



The International Academy for Production Engineering

NEWSLETTER

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From the President

Dear CIRP Colleagues,

It is my great privilege and honor to serve as your President this year. I wish to thank the CIRP Senate, and the CIRP members for entrusting me with this opportunity to serve our Academy. During this past year, under the strong leadership of Professor Yusuf Altintas, we have seen significant advances on several fronts. Looking toward the future, CIRP is positioned well for continued strong stewardship with Professor Didier Dumur currently serving as Vice President, and Professor Mamoru Mitsuishi from the University of Tokyo having been named as our new Vice President Elect. The Board and I ask for your collaboration, your advice and your ideas to continue to advance CIRP in the coming year.



I am pleased to report that the 67th CIRP General Assembly held in Lugano this past August was well organized and well attended. It was a memorable week, both professionally and personally. Our CIRP colleagues from Switzerland were most gracious hosts, and on behalf of all our members I thank them once again. Planning for the 68th CIRP General Assembly to be held in Tokyo, Japan next August is well underway. Recently I had the opportunity to visit Tokyo to meet with Professor Mitsuishi and his team to review the current state of planning. The careful organization and meticulous attention to detail demonstrated by the Organizing Committee is a clear indication that this important responsibility is in the most competent hands. We can look forward to an outstanding General Assembly in Tokyo.

As mentioned above, this past year the CIRP Board and Council deliberated on several issues which had been identified by the CIRP Membership as items requiring attention. As a result, this allowed us to bring some important changes to our Internal Regulations. After considering the thoughtful discussions held at the General Assembly Meeting in Guimarães, and the feedback provided by the membership during the past year, the Council proposed a change to the procedures for renewal of Associate Members and candidatures for Fellow when considering publications in the CIRP Annals. The change provides more flexibility for first authorship while placing the responsibility for the paper under the Corresponding Author. The proposal received strong support by the Fellows and is now part of the Internal Regulations. Other changes to the Internal Regulations included refinement of the guidelines for keynote paper authorship and submission, and a procedure for the election of STC Secretaries.

The CIRP Winter Meetings in Paris are rapidly approaching. I look forward to the pleasure of meeting you there.

With my best regards,

Don Lucca
President of CIRP 2017-2018

From the editor

Dear CIRP colleagues,

It is a pleasure to present the next CIRP newsletter.

Besides the well used CIRP website (www.cirp.net), the newsletter brings any kind of news from CIRP members and for CIRP members.

All kind of news (news from members, awards, books written by members,...) relevant for our CIRP academy, is always welcome. Input can be sent to the CIRP office (cirp@cirp.net) or directly to me (bert.lauwers@kuleuven.be).



Bert Lauwers
CIRP Technical Secretary

News about Members

Professor Hoda ElMaraghy Receives Distinctive Recognitions

Prof. Hoda ElMaraghy was elected FELLOW of the Royal Swedish Academy of Engineering Sciences (IVA) on 12 June 2017 for “making outstanding contributions in the field of the Academy's activities and showing particular interest in developing contacts with Swedish research and Swedish industry”. The Royal Swedish Academy of Engineering Sciences, founded in 1919, is the oldest engineering sciences academy in the world and one of the Royal Academies in Sweden. It comprises approximately 1300 Swedish and foreign elected Fellows who are leaders in business, industry, academia, research institutes, government agencies and non-governmental organizations. In addition, Prof. ElMaraghy was bestowed the title “Distinguished University Professor” during the University of Windsor Fall 2016 convocation on the recommendation of the Senate. This is the highest academic appointment and distinction reserved to very few faculty members *“deemed by their peers (nationally and internationally) to be truly exceptional with distinguished achievements and wide national and international reputation for scholarship and professional accomplishments”*.



