



The International Academy for Production Engineering

NEWSLETTER

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From the President

My Dear Colleagues and Friends,

The months are passing quickly by and soon we will make the final preparations for our participation at the coming General Assembly! The 64th CIRP General Assembly will be hosted by the beautiful historic, but at the same time, modern town Nantes located on the Loire River, near to the west coast of France. Recently, I have had two opportunities to visit Nantes and I can affirm that our Colleague Alain Bernard and the team he leads have selected outstanding facilities for our annual assembly and are working very hard on the necessary arrangements.



In order to underline the right choice, i.e., to organize the General Assembly in this lovely but at the same vibrant city, even now considered as the capital of the historic province Brittany (though officially separated from it in 1789), I would like to highlight some facts from the past decades:

- In 2004, the Time Magazine named Nantes as the “most liveable city in Europe”.
- In 2010, according to the Innovation Cities Index of the 2THINKNOW agency, Nantes was globally ranked 36th from among 289 cities for its inventions and innovations across multiple sectors of the economy.
- In 2013, Nantes held the title of European Green Capital awarded by the European Commission for its efforts to reduce air pollution and CO₂ emissions, for its high quality and well-managed public transport system, and for its biodiversity with 3,366 hectares of green spaces and several Natura 2000 zones that guarantee a protection of nature in the area.

Clearly, we'll be on the right place, since innovation, sustainable development, energy and resource efficiency, just like human friendly, viable working and living conditions, and green production all belong to the challenges production engineering faces today.

In order to respond to these great challenges appropriately, we require, on the one hand, interdisciplinary setting, and, on the other, international cooperation between academia and industry. Following this line, in addition to the well-established ten Scientific Technical Committees, we intend to strengthen the role of the Collaborative Working Groups within our Academy, and for the first time, a plenary, Cross STC Meeting will be organized in Part II of the General Assembly. I gladly see that new firms apply for the Corporate Member status, and we make significant steps to catalyse worldwide cooperation and to involve the underrepresented countries into our activities.

Looking forward to meeting you in Nantes, 24-30 August 2014!

With friendly regards

László Monostori

President of CIRP 2013-2014

P.S.: If you have not yet registered, please help the organizers led by Professor Bernard by doing so as soon as possibly you can.

News about Members

Professor Altintas Doctor Honoris Causa

Prof. Altintas has received the Doctor Honoris Causa degree from the Budapest University of Technology and Economics on May 25, 2013. The laudation was delivered by the rector Gabor Péceli who mentioned that professor Yusuf Altintas has performed outstanding research in machine tool vibrations over more than 30 years. He greatly contributed to the optimization of complex milling operations, which directly resulted in better use the machine. Within the world's leading aircraft manufacturing company recognized research results reduced the machining time for the compressor and turbine blades drastically.

He is head of the Manufacturing Automation Laboratory, which he founded in 1986, today one of North America's best-equipped laboratories for metal machining. He is a member of the Royal Society of Canada and honorary doctor of the University of Stuttgart. His publications are an outstanding contribution to the aerospace industry manufacturing engineering literature and ranked as one of the six of the most influential researchers in Canada.



Professor Altintas receives TUBITAK award



Prof. Y. Altintas received the highest science and engineering award from Tubitak (the Scientific and Technological Research Council of Turkey) for his internationally recognized academic contributions to the field of metal cutting, machine tool vibrations and machine tool control. He received the medal from President of Turkey, and donated 50,000 TL (~\$25,000) cash award to needy university students from his home town.

In the same period of time Prof. Altintas and two of his students received ASME Blackall Machine Tool and Gage best paper Award (June 10-14, 2013 ASME MSEC Conference, Wisconsin, Madison) for

their paper titled “Discrete-Time Prediction of Chatter Stability, Cutting Forces, and Surface Location Errors in Flexible Milling Systems”

Prof Andrew Y C Nee Editor-in-Chief of the International Journal of Advanced Manufacturing Technology



Prof Andrew Nee from the Department of Mechanical Engineering, National University of Singapore, has been appointed the Editor-in-Chief of the International Journal of Advanced Manufacturing Technology (IJAMT). It is Springer's longstanding journal in manufacturing engineering established 30 years ago. IJAMT is also one of Springer's largest journals in science and engineering, comparable in size with Springer's Journal of Material Science. The journal enjoys wide readership from both academia and industry.

