



**The International Academy for Production Engineering**

# **NEWSLETTER**

**N° 44 – May 2012**

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# From the President

Dear CIRP colleagues

Our colleague Mitch has been working very hard on the final preparations of the 62nd General Assembly in Hong Kong and the entire Chinese delegation is lending its strong support.. For colleagues who are first time visitors to Hong Kong which is popularly known as the Pearl of the Orient, it is a bustling city with never-ending activities and it is truly a carrefour where the East meets the West due to a myriad of social, cultural and historical developments in the last 200 years . It is indeed a place which should not be missed.

I would also like to bring up another issue for our Colleague's consideration on the proposal to set up a CIRP Foundation.

## **Some examples of foundations:**

Several academies and learned organizations have established foundations, for example, the National Academy Foundation (NAF) which was set up in 1982. NAF fosters partnerships between the business and education communities to provide opportunities to underserved students. The Society of Manufacturing Engineers (SME) Education Foundation was created to prepare the next generation of manufacturing engineers and technologists through outreach programs to enrich students to study science, technology, engineering and mathematics (STEM) as well as computer integrated manufacturing (CIM) education.



## **Pros and cons of setting up a foundation:**

Starting a foundation has both advantages and disadvantages. On the positive side, it is a vehicle for effective philanthropy and it expands giving opportunities. Donors may make tax-deductible donations to a foundation. Foundation investment income, held by the foundation's board of trustees, is usually exempted from taxation. Foundations may accumulate and hold a portion of the funds and may also choose if and when to distribute the accumulated funds. The negative side is the initial time commitment and legal costs. There is also the requirement for proper record keeping, convene regular meetings of the board of trustees and make annual reports to the authority where it is registered.

## **Proposed use of accumulated funds:**

One of the possible usages of the foundation's funds could be in the form of scholarship for PhD studies in manufacturing engineering. It may not have to be a full scholarship, as it could be in the form of a top-up for students who have already received scholarship from their universities. The CIRP Foundation Scholarship will be an added prestige to the recipient, and the decision to award the scholarship will be subject to scrutiny from a panel consisting of CIRP Colleagues and Members of the Board of Trustees, faculties as well as consent from the universities concerned.

CIRP scholars could be earmarked as future Research Affiliates, as well as potential Associate Members in time to come.

Other usages could include the provision of traveling grants for Colleagues to visit universities and research organization in the CIRP community, for promoting exchanges and collaboration.

**Mooting of concept:**

The proposal to establish a CIRP Foundation was mooted in Paris at the Board as well as Council meetings. Board and Council Members have generally agreed to pursue the concept and continue to have further discussion on the various aspects, as well as exploring the legal requirements.

I would like to urge our Colleagues to provide their views whether they would support this proposal.

Looking forward to meeting you in Hong Kong in August.

With warm regards,

Andrew Y C Nee, President of CIRP (2011-2012)

## **News about Members**

### **Prof Wang Elected to SME 2011 College of Fellows**



Professor Lihui Wang, PhD, FSME, PE  
Professor, Virtual Systems Research Centre  
Director of Virtual Systems Research Centre  
University of Skövde  
Skövde, Sweden

SME has Elected the International Body of Distinguished Engineers, Researchers and Educators to 2011 College of Fellows. Among them professor Wang, an accomplished researcher, educator and professional engineer. Lihui Wang's research interests are focused on collaborative process planning, Web-based, real-time monitoring and remote control, as well as intelligent and adaptive manufacturing systems. Wang has published six books and authored in excess of 200 scientific articles in books, archival journals and refereed conference proceedings in these fields. A senior member of SME since 1999, he is actively engaged in various SME activities. Wang has been a member of the Scientific Committee of the North American Manufacturing Research Institution of SME (NAMRI/SME) since 2004, and a member of its board of directors since 2008. Currently, he is the editor-in-chief of the International Journal of Manufacturing Research, editor of the Robotics and Computer-Integrated Manufacturing, editor (Northern Europe) of the Journal of Intelligent Manufacturing and associate editor of the Journal of Manufacturing Systems. Wang is also a registered professional engineer in Canada. His accomplishments have won him 12 international and institutional awards.

