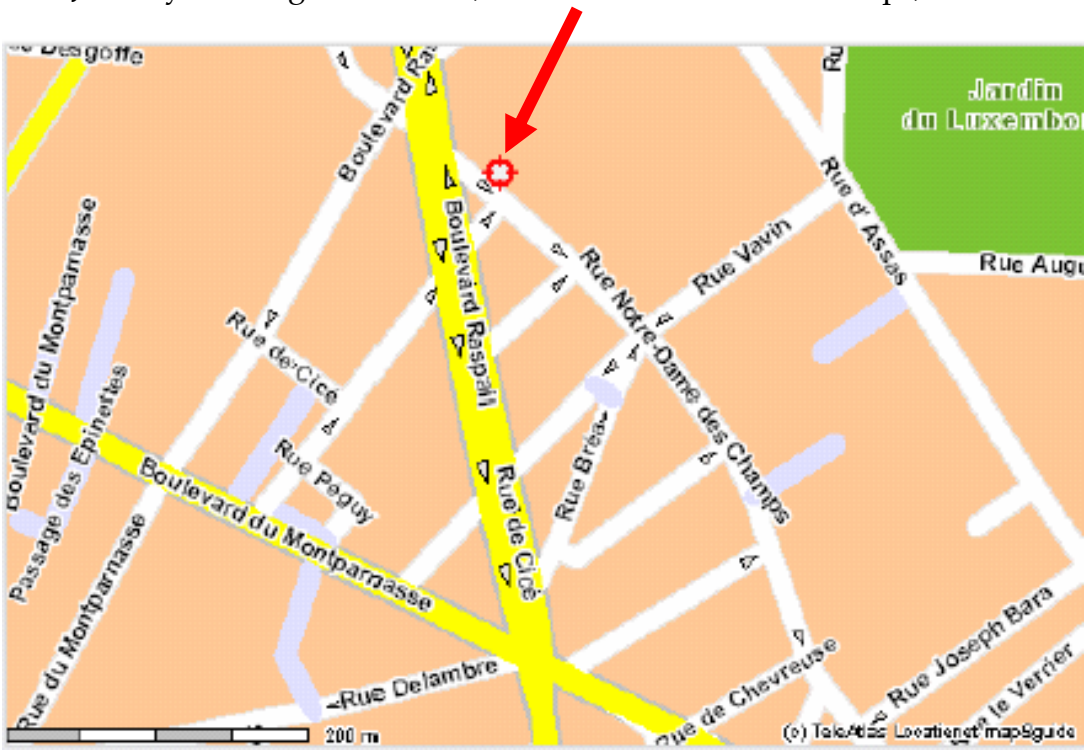
9. From the secretariat

The heart of CIRP is in the Paris office were all the work what is invented in all the meetings committees etc is really executed. Here also all mail, faxes and e-mail come together and are promptly answered. To not forget who keep this traffic center running day after day, here they are:

Chantal Timar-Schubert

and Agnès Chelet

New January meeting location: 39, Rue Notre-Dame des Champs, Paris 75006

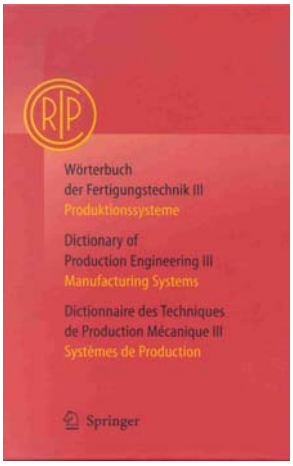


Annals online

The full papers of the CIRP Annals Vol.1 & 2 are now available on the web back to year 1980. You can have access with your new CIRP codes sent last May, through the page "Publications". Others can also access to the CIRP Annals on the Website but not for free like CIRP members, they should subscribe to a yearly fee of € 200 giving access to the Annals online. For more information see http://www.cirp.net/ under the button "Publications".

Dictionaries

Dictionaries are important for our Institute. The volumes are very useful for daily use. Further information is available on: http://www.cirp.net/publications/publications.html



New is the edition of tri-lingual Dictionaries (English-French-German):

- Metal Forming, Vol. I - 1 (1997)
- Metal Forming, Vol. I - 2 (2001)
- Material Removal, Vol. II (2004)
- Manufacturing Systems, Vol. III (2004)

Dictionaries can be ordered directly online on http://www.springeronline.com Also available an English-German-French-Chinese version.