Prof B J Davies, the Founding Editor-in-Chief (EiC) and Emeritus Professor of the University of Manchester, was at the helm of the journal until his passing in December 2013. After a month's search, Prof Nee was unanimously approved by the Springer offices in London and Heidelberg and he is appointed to succeed Prof Davies as the Editor-in-Chief for an initial period of five years.

Prof Nee was the past President of CIRP, an elected Fellow of the US Society of Manufacturing Engineers (SME) and a Fellow of the Academy of Engineering Singapore. He holds five honorary professorship appointments from China: Tianjin, Shanghai, NUAA, BUAA and HUST and serves on some 20 editorial boards of manufacturing engineering journals. He is an international advisory member of the Chinese University of Hong Kong and King Saud University.

Two CIRP Members Elected to the SME College of Fellows

Professor M. Helmi Attia



Professor M. Helmi Attia is manager of advanced material removal processes, aerospace manufacturing, National Research Council Canada, and adjunct professor of Mechanical Engineering, McGill University. Before joining the NRC in 2002, Attia was principal research engineer, Ontario Hydro Technologies, and manager of fabrication technology, Spar Aerospace Technology Ltd. He has also been adjunct professor of mechanical engineering with Concordia and McMaster Universities, Canada (1980-2005). Attia is professional engineer of Ontario, Canada, fellow of CIRP and fellow of the American Society of Mechanical Engineers. He is the recipient of Queen Elizabeth II Diamond Jubilee Medal (2013) and the prestigious ASME Blackall Machine Tools and Gage Award (1989). Attia received numerous recognitions from ASME and ASTM for being the principal organizer and editor of symposia related to manufacturing and tribology. He is on the editorial board of a number of international journals, including the *Journal of Machining Science and Technology*, *Journal of Sustainable Manufacturing* and *Journal of Computational Material Science and Surface Engineering*. Attia served as the chairman of the ASTM Task Group on Fretting Fatigue, and liaison officer of the ASME Production Engineering and Tribology Divisions (1990-96). To his credit, Attia has authored/coauthored some 180 papers in archival journals and refereed conference proceedings, and more than 100 technical research reports.

Professor Bert Lauwers



Professor Dr. Ir. Bert Lauwers obtained the degree of mechanical engineer, manufacturing technology and production management in 1987 from the Katholieke Universiteit Leuven (KU Leuven). In 1993, Lauwers earned his doctorate from the same university on the subject “Computer-Aided Process Planning and Manufacturing for Electrical Discharge Machining.” In 1992, he was a visiting lecturer at the Asian Institute of Technology, Bangkok. Since 1993

Professor Lauwers has conducted research in KU Leuven’s production engineering, machine design and automation division on manufacturing processes (multi-axis milling, high-speed machining, electrical discharge machining, hybrid processes, machining of advanced materials) and computer support in manufacturing such as CAD/CAM, NC programming, NC simulation and NC post-processing. He was and is active in several national and international (European-level) research projects. Very important is Lauwers’ cooperation with industry, either direct or indirect through industry associations, and national as well as international. From October 1, 2013,

Lauwers will hold the chair of Science and Technology at KU Leuven, Thomas More. He is involved in various professional societies or associations. Lauwers is an active member of CIRP. He has also been an SME member for more than 10 years. In 1998, Lauwers and his team received the CASA/SME University Lead Award.