Professor Ajay Malshe Receives Prestigious Research Implementation Award From Society of Manufacturing Engineers

Professor Ajay Malshe received the prestigious S.M. Wu Research Implementation Award from the Society of Manufacturing Engineers, a premier international society dedicated for manufacturing engineering. The award recognizes outstanding original fundamental research presented at SME's manufacturing conference, subsequently implemented in industry, and having significant commercial and/or societal impact. Significant number of Malshe's discoveries and inventions have been converted to manufacturing practice. He and his team have invented, manufactured and implemented hundreds of breakthrough award winning products for numerous Fortune 500 Oil and Gas, EV, HD Trucking, Industrial and other companies (https://news.uark.edu/articles/40279/malshe-receives-prestigious-research-implementation-award-from-society-of-manufacturing-engineers?utm_source=Newswire&utm_medium=email2017-11-14&utm_campaign=malshe-receives-prestigious-research-implementation-award-from-society-of-manufacturing-engineers).



CIRP Awards

F.W. Taylor Medal 2017

As an incentive for scientific work, CIRP has instituted the Frederick Winslow Taylor Medal of CIRP - a distinction for young scientists.

Candidates for the award must have personally presented their research at a Paper Session during the two years preceding their nomination. Recipients are not to be over 35 years of age in the year of the presentation of their paper.

The F.W. Taylor Medal 2017 has been awarded during the General Assembly (Lugano, Switzerland) to **Dr. Chris V Nielsen**, upon the proposal of Prof. Hans Nørgaard Hansen. He presented a paper on “Modelling of real area of contact between tool and workpiece in metal forming processes including the influence of subsurface deformation” at the STC-F during the CIRP General Assembly Guimarães, Portugal, in 2016.

This paper addresses an important question within the problem of the real contact area in metal forming, which is an important value for the description of tribological effects in this process. Dr. Nielsen presented the results of a work, where the real contact area is determined both by a physical and a numerical model. An important step in his work, which is new and essential for the model, is the integration of the controlled independent bulk deformation of the sample in addition to the deformation of the surface asperities. The work laid down a foundation for further analyzing the contact mechanics, for example, addressing the size effects in the contact area.

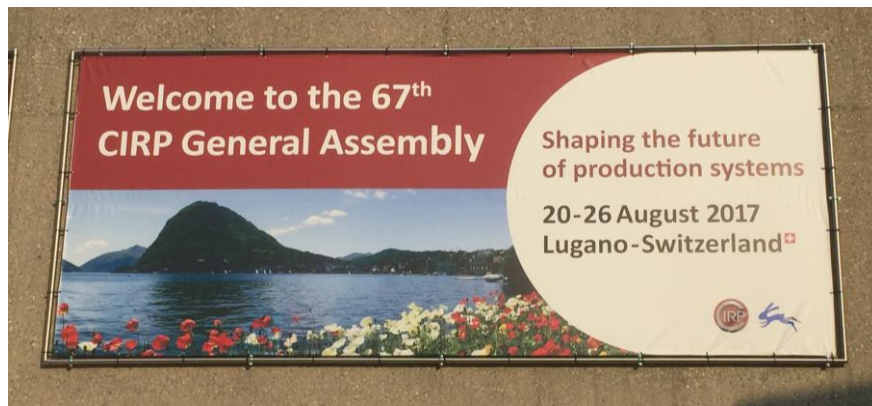
Dr. Nielsen is CIRP Research Affiliate and currently postdoc researcher at the Department of Mechanical Engineering, Technical University of Denmark (DTU-MEK) in Professor Niels Bay's research group on Forming and Joining. In 2012, he obtained his PhD from the Technical University Denmark. Prior to his paper in the CIRP Annals in 2016, he had published one Book Publication, 10 Journal papers, 7 conference papers and 8 seminar presentations.



*Taylor Medal Award ceremony
(Prof. Y. Altintas (left), Dr. Chris V Nielsen (right))*

General Assembly 2017

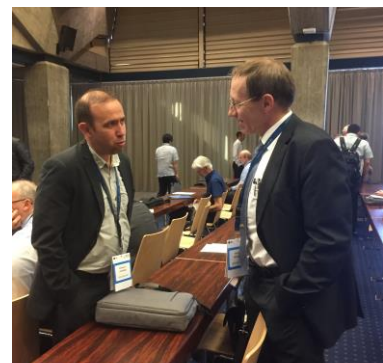
The General Assembly 2017 held in Lugano, Switzerland, has been attended by 650 participants, including 97 accompanying persons. Thanks to the Swiss delegation for the excellent organisation.