Some previous multilingual CIRP Dictionaries (published from 1962 to 1984) are still available at the CIRP office:

English-French-German version:

(Vol. 1 : Forging And Drop Forging / *Sold out)*
(Vol. 2 : Grinding - Surface Roughness / *Sold out*)
(Vol. 3 : Sheet Metal Forming / *Sold out*)
(Vol. 4 : Fundamental Terms Of Cutting / *Sold out*)
Vol. 5 : Cold Extrusion And Upsetting
Vol. 6 : Planning, Slotting, Broaching, Turning
Vol. 7 : Drilling, Countersinking/Counterboring, Reaming, Thread Production
Vol. 8 : Milling, Sawing, Gear Manufacturing
Vol. 9 : Electrochemical, Electrodischarge, Electronbeam, Photonen Beam (Laser) And Chemical Machining

Vol.1 to Vol.9 is also available in English-German-French-Chinese version.
Vol. 1 is also available in German-Spanish-Italian-Portuguese version and in a Danish-Norwegian-Swedish-Finish version.

10. Meetings Seminars, conferences

IPAS 2006

19-22 February 2006, Bad Hofgastein Austria

XVII Workshop on Supervising and Diagnostics of Machining Systems,

13-15 March 2006, Karpacz, Poland

Contact: jerzy.jedrzejewski@pwr.wroc.pl

1st International Conference on High Speed Machining

14-16 March 2006, Metz, France

Educational Aspects of Virtual Metal Forming

31 March-1 April 2006

5th Parallel Kinematics Machines in Research and Practice

25-26 April 2006, Chemnitz, Germany

This international seminar focuses in detail on the contribution of parallel kinematics in mechatronic engineering and is being supported by the CIRP and will present the advantages of parallel kinematics in industrial applications in comparison with traditional, serial machine structures by showing the high tempo of development, in this field.

Topics: Structure design and optimization of the kinematic, integrated system design, software solutions. Components: Mechanical components, Sensors, Actuators. Control, start-up, calibration, control, compensation of machine errors and process interactions. Applications: Product requirements, prototypes and serial solutions, production concepts with PKM applications, process development and process design.

Contact: Prof. Reimund Neugebauer e-mail: pks2006@iwu.fraunhofer.de web: www.iwu.fraunhofer.de

9TH CIRP WORKSHOP
ON MODELING OF MACHINING OPERATIONS
11-12 May 2006, Bled (Slovenia)

The main objective of the Workshop sponsored by the CIRP is to bring together professionals from industry and academia to present and discuss recent advances in the field of Modelling of Cutting Process and Machining Operations. The previous Workshops have proven to be excellent opportunities for participants to get an overview of the state-of-the-art of the field and to develop networking interactions.

Topics: Modeling of 2D and 3D machining processes. High-speed cutting and hard machining. Tribological aspects during cutting. Precision and micromachining. Dynamics and stability of machining. Monitoring and diagnostics of machining. Non-conventional modeling and optimization of machining by artificial intelligence methods, neural networks, genetic algorithms, etc.

Contact: prof. I. Grabe or prof. E. Govekar cirp9ws06@fs.uni-lj.si http://www.fs.uni-lj.si/lasin/cirp9ws06/

6th IDMME International Conference on Integrated Design and Manufacturing in Mechanical Engineering

17–19 May 2006, Grenoble, France

Topics: The design/manufacturing interface, Integrated design of manufacturing processes, Life cycle design and manufacturing approaches, Agility in design and manufacture, Knowledge in engineering, Management in production system.

Contact Serge.Tichkiewitch@inpg.fr http://idmme06.inpg.fr

13th CIRP INTERNATIONAL CONFERENCE ON LIFE CYCLE ENGINEERING, LCE2006

31 May – 2 June 2006, Leuven, Belgium

LCE2006 is the 13th edition in a series of yearly scientific meetings, organised under the aegis of the CIRP. LCE2006 will provide a forum for researchers and practitioners in the field of life cycle engineering, eco-design, disassembly and life cycle management to discuss recent developments and

research findings.