Professor Ajay Malshe Edison Awards Winner



Dr. Ajay Malshe and his team at NanoMech has received a 2014 Edison Awards™. NanoMech is an internationally recognized world-class nano-manufacturer with top award winning breakthrough innovations in machining, coatings, lubrication and strategic military applications

It’s exciting to see companies like NanoMech continuing Thomas Edison’s legacy of challenging conventional thinking, said Frank Bonafilia, Edison Awards’ executive director. “Edison Awards recognizes the game-changing products and services, and the teams that brought them to consumers.” Dr. Malshe and his team were recognized on April 30, 2014 at the Edison Awards Annual Gala, held in the historic Julia Morgan Ballroom in San Francisco, CA.

From the Research Affiliates

RA community building

My first year as chairman has passed and a lot has happened. In this newsletter I would like to briefly share my first reflections with you. From the start of my term, the central theme was consolidation. We have passed the six year mark of having RAs within CIRP and have therefore said our goodbyes to the first 38 that enrolled in the first year. These 38 really established the inspiring culture and enthusiasm I see now within our community. In Paris we appointed a new secretary Taner Tunç and we sincerely thanked Yasuhiro Kakinuma for his past efforts as secretary.

Looking at the present potential of our RA community, we see a great diversity. 24 Countries are represented and RAs are scattered interest-wise across all STCs. We even have a 16% female population, probably the highest in any production engineering society. Statistics we should not take for granted, but work on continuously. Being an outstanding researcher at the start of your career, seeking international collaboration and developing your network are the central aspects of any RA. Within our community we try to promote this as much as possible via for instance interactive workshops next to (of course) the established conference meetings.

RA agenda

Looking ahead, this spring two interesting events are planned:

- **3rd CIRP Web Conference (CIRPe2014) on June 3-5, 2014**
The CIRP web conferences are really maturing and becoming more-and-more successful. This year the number of accepted papers has grown with more than 50%, of course scrutinizing each paper with our CIRP standard. The review process has just been completed and authors are preparing their online presentations. For more information and to join the web conference visit: <http://www.cirpe2014.unina.it/>
- **RA annual workshop, June 16-17, 2014 in Gjøvik University College, Norway**
The RA annual workshop is an excellent forum for RAs –especially seeing the high rejuvenation rate– to interact with each other, share research ideas and activities, and hopefully inspire each other. To promote interaction and personal gain, we organize a mini-workshop prepared by one of the RAs. This year's topic is 'gamefication of education'. For more information visit: <http://www.hig.no/forskning/konferanser/cirp>

Looking forward to seeing you at one of our activities.

Wessel Wits, CIRP RA Chairman



Research Affiliates group photo at the CIRP Paris meeting, January 2014

From the STC's

STC “Dn” presented by prof. Alain Bernard, Eric Lutters and Rainer Stark at the last Corporate Members Meeting in Paris.

Facts & Figures:

- The STC has started in 1984
- Average attendance currently around 70
- Corporate members interested: 42
- Related conferences:
 - CIRP Design Conference
 - *Global Product Development*
 - *Mass Customization and Personalization*
 - *Smart Product Engineering*
 - *Sustainable Product Development*
 - CIRP Conference on Computer Aided Tolerancing

What do we do?, For whom do we do it? And how do we excel?

We excel by working on topics that define the leading edge of the research field and by being able to bring together the appropriate stakeholders. The focus is on conjointly covering selected topics in the field of design in a connected manner.

Strategic goal for STC Dn

- Allow STC Dn participants to
 - co-operate in research
 - align research (initiatives)
 - discuss topic relevance with corporate members with respect to their needs
 - better and further their research and education because of initiatives and outcomes of STC Dn
-
- STC Dn wants to
 - facilitate STC Dn participants in working together
 - conjointly develop research plans and initiatives
 - be a contact service for the participants
 - be a contact point and centre of expertise
 - conjointly develop research strategy
 - Involve more directly Corporate members in discussions and deliverables

SWOT Analysis

Strength

- Strong community & network
- High relevance for industry
- Bilateral co-operation
- Expertise & experience

Weaknesses

- Few relations STC's / externals
- Strength of the STC: relation between individual members
- Value of Dn realised outside STC
- Members not accessible via STC
- Academic and industrial visibility
- Activities are fragmented

Opportunities

- Integrate theory and practice
- Co-operation between members
- Expertise centre (ac. & ind.)
- Visible leader in Design
- Integrator in dev. life cycles

Threats

- More explicit visibility elsewhere
- Growing # of conferences
- Growing # of bodies and networks
- *Design is all too often positioned as the obvious skill that merely links fields of expertise*

Where to go?