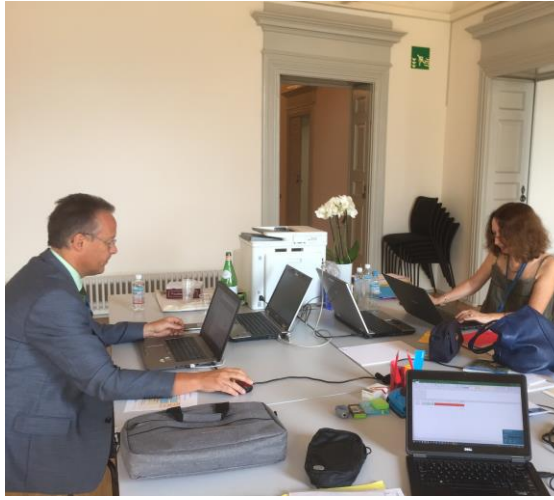
Pictures, taken by the organising committee, can be downloaded from:
<https://www.cirp.net/component/content/article/109-dashboard/cirp-office/956-photos-from-gas.html?Itemid=529>

Some additional pictures during session, board and general assembly meetings

CIRP STC Sessions



The CIRP secretariat & Board Members (2016-2017)



The CIRP General Assembly Meeting





Prof. Y. Altintas
President 2016 - 2017












Prof. D. Lucca
President 2017 - 2018




The Accompanying Persons Program

(by Catherine Dumur)

<p>Sunday, 20th August 2017</p>	<p>Monday, 21st August 2017 Lugano All the accompanying persons</p>	
 <p>We are welcome outside by musicians</p>	<p>Villa Ciani</p> 	<p>Monte San Salvatore</p> 

<p>Monday, 21st August 2017 Lugano</p>		
		<p>To go to the restaurant in Paradiso</p>  <p>In the background, Monte Brè</p>
 <p>In the old town</p>		

Tuesday, 22 nd August 2017 Mont Generoso (or Thursday or Friday)		
<p>The train to reach the Stone Flower</p> 	<p>The Stone Flower 1704 m</p> 	<p>A last effort and the peak</p> 
And such a beautiful view		
		
Then, coming back to the floor, the small village of Mendrisio		
		 

Thursday, 24 th August 2017 Bellinzona (or Tuesday or Friday)		
<p>At the arrival, Castelgrande</p> 	<p>After climbing</p> 	 <p>And a nice place for having lunch</p>

Wednesday, 23rd August 2017 Cruise on the Lake of Lugano
All the accompanying persons

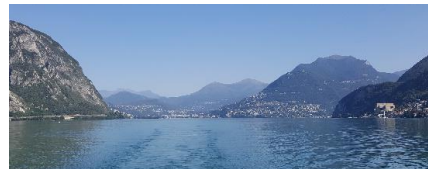
Welcome on board!



Albogasio:
small fisherman village



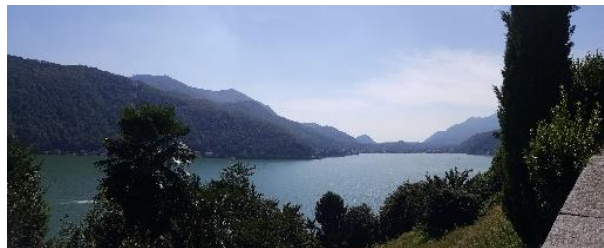
General view of the lake



Narrow street
in Morcote



Climbing to the cemetery of Morcote



The peaceful stepped
cemetery of Morcote



Friday, 25th of August 2017 Locarno and Ascona (or Tuesday or Thursday)

The site where takes place the outside film
festival of Locarno



Locarno



Ascona



ELECTIONS by the General Assembly 2017

New Fellows

- Prof. E. Carpanzano (Switzerland)
- Prof. B. Iung (France)
- Prof. I. Lazoglu (Turkey)
- Prof. G. Poulachon (France)
- Prof. E. Savio (Italy)
- Prof. S.L. Soo (UK)