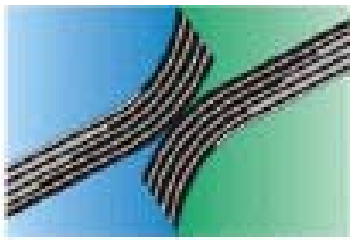
Topics:

Closed loop economy. Design for disassembly and recycling. Design for sustainability. Disassembly, remanufacturing strategies. Eco-design and innovation. Integrated product policy. Life cycle assessment. Life cycle costing. Life cycle engineering. Life cycle engineering education. Life cycle management. Maintenance, remanufacturing, recycling. Product chain management. Products for renewable energy. Product-service systems. Sustainable business models. Sustainable production. Resource management.

Contact: Prof. J. Duflou, LCE2006@mech.kuleuven.be www.mech.kuleuven.be/LCE2006

39th CIRP International Seminar on Manufacturing Systems The Morphology of Innovative Manufacturing Systems

7 – 9 June 2006, Ljubljana, Slovenia



The CIRP International Seminar on Manufacturing Systems was proposed forty years ago by Professor J. Peklenik. Today, the CIRP International Seminar on Manufacturing Systems is a global, excellent and well recognized scientific event. It represents a unique platform for exchanging of ideas and advances among scientists in this wealth creating, fast developing and exciting scientific field. Especially for the young scientists it represents an opportunity for exposing of ideas to the respectable scientific community.

Topics: Manufacturing system design, operation and maintenance**.** Modelling, simulation, control and monitoring of manufacturing processes and systems. Automation and robotics in manufacturing. Complexity, flexibility, reconfigurability, transformability, maintanability, reliability, safety and dependability of manufacturing systems. integration and communication. Digital factories, extended enterprises, production networks. Knowledge management in production. Human factors and education.

Contact: prof. Peter Butala cirpisms@fs.uni-lj.si http://www.fs.uni-lj.si/lakos/CIRPISMS/index.htm

CIRP - 2ND INTERNATIONAL CONFERENCE on High Performance Cutting

12-13 June 2006, Vancouver, Canada,

Topics: High speed spindle technology, models, tuning and testing. Cutting tool - holder geometry, grades and performance. Feed drive and CNC systems

technology, modeling and control. High speed machine tool structures and configurations. Machining of Titanium, Nickel, Magnesium and steel alloys. Residual stress and damage modeling on finished surfaces. CAD/CAM Systems and strategies for High Performance. Machining, Virtual Machining, optimal NC tool path planning. Mechanics and dynamics of metal cutting operations. Metrology, Precision Machining and Sensor Assisted Machining. Monitoring and control of machining operations.

Contact: Prof. Y. Altintas, www.cirp-hpc.org

The 16th CIRP International Design Seminar

Design & Innovation for Sustainable Society

16-19 July 2006, Kananaskis, Alberta, Canada

Topics: Innovative Product Design, Adaptable Design, Platform and Product, Architecture Design, Modular Design, Life Cycle Design, Design for Reuse, Remanufacturing, Recycling, Sustainable Design and Development. Design for Environment, Design for Manufacturing, Design for Life, Health and Fitness, Design Methodologies, Tools and Techniques, Distributed Design Activities and Teams, Web-based Design and Collaborative Design and Tools, Digital Product Creation, Product Life Cycle Management, Engineering as Collaborative Negotiation Design Information Systems, Computer-Aided Design, CAD/CAM, Design of Manufacturing Systems, TRIZ Applications in Design, Quality by Design, Creativity & Innovation in Engineering Design, Design in Discrete Product Manufacturing Industry, Design in Auto Manufacturing Industry, Design in Aerospace Industry, Design in High-Tech Industry, Design in Small and Medium Enterprises Engineering Design Management, Industrial Practice of Design for Sustainability and Environment, Current and Future Industrial Practice Trends Innovation in Design Education.