- Current keynote topics
- Tools and techniques in product design : present and future
- Automating Design with Intelligent Human-Machine Integration
- Design for reduction of energy use consumption
- Current presentation themes (January meeting 2014)
- Smart Product Engineering – National Initiatives
- User Experience Design
- Feature-based Model
- Computational Design Synthesis
- Part accuracy in Additive Manufacturing
- Tolerance analysis and synthesis
- Design for additive manufacturing
- Engineering Design education

Some Actions

- Some particular topics will be discussed and some task forces will be created:
- a task force is a group of STC Dn members...
- both from universities and from companies...
- that are interested in a theme,..
- that see benefit in conjointly labouring the theme
- that are going to prepare technical presentations for next meeting...
- that will initiate and stimulate a synthesis to prepare a keynote paper...
- and want to better and further the theme in STC Dn foreseen structure:
- Core participation: around 5 to 6 members (academia and companies)
- Supported by bigger liaison group / sounding board / social network

EU-Japan News

We are pleased to inform you about the forthcoming activity from the EU-Japan Centre for the benefit of EU companies' competitiveness.

The EU-Japan Centre is currently calling for applications for the next WCM training missions in Japan. The below-mentioned activities in Japan are financed by the European Commission World Class Manufacturing 5-DAY Training Mission in Japan providing:

- In-depth analysis of Japanese manufacturing methodology
- Lectures, seminars and panel discussions, presented by experts from Japanese industry
- Company and factory floor (Gemba) visits
- Preparation and post-visit reviews Target: EU managers working in manufacturing companies (Large and SMEs)

The European Commission grants 600 EUR scholarships to participants from SME's.

Training dates: 17 - 21 November 2014 Application deadline: Thursday, 15 September 2014

More information: <http://www.eu-japan.eu/detail-business-programmes/WCM>

Our Conferences

For the **most recent overview** of our coming conferences go to: <http://www.cirp.net/meetings-conferences/view-cat/year.listevents/2014/10/31/-html>

Future Keynotes Papers

Our keynote papers are the result of an intensive collaboration between specialists working together during several years within an STC. They are important state of the art papers on important (new) technological areas. CIRP members who are willing to contribute are invited to contact the coordinator.

2014 Keynote Papers in preparation

STC	Proposed title	Coordinator first author	Contact
"A"	Grasping Devices and Methods in Automated Production Processes	M. Santochil	santochi@ing.unipi.it
"C"	Cutting Edge Micro Geometries	B. Denkena	denkena@ifw.uni-hannover.de
"Dn"	Tools & Techniques for Product Design	D. Lutters	e.lutters@utwente.nl
"E"	Turbo Machinery Manufacture by Chemical , Electrical Physical & Photonic Processes	F. Klocke	f.klocke@wzl.rwth-aachen.de
"F"	Testing and Modelling of Material Behaviour and Formability in Sheet Metal Forming Processes	S. Bruschi	stefania.bruschi@unipd.it
"G"	High Energy Fluid Jet Machining	D.A. Axinte	dragos.axinte@nottingham.ac.uk
"M"	No Keynote in 2014		
"O"	Design and Management of Manufacturing Systems for Production Quality	T. Tolio	direzione.itia@itia.cnr.it
"P"	Industrial Applications of Computed Tomography	L. De Chiffre	ldch@mek.dtu.dk
"S"	Surfaces and Interfaces in Solar Cell Manufacturing	A. Chandra	achandra@iastate.edu
Track	Hybrid Processes	B. Lauwers	bert.lauwers@mech.kuleuven.be