## **Prof Volodymyr S. Kovalenko honored by Government of China.**

Professor Volodymyr Kovalenko, the CIRP Fellow, the Fellow of the Laser Institute of America, vice-president of the Academy of Engineering Sciences of Ukraine, and Director of the Laser Technology Research Institute at the National Technical University of Ukraine had been awarded by the highest Award of China for foreigners - "The Friendship Award" on October 2011. This Award is considered as very honorable because only 45-50 foreign experts from more than 500 thousands working with Chinese colleagues are honored in this way annually.

As one of the world pioneers in laser technology, who started his first research in this field back in 1964, Prof. Kovalenko had been very active in laser technology research collaboration with his Chinese colleagues from different universities of PRC for many years. Now he is the part time scientific adviser at Laser Center of Zhejiang University of Technology and is deeply involved in the development at this Center of the new "green" technologies for machines components remanufacturing, based on application of laser radiation and other non-conventional technologies. Previously he had been awarded by the Government of Zhejiang Province with "West Lake Friendship Award" as well.



The photo:

At the awarding ceremony Mr. Jang Janqui is presenting the "Friendship Award" of the Government of China to Prof. Kovalenko.

## Japan Panel Cites Failure in Tsunami



Our Emeritus Fellow Professor Yotaro Hatamura, chairman of the government-appointed investigative panel, spoke Monday December 26, 2011 in Tokyo.

From inspectors' abandoning of the Fukushima Daiichi nuclear power plant as it succumbed to disaster to a delay in disclosing radiation leaks, [Japan's](#) response to the nuclear accident caused by the March 2011 tsunami fell tragically short, the government-appointed investigative panel said. The failures, which the panel said worsened the extent of the disaster, were outlined in a 500 page interim report detailing Japan's response to the calamitous events that unfolded at the Fukushima plant after the March 11 earthquake and tsunami knocked out all of the site's power. Three of the plant's six reactors overheated and their fuel melted down, and hydrogen explosions blew the tops off three reactor buildings, leading to a major leak of radiation at levels not seen since Chernobyl in 1986.

A Year Later, in March 2012, an internal investigation [showed that the damage to the core of at least one of the meltdown-stricken reactors at Fukushima](#) could be far worse than previously thought, raising fresh concerns over the plant's stability and gravely complicating the post-disaster cleanup.



## **Prof van Houten 2012 recipient of the SME Gold Medal**

Our previous president professor Fred van Houten has been selected to receive the 2012 SME Gold Medal at the SME International Awards Gala on Monday, June 4, 2012, in Cleveland, Ohio.

The Society of Manufacturing Engineers (SME) is the premier source for manufacturing knowledge, education and networking. Through its many programs, events, magazines, publications and online training division, SME connects manufacturing practitioners to each other, to the latest technologies and to the most up-to-date manufacturing processes. SME has members around the world and is supported by a network of chapters and technical communities. SME is a leader in manufacturing workforce development issues, working with industry, academic and government partners to support the current and future skilled workforce



Prof. van Houten is the head of the Research group "Design, Production and Management", also comprising the chairs of Product Design, Product Realization, Packaging Design and Management, Design for Maintenance and Design History. The group consists of more than 60 staff members and 30 PhD students, which are active in a wide area of research in Design Integration and Process Modeling. Prof. van Houten is member of the management team of the Department of Engineering Technology, is responsible for the development of the BSc/MSc program in Industrial Design Engineering and Scientific Director of the Dutch Research School on Integral Manufacturing Innovation (IPV). He is member of the advisory board of the ministry of Economic Affairs for the Innovative Research Program Integrated Product Creation and Realization. Together with a few other CIRP colleagues he became a member of the High Level Group of the European Manufuture Platform

# From our Research Affiliates

The two main activities are: - Organizing a web conference.  
- A round robin test. Producing and measuring a part

The first CIRP Global Web Conference is in full preparation. From early May 2012 participants can view the papers and participate in an online discussion forum. From 11-14 June 2012 the online interactive web conference will be planned according to daytime overlapping regions worldwide.