Honorary Fellow

- Prof. F. Van Houten (Netherlands)

Fellow (Emeritus)

- Prof. N. Bay (Denmark)

New Associate Members

in August 2017:

- Prof. M. Galetto (Italy)
- Prof. S. Ibaraki (Japan)
- Dr. F. Laroche (France)
- Dr. J. Mayr (Switzerland)
- Dr. S. To (Hong Kong)

in February 2017:

- Dr. N. Anwer (France)
- Dr. A. Archenti (Sweden)
- Dr. V. Bedekar (India)
- Prof. F. Bleicher (Austria)
- Dr. E. Da Silva (Brazil)
- Dr. A. Klink (Germany)
- Dr. E. Öztürk (Turkey)
- Dr. L. Romoli (Italy)
- Prof. L. Roucoules (France)

New Corporate Members

- 3 M (USA)
- ABB (Switzerland)
- ARTC (Singapore)
- Ford Otosan (Turkey)
- Gildemeister Drehmaschinen (Germany)
- LNE (France)
- Makino Milling Machine (Japan)
- Worldwide Superabrasives (USA)

New STC Chairmen

- STC G - Prof. K. Wegener
- STC M - Prof. E. Budak

David Dornfeld Manufacturing Vision Award and Blue Sky Competition



The second David Dornfeld Manufacturing Vision Award and Blue Sky Competition, funded by the National Science Foundation, will be held during the 2018 North American Manufacturing Research Conference/Manufacturing Science and Engineering Conference (NAMRC/MSEC), June 18-22, 2018 in College Station, TX.

The aim of this competition is to seek visionary ideas, long-term challenges, and opportunities in research and education that are outside of the current mainstream of manufacturing research and education. Presentations should be open-ended and beyond the research activities of the speakers. Such ideas are often described as “radical thinking”, “outrageous”, “transformational”, “nonconventional”, and “breakthrough”. An example of such ideas would be additive manufacturing proposed about 30 years ago. Examples outside manufacturing are Google, Amazon, and Uber.

It is likely that team efforts will be needed to formulate such ideas. Therefore, interdisciplinary collaborations are encouraged.

In cooperation with NAMRC/MSEC, the competition organizers invite submissions of abstracts to the Blue Sky competition. Abstracts should be submitted by March 31, 2018 to the following website https://apps.ideal-logic.com/cms?key=F3T9-25VWY_K9KH-5PTF_fd4b4397. Abstract submissions to the competition can be up to one page in length, single spaced using Times New Roman 12 point font with one inch margins.

Abstracts will be judged by a selection committee consisting of multiple members from academia, government, and industry covering a broad range of manufacturing. Up to six abstracts will be selected to make oral presentations at the competition to be held on Wednesday, June 20, 2018, during the conference in College Station, TX. Transportation and lodging (up to 2 nights) expenses of selected speakers as well as their conference registration fees will be reimbursed through Oregon State University.

The top presentation, determined by the selection committee, will receive the SME Dornfeld Manufacturing Vision Award to recognize outstanding vision and leadership within the manufacturing community. The winner will also be encouraged to organize a workshop on their topic in the near future.

After the conference, SME will post links to presentation slides, so that the ideas can be disseminated broadly to the manufacturing community. Submitting an abstract for the competition requires that the submitters agree to publish their presentation slides by SME.

Look for abstracts and presentations from last year to be posted here <http://www.sme.org/blue-skycompetition/>

People who are interested in submitting abstracts to the competition are strongly encouraged to talk to Professors Brian Paul (brian.paul@oregonstate.edu), Scott Smith (kssmith@uncc.edu), or Z.J. Pei (zjpei@tamu.edu) who will not be serving on the selection committee this year. It is the intent of the organizers to provide feedback and insight to abstract submitters in an effort to put forward the strongest ideas for advancing manufacturing research in the United States.

Conferences & Papers

Our Conferences

For the **most recent overview** of our coming CIRP conferences

go to “EVENTS”→ [CIRP Conferences](#)

For the **most recent overview** of our coming CIRP sponsored conferences

go to “EVENTS”→ [CIRP Sponsored Conferences](#)

Future Keynote 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 of each keynote paper.