2015 Keynote Papers in preparation

STC	Proposed title	First author	Contact
"A"	Automated Processes for joining of Dissimilar Materials	K. Martinsen	Kristian.Martinsen@sintef.no
"C"	High Performance Cutting of Advanced Aerospace Materials	R. M'Saoubi	rachid.msaoubi@secotools.com
"Dn"	Automating Design with Intelligent Human-Machine Integration	Yue H. Yin	alain.bernard@ircyn.ec-nantes.fr
"E"	Additive micro manufacturing using short laser pulses	A. Huis in't Veld	bert.huisintveld@tno.nl
"F"	Predicting and Controlling Product Properties in Metal Forming Processes	A.E. Tekkaya	erman.tekkaya@udo.edu
"G"	Abrasive Machining of Advanced Aerospace Alloys and Composites	F. Klocke	f.klocke@wzl.rwth-aachen.de
"M"	Materials in Machine Structures (internal)	H.C. Möhring	hc.moehring@ovgu.de
"M"	Virtual Machining (external)	Y. Altintas	altintas@mech.ubc.ca
"O"	Prognosis for cloud manufacturing	R. Gao	rgao@enr.uconn.edu
"P"	Measurement Technologies for Precision Positioning	W. Gao	gaowei@cc.mech.tohoku.ac.jp
"S"	Calibration and Verification of areal texture measuring instruments	R. Leach	richard.leach@npl.co.uk
Track	Metalworking Fluids – Mechanisms and Performance	E. Brinksmeier	brinksmeier@iwt.uni-bremen.de
Track	Virtual Machining of Parts	Y. Altintas	altintas@mech.ubc.ca

Our New STC Officers

STC	Chair	Vice Chair	Secretary
STC A	 <p style="text-align: center;">S. Kara</p>	 <p style="text-align: center;">J. Sutherland</p>	 <p style="text-align: center;">J. Krueger</p>
STC E	 <p style="text-align: center;">A. Malshe</p>	 <p style="text-align: center;">P. Bartolo</p>	 <p style="text-align: center;">M. Schmidt</p>
STC F	 <p style="text-align: center;">J. Allwood</p>	 <p style="text-align: center;">J. Cao</p>	 <p style="text-align: center;">G. Hirt</p>
STC O	 <p style="text-align: center;">R. Teti</p>	 <p style="text-align: center;">J. Vancza</p>	 <p style="text-align: center;">G. Lanza</p>
STC S	 <p style="text-align: center;">H. Haitjema</p>	 <p style="text-align: center;">E. Savio</p>	 <p style="text-align: center;">B. Mullany</p>

From the CIRP Office



Chantal Timar-Schubert

Annals papers/keynote papers submission process, CIRP meetings, the Website, candidatures for Membership, Internal Regulations and any internal information.



Agnès Chelet

Financial aspects: accountancy, membership fees, page charges, conferences sponsorships, January registration + Agendas & Minutes of the scientific meetings.

- Registration to the next General Assembly in Nantes is open. Please don't forget to invite officially your guest by sending the request to the CIRP Office in Paris.
- New on the Home Page: you can click on some Corporates logos in the rotating banner to open information on their company's main activities and needs (only for logged in members).
- Don't forget to have regularly a look at our latest news on the Home Page, and to visit your Dashboard dedicated to members only: you will find among others the Minutes of last January meetings all gathered together on the same page, as well as the updated CIRP Directory, etc etc.
- Members get free access to the Cirp Encyclopedia Online. This free authenticated access is only available for CIRP members from their [Dashboard](#). The entry is through the module "Contributions" -> Free access to CIRP Encyclopedia online...Take this opportunity to contribute to the constant update of the CIRP Encyclopedia of Production Engineering!

Future CIRP Meetings

January meetings

22-24 January 2014, Paris

18-20 February 2015, Paris

17-19 February 2016, Paris

General Assemblies

24-30 August 2014, Nantes, France

23-29 August 2015, Cape Town, South Africa

21-27 August 2016, Guimaraes, Portugal