The programme is chaired by:



Dr. Ir. Wessel Wits,



Dr. Ir. Juan Jauregui-Becker



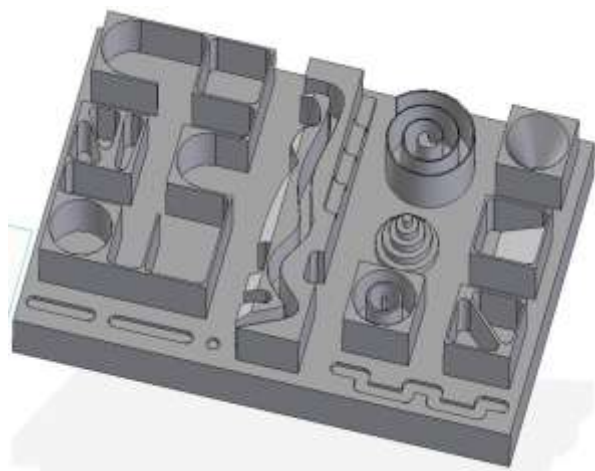
Dr. Ing. Hans-Christian Möhring

Participation to this CIRP web conference is free. The theme of this conference is “Interdisciplinary Research in Production Engineering”. The conference organizers invite all CIRP members, but especially the Research Affiliates, to participate and to contribute.

Topics of the conference are:

- Multi-scale aspects in production engineering
- Non-traditional manufacturing technologies
- Simulation of manufacturing processes
- Hybrid and assisted processes
- Additive processes
- Sustainable production
- Interdisciplinary design strategies

For further information see: [www.utwente.nl/cirpe2012](http://www.utwente.nl/cirpe2012)



The round robin test will be on a part like this:

Goal is to produce this part in the own laboratory while others will measure the part. A first exchange of parts will be during the GA in Hong Kong.

# The next General Assembly



Dear CIRP Colleagues,

Welcome to CIRP 2012 General Assembly (August 19-25) in Hong Kong, China. We have put together a rich program for you. Please visit the web site <http://www.cirp2012.com/>

The pre-conference tour starts August 11 with a pre-conference tour to Shanghai and Nanjing. We also organized research affiliate meeting before the assembly in Dalian, a beautiful harbor city in the North. There are also two post conference tours for you to choose, one in Beijing and Tianjin and another one in Taiwan. All of these tours are packed with a rich blend of well-arranged industry tours, as well as cultural and social activities.

Looking forward to seeing all of you in this part of the world,  
Mitchell Tseng  
Conference Chair,

Prof. W. S. Lau,  
Prof. K. K. Wang,  
Prof. Guoxiong Zhang  
Prof. Jianying Zhu  
Honorary Chairs



# From the secretariat



*Chantal Timar-Schubert*

Papers/Keynote Papers, CIRP meetings, the Website, candidatures for Membership, Internal Regulations.



*Agnès Chelet*

Financial aspects in CIRP: fees, page charges, or any kind of payment or invoice.

## Important dates:

### January meetings

23-25 January 2013, Paris

29-31 January 2014, Paris

### General Assembly's

19-25 August 2012, Hong Kong, China

18-24 August 2013, Copenhagen, Denmark

## CIRP Website

The CIRP Website is being completely renovated following the suggestions from the membership. It is set up following the latest developments and will be much better accessible. It is expected to be ready for the next GA in Hong Kong.

As some of you have noticed a Corporate video has been made during the last January meetings. It will be used to present CIRP to our internet visitors. It will be soon online so watch our website, [and return us your comments.](#)

# New Books

## Sheet Metal Forming

co-editors: Taylan Altan, The Ohio State University, USA  
and Erman Tekkaya, Technical University, Dortmund, Germany

The two volume book on “Sheet Metal Forming, Fundamentals and Applications”, published by ASM International, aims to provide practicing engineers, who design products and/or processes, with a working knowledge of the science and engineering of sheet metal forming technology.