2018 Keynote Papers

(no more contribution for 2018 is possible now)

STC A

Life Cycle Engineering of Light Weight Structures - C. Herrmann (2) et al -

Contact: c.herrmann@tu-braunschweig.de

STC C

Deep Hole Drilling - D. Biermann (2), F. Bleicher, U. Heisel (1), F. Klocke (1), H.C. Möhring (2),

A. Shih (2) - Contact: Biermann@isf.de

STC Dn

Tolerancing : managing uncertainty from conceptual design to smart product - Edward Morse (3), Jean-Yves Dantan (2), Nabil Anwer (2), Rikard Söderberg (2), Giovanni Moroni (2), Luc Mathieu (1), and other contributors - Contact: emorse@uncc.edu

STC E

Advances in Macro-Scale Laser Processing - M. Schmidt (2), L. Overmeyer (2), F. Vollertsen (1), M. Zaeh (2), L. Li (1), J. Duflou (1) - Contact: m.schmidt@blz.org

STC F

Flexibility in Forming - D.Y. Yang (1), M. Bambach, J. Cao (1), J. Duflou (1), P. Groche (1), T. Kuboki (2), A. Sterzing, E. Tekkaya (1), C.W. Lee - Contact: dyyang@kaist.ac.kr

STC G

Fixed Abrasive Machining of Non-Metallic Materials - A. Shih (2), B. Denkena (1), T. Grove, D. Curry, H. Hocheng, H.-Y. Tsai, H. Ohmori (1), K. Katahira (2), Z.J. Pei - Contact: shiha@umich.edu

STC O

Value Creation in Production: Reconsideration from Interdisciplinary Approaches - T. Kaihara (2), N. Nishino (2), M. Tseng (1), J. Vancza (1), P. Schönsleben (2), R. Teti (1), T. Takenaka - Contact: kaihara@kobe-u.ac.jp

STC P

Modeling and Traceability for Computationally-Intensive Precision Engineering and Metrology - J.-M. Linares (1), G. Goch (1), A. Forbes, J.-M. Sprauel, A. Clement (1), F. Härtig, W. Gao (1) - Contact: jean-marc.linares@univ-amu.fr

STC S

Multi-scale Analyses and Characterizations of Surface Topographies - C. Brown, H.N. Hansen (1), X. Jiang (1), F. Blateyron (3), J. Berglund (3), N. Senin, M.K. Thompson (3) –
Contact: brown@wpi.edu

Cross-STC

Composite Material Parts Manufacturing – J. Fleischer (1) et al. -
Contact: juergen.fleischer@kit.edu

Cross-STC

Bio-Inspired Texturing - A. Malshe (1), K. Rajurkar (1), H. Haitjema (2), S. Bapat -
Contact: apm2@uark.edu

2019 Keynote Papers proposals

STC A

Symbiotic Human-Robot Collaborative Assembly - L. Wang (1) et al. - Contact: lihuiw@kth.se

STC C

Biomaterials Machining: From Scientific and Technology Advances to Medical Applications - D. Axinte (1), Z. Liao, Y. Guo (2), A. Shih (2), R. M'Saoubi (1), M. Mitsuishi (1) - Contact: dragos.axinte@nottingham.ac.uk

STC Dn

Development capabilities for Smart Products - T. Tomiyama (1), E. Lutters (1), R. Stark (2), M. Abramovici (2) - Contact: t.tomiyama@cranfield.ac.uk

STC E

Visualization of Electro-physical and Chemical Processes - M. Kunieda (1) et al. -
Contact: kunieda@edm.t.u-tokyo.ac.jp

STC F

Theoretical and Heuristic Prediction of Process Limits in metal forming - W. Volk (2), P. Groche (1), B. Kinsey, A. Brosius, A. Ghiotti (2), M. Liewald (3), L. Madej (2) J. Yanagimoto (1), D. Landgrebe (3) - Contact: wolfram.volk@utg.de