Contact: Dr. Peihua Gu, pgu@ucalgary.ca

5th CIRP International Seminar on Intelligent Computation in Manufacturing Engineering - CIRP ICME '06

25-28 July 2006, Ischia, Italy

SCOPE: The 5th edition of the Seminar will examine the applications of intelligent computation and related methodologies including expert systems, fuzzy logic, neural networks, genetic algorithms, multi agent systems, evolutionary and emergent computation, 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 Network of Excellence whose activities are focused on the areas of Innovative Production Systems and Micro Manufacture

TOPICS: Material working processes, Metrology and measuring methods, Process modeling and monitoring, Design, simulation and modeling, Concurrent/Simultaneous engineering, Reverse engineering, Rapid and virtual prototyping, tooling, Assembly and disassembly, Micro and nano technologies, Diagnostics and maintenance, Automated inspection and quality control, Sensors and sensing techniques for manufacture, Process/Production planning and control, Dynamic scheduling in complex mftg, Distributed and co-operative production, Customer driven production, Intelligent machines and robots, Intelligent manufacturing systems, Factory design, reconfigurability and integration, Virtual reality for manufacturing, Product life cycle management, Human factors in intelligent mftg. Systems, Manufacturing engineering applications of: expert systems, neural networks, fuzzy logic, neuro-fuzzy systems, multi agents, genetic
Contact: Prof. Roberto Teti: tetiro@unina.it info@www.icme.unina.it

Advances in Materials and Processing Technologies (AMPT)
30 July-3 August 2006, Las Vegas, USA

Scope: Materials, Sheet forming, Bulk forming, Forming in the melt or near-melt condition, Material-removal processes, Non-traditional processes, Surface engineering, Nano TechnologyComputer Applications, Environmental Issues.

Contact: gunaseke@ohio.edu

11th ICPE International. Conference on Precision Engineering, 16-18 August 2006, Tokyo, Japan

6th International Workshop on Emergent Synthesis
18-19 August 2006, Kashiwa, Japan

4th International Conference on Manufacturing Research

ICMR 2006 5-7 September 2006, Liverpool, UK

Contact: Dr. Michael Morgan ems@livjm.ac.uk www.icmr2006.org.uk

13th ISPE - International Conference on Concurrent Engineering Research & Application

17-22 September 2006, Lyon, France

3rd International CIRP Seminar on Digital Enterprise Technology, 18-20 September 2006, Setubal, Portugal

CIRP International Seminar on Assembly Systems -ISAS 2006

27-29 September 2006, Stuttgart, Germany.

Topics: Holistic Assembly Systems • Assembly Modelling and Simulation • Assembly Process Technologies • Design for Assembly • Planning of Assembly operations • Methodologies for Planning • Design of Assembly tools and Fixtures • Flexible Assembly (– Assembly Cells – Assembly Systems) • Modular Assembly Systems • Robots in Assembly • Hybrid Assembly Systems • Human Working Groups • Digital Assembly • Intelligent Assembly • Simulation of Assembly • Integration of Measurement • Quality Management in Assembly • Assembly Execution Systems • Ubiquitous Computing in Assembly • Assembly in specific environments (Clean room) • System integration • Integration of electronics • Integration of software • Micro Assembly • Disassembly • Assembly Logistics

Contact: E. Westkämper, www.cirp2006.iff.uni-stuttgart.de

ICAFT 2006, International Conference on Accuracy in Forming Technology, 10-11 October 2006, Chemnitz, Germany

1st International Symposium on Digital Manufacture

15-16 October 20006, China

CAPE, Computer Aided Production Engineering

2006, Glasgow, UK

2007

COMA 07

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

17th CIRP International Design Seminar,

27-28 March 2007, Berlin, Germany

10th CIRP International Seminar on Computer-Aided Tolerancing

April 2007 Erlangen, Germany

International Symposium on Electro-Machining (ISEM15)

April 2007 Pittsburgh, PA, USA

Topics: EDM, ECM, USM, LBM. PAM, Water Jet, Abrasive Water Jet, Abrasive Flow and Rapid Prototyping Processes
Contact: ralph.resnick@extrudehone.com

40th CIRP International Seminar on Manufacturing Systems

30 May-1st June 2007, Liverpool, UK

14th International CIRP Life Cycle Engineering Seminar

11 – 13 June 2007, Tokyo, Japan

11. Miscellaneous

Web usage

The usage of the web until beginning of October 2005 is shown below. The month September, directly after the GA is with 204051 hits on the top.