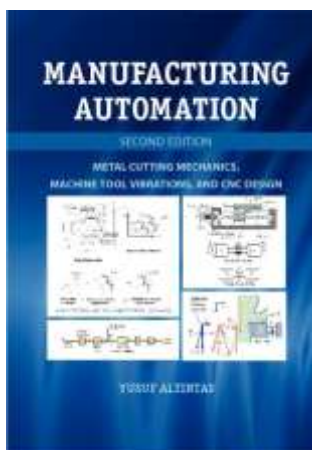


Volume one, “SHEET METAL FORMING – FUNDAMENTALS” covers the principle variables of sheet forming – including the interactions between variables - as a basic foundation for the most effective use of computer aided modeling and simulation of sheet metal forming processes. Topics include definitions and analysis of strain and stress, formability, tool design, and materials. This volume also covers the forming equipment related issues, including hydraulic and mechanical presses, servo drive presses and advanced cushion systems.

Volume two “SHEET METAL FORMING PROCESSES AND APPLICATIONS” gives the latest developments on the design of sheet forming operations, equipment, tooling and process modeling. Individual Chapters cover all major sheet forming processes such as blanking, bending, deep drawing, roll forming, hydroforming, spinning and more. The basics of process modeling using finite element analysis are described in one chapter and the applications are discussed in all other appropriate chapters. This volume also covers sensors, die materials and advanced technologies such as forming Advanced High Strength Steels (AHSS), hot stamping, and warm forming of Aluminum and Magnesium alloys.

## Manufacturing Automation

Metal Cutting Mechanics, Machine Tool Vibrations, and CNC Design  
Yusuf Altintas, University of British Columbia, Vancouver

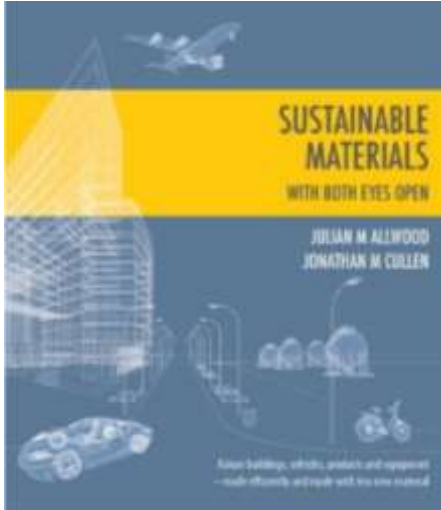


Metal cutting is a widely used method of producing manufactured products. The technology of metal cutting has advanced considerably along with new materials, computers, and sensors. This new edition treats the scientific principles of metal cutting and their practical application to manufacturing problems. It begins with metal cutting mechanics, principles of vibration, and experimental modal analysis applied to solving shop floor problems. Notable is the in-depth coverage of chatter vibrations, a problem experienced daily by manufacturing engineers. The essential topics of programming, design, and automation of CNC (computer numerical control) machine tools, NC (numerical control) programming, and CAD/CAM technology are discussed. The text also covers the selection of drive actuators, feedback sensors, modeling and control of feed drives, the design of real time trajectory generation and interpolation algorithms, and CNC-oriented error analysis in detail. Each chapter includes examples drawn from industry, design projects, and homework problems. This book is ideal for advanced undergraduate and graduate students, as well as practicing engineers.

# Sustainable Materials - with Both Eyes Open

Future Buildings, Vehicles, Products and Equipment  
Made Efficiently and Made with Less New Material

Julian Allwood and Jonathan Cullen



Dear Friends and Colleagues,

I'm pleased to tell you that our popular science book "Sustainable Materials: with both eyes open" has been launched, **can be read online for free** and is on sale at Amazon. The story of the book shows that most emissions from industry (a third of the world's total) arise from producing just five key materials and, as they're already made very efficiently, if we want to reduce their impact, we have to use less of them. Looking for such Material Efficiency has had little attention - this book is the first on the topic - but based on our work with a large team of researchers and industrial partners over several years, we've written the book to show how we can use a lot less material without a lot of pain. We want to share this message widely,

which is why you can read the book for free online, at [www.withbotheeyesopen.com](http://www.withbotheeyesopen.com)

Julian Allwood.