STC G

Abrasive Processes for Micro Parts and Structures - J. Aurich (1), D. Axinte (1), A. Beaucamp (2), P. Butler-Smith, B. Kirsch, D. Setti, H. Yamaguchi (2) - Contact: aurich@cpk.uni-kl.de

STC M

Robots in Machining - A. Verl (2) et al. - Contact: alexander.verl@isw.uni-stuttgart.de

STC O

Global Production Networks - G. Lanza (2), K. Ferdows, S. Kara (1), D. Mourtzis (1), G. Schuh (1), J. Vancza (1), L. Wang (1), H.P. Wiendahl (1) - Contact: gisela.lanza@kit.edu

STC P

Geometrical Metrology for Metal Additive Manufacturing - R.K. Leach (2), D. Bourell (2), S. Carmignato (2), W. Dewulf (2), H. Hansen (1) - Contact: richard.leach@nottingham.ac.uk

STC S

On-machine and in-process surface metrology for precision manufacturing – W. Gao (1), H. Haitjema (2), Y.L. Chen, F.Z. Fang (1), R.K. Leach (2), C.F. Cheung (2), E. Savio (1), J.M. Linares (1) - Contact: gaowei@cc.mech.tohoku.ac.jp

Cross-STCs

Advanced Manufacturing for Enhancing the Performance and Functionality of Tooling for Metal Forming - J. Cao (1) et al. - Contact: jcao@northwestern.edu

2020 Keynote Papers proposals

STC A

Absolute Sustainability - challenges to life-cycle engineering - M. Hauschild (1), S. Kara (1) -
Contact: mzha@dtu.dk

STC C

Decision in Paris 2018 Winter Meetings

STC Dn

Design for Additive Manufacturing, Theories, Models, Tools and Methods - T. Vaneker (2) et al. -
Contact: t.vaneker@ctw.utwente.nl

STC E

Space Manufacturing - To be decided in Paris 2018 - Bernard Hon (1) et al. - Contact: hon@liv.ac.uk

STC F

Damage in Metal Forming - E. Tekkaya (1) et al - Contact: Erman.Tekkaya@iul.tu-dortmund.de

STC M

Energy Efficient Machine tools - B. Denkena (1) et al. - Contact: denkena@ifw.uni-hannover.de

STC O

Big data analytics for smart factories of the future - (to be approved next February 2018)
R. Gao (1), L. Wang (1), R. Teti (1), M. Helu - Contact: robert.gao@case.edu

STC P

Dimensional artifacts for establishing traceability in manufacturing metrology - L. De Chiffre (1),
S. Carmignato (2), H. Bosse (3), R.K. Leach (2), A. Balsamo (1), W.T. Estler (1) -
Contact: ldch@mek.dtu.dk

STC S

Manufacturing of multiscale structured surfaces - E. Brinksmeier (1) -
Contact: brinksmeier@iwt.uni-bremen.de

Cross-STCs

Self-Optimizing Machining Systems – H.C. Möhring (2), P. Wiederkehr, K. Erkorkmaz (1),
Y. Kakinuma (2) - Contact: hc.moehring@ovgu.de

2021 Keynote Papers proposals

STC E

Additive Manufacturing in Emerging Manufacturing Systems and Economy - (under discussion) -
P. Butala (1), P. Bartolo (1), G. Putnik (2) - Contact: peter.butala@fs.uni-lj.si

STC M

Noise and Vibration in machine tools - K. Wegener (2) - Contact: wegener@iwf.mavt.ethz.ch

STC P

Precision Engineering Design principles from micro-machines to large scale systems -
J.A. Yagüe-Fabra (2) et al. - Contact: jyague@unizar.es

2022 Keynote Papers proposals

STC E

SLM: from Powder to Part (under discussion) - S. Hinduja (1) – Contact: sri.hinduja@manchester.ac.uk

From the Editorial Committee

(by S. Smith (EC Chairman))

I am happy to report that thanks to the efforts of all of the members of the academy, quality of our publications remains very high. During the 2017 review cycle for the Annals, the 14 members of the Editorial Committee and Chair and vice-Chair of each STC Board reviewed 287 papers, compared to 277 during the 2016 review cycle, and 276 during the 2015 review cycle. Each member of the Editorial Committee reviewed about 41 papers, not counting third reviews, and the Chair and vice-Chair of each STC reviewed all of the papers in their STC (except their own, or conflicts of interest). The papers submitted for the Annals volume 1 received at least 1148 independent reviews this year. In addition, there were 12 keynote papers (one from each of 10 STCs, and 2 cross-STC keynotes). Each keynote received 2 detailed reviews from the Editorial Committee.

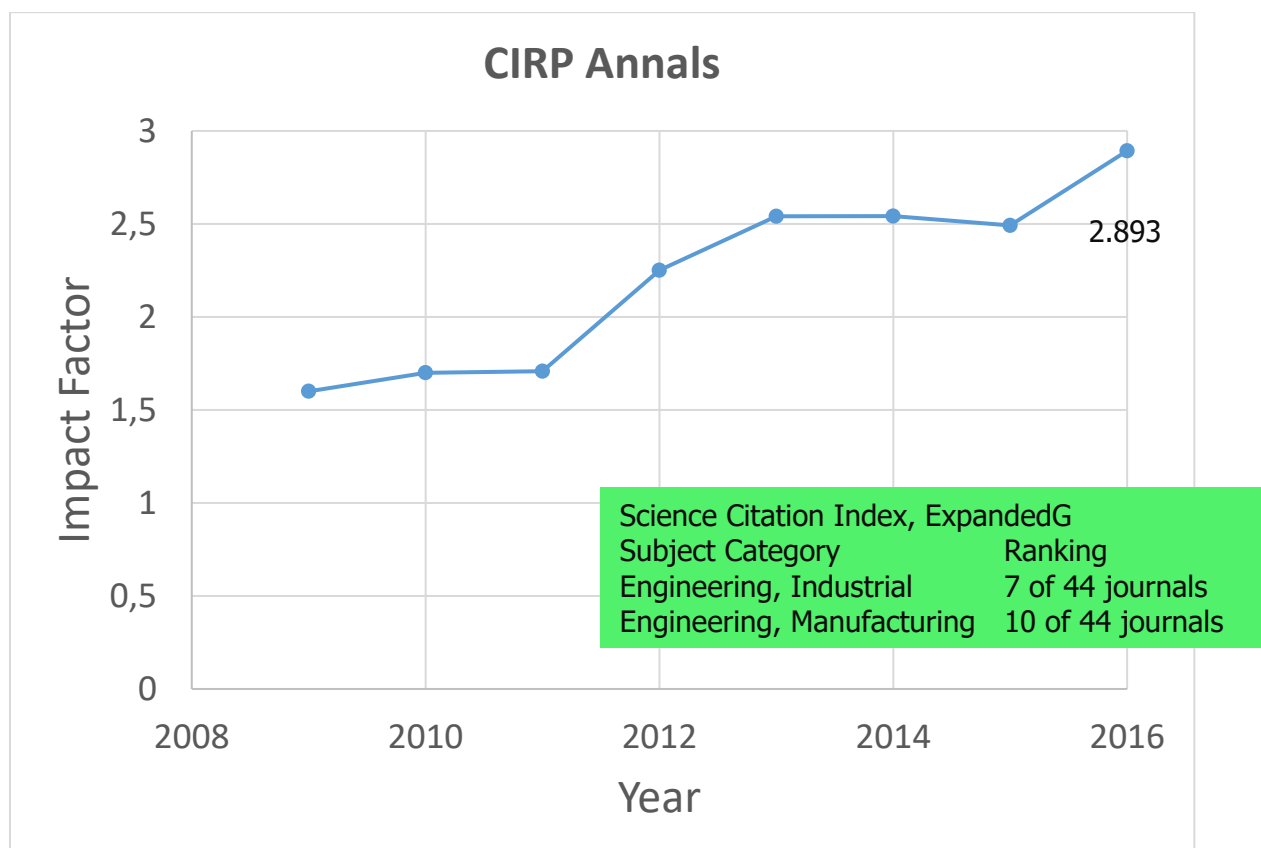


The 2017 EC review in progress

Each paper was individually screened for original content using iThenticate software. The iThenticate scores were provided to the STC Boards and to the members of the Editorial Committee prior to review. The iThenticate scores ranged from 2% to 36% this year, with an average of 10%.