## All-Embracing Manufacturing

By Gideon Halevi

All-embracing manufacturing is a system that aims to dissolve the complexity of the manufacturing process and restore the inherent simplicity. It claims that **PRODUCTION IS VERY SIMPLE** and flexible by nature. However, the complexity is a result of the production system approach which makes it rigid and therefore complex.

All-embracing manufacturing introduces flexibility to production planning, it eliminate constraints, bottlenecks, and disruptions automatically while restore the simplicity. No decision is made ahead of time, but only at the time of execution. Therefore, it considers the present state of company's orders and shop floor. It introduces technology as dominant part of manufacturing. It is a computer oriented system, it imitate human behavior i.e. practically as any of us behave in daily personal life.



# Our Conferences

Date	CIRP Conferences	Place
16 May 2012	<a href="#">45th CIRP Conference On Manufacturing Systems</a>	Athens, Greece
21-23 May 2012	<a href="#">4th CIRP Conf. On Assembly Technology Systems - CATS 2012</a>	Ann Arbor, USA
23-25 May 2012	<a href="#">19th CIRP Conference On Life Cycle Engineering</a>	Berkely USA
4-7 June 2012	<a href="#">5th CIRP Conference On High Performance Cutting</a>	Zürich, Switzerland
11-14 June, 2012	<a href="#">1st CIRP Global Web Conf. on Interdiscipl. Research In Prod. Engngn</a>	Enschede, Netherlands
18-20 July 2012	<a href="#">8th CIRP Conference On Intelligent Computation In Manufacturing Engineering - CIRP ICME '12</a>	Gulf of Naples
29-30 Oct 2012	<a href="#">3rd CIRP Conference On Process Machine Interactions</a>	Nagoya, Japan
8-9 Nov 2012	<a href="#">4th CIRP IPS2 Conference</a>	Tokyo, Japan
4-6 March 2013	<a href="#">1st CIRP Conference On Biomanufacturing 2013 (CIRP-BioM2013)</a>	Tokyo, Japan
11-13 March 2013	<a href="#">5th CIRP IPS2 Conference</a>	
17-19 April 2013	<a href="#">20th CIRP Conference On Life Cycle Engineering</a>	Singapore
29-31 May 2013	<a href="#">46th CIRP Conference On Manufacturing Systems</a>	Setubal, Portugal
13-14 June 2013	<a href="#">14th CIRP Conference On Modelling Of Machining Operations</a>	Torino, Italy

Date	CIRP Sponsored Conferences	Place
2-4 May 2012	<a href="#">PROMED -1st International Conference On Design And Manufacturing PROCesses For Medical Devices</a>	Brescia, Italy
28 May- 1 June 2012	<a href="#">1st International Conference On Virtual Machining Process Technology</a>	Montreal, Canada
18-20 June 2012	<a href="#">RoMaC Conference 2012 - Robust Manufacturing Control</a>	Bremen, Germany
27-29 June	<a href="#">1st Joint International Symposium On System-integrated Intelligence: New Challenges For Product And Production Engineering</a>	Hannover, Germany
25-27 July 2012	<a href="#">3rd International Conference On NanoManufacturing -nanoMan</a>	Wako- Satiama, Japan
24-26 Oct 2012	<a href="#">TRIZ Future Conference 2012</a>	Lisbon, Portugal
31 Oct-2 Nov 2012	<a href="#">10th Global Conference On Sustainable Manufacturing</a>	Istanbul, Turkey
12-15 Nov 2012	<a href="#">LANE 2012</a>	Fürth, Germany
13.-14. Nov. 2012	<a href="#">4th ICAFT 2012</a>	Chemnitz, Germany
30 Jan-Feb 2013	<a href="#">COMA'13 - International Conference On Competitive Manufacturing</a>	Stellenbosch, S. Africa
8-12 April 2013	<a href="#">ISEM XVII - 17th International Symposium On Electromachining</a>	Leuven, Belgium
4-7 June 2013	<a href="#">7th International Workshop Conference On "Total Quality Management - Advanced And Intelligent Approaches"</a>	Belgrade, Serbia,