Of the papers submitted for the Annals, about 48% were accepted. The papers were judged purely on quality, not on available presentation slots. This year, we filled 149 of the 160 available presentation slots.

While the review process is rigorous, it is clear that the result is very positive. The impact factor continues to improve. For 2016 (the most recent data available) was 2.893, up from 2.492 in 2015.



CIRP Annals historical impact factor

The number of downloads from the Annals also continues to be impressive. The 2016 downloads almost exceeded 600,000, and the 2017 downloads (only ½ year of data available) are on track to well exceed that level. Of the top 20 most downloaded CIRP papers, 15 were keynote papers, and it is clear that these papers are in high demand.

This year we bid farewell to one member of the Editorial Committee. M. Kunieda is stepping down after 6 years of dedicated service. I want to thank him personally, and on behalf of the academy for his tireless service. I am also pleased to welcome one new member to the Editorial Committee, K. Rajurkar. Along with continuing members S. Smith (Chairman), E. Tekkaya (Vice-Chairman), D. Axinte, D. Brissaud, B. Denkena, J. Dufloy, C. Evans, S. Kara, M. Nakao, J. Oliveira, R. Roy, T. Tolio, D-Y. Yang, they comprise the Editorial Committee for the 2018 review cycle.

As a reminder, the review process has multiple layers that help ensure the quality of our flagship publication, the Annals of the CIRP:

1. Only members of the academy are permitted to propose or sponsor papers. Members may only submit one paper, except for cooperative work. Members are recognized experts in their fields, and they have been elected to the academy based on their technical expertise. They should not submit, or allow to be submitted under their sponsorship, a paper that does not meet the high standards of the Annals.
2. Each paper is checked for original content using iThenticate, and the scores are shared with the members of the Editorial Committee and with the relevant STC Board.
3. Each submitted paper is independently reviewed by the Chair and Vice-Chair of the relevant STC Board prior to the start of the Editorial Committee meeting in Paris. The Chair and vice-Chair make comments, and indicate “Accept”, “Doubtful”, or “Reject”. They also independently rank the papers from best to least best. These reviews and rankings are not shared between the Chair and Vice-Chair, and they are not shared with the Editorial Committee Members (except for the Chair, who compiles the scores). The STC Chair and vice-Chair do not see reviews from other STCs. The Chair and vice-Chair do not review their own papers, and they generally do not review each other’s papers. These reviews are combined into a recommendation from the STC Board.
4. Each submitted paper is independently reviewed by at least 2 members of the Editorial Committee. Members of the Editorial Committee cannot see the reviews of other Editorial Committee members, and they cannot see the reviews from the STC Boards until after the Editorial Committee reviews are finished. The members of the Editorial Committee make comments, and indicate “Accept”, “Doubtful”, or “Reject”. If the 2 Editorial Committee reviewers are in conflict about the paper (one says “Accept” and one says “Reject”), then a third reviewer from the Editorial Committee is added to the review process. These results are combined into a recommendation from the Editorial Committee.
5. The final decision about the acceptance or rejection of a paper is made in during the Joint Program Committee meeting in Paris. At this time, any conflicts between the Editorial Committee and the STC Boards are resolved, and any transfers of papers between STC’s are settled. Papers are either accepted (pending minor changes) or rejected. There is no opportunity for major revision.
6. The Chair of the STC is responsible to verify that the minor revisions for accepted papers are properly completed.
7. Decisions about acceptance of papers are made solely on the technical merits. The number of available presentation slots, balance between STCs, geographic distribution or other such factors are not considered.

Thanks to all of the members of the academy who submitted their highest quality work to be considered for publication in the Annals. This impressive compiled body of work is something in which we can all take great pride.

From the Research Affiliates

(by Olga Battaïa, Chair Research Affiliates)

On behalf of the Research Affiliates (RAs), it is a great pleasure for me to give a brief update of the RA activities. In 2017, the Research Affiliates elected a new Chair and Vice Chair for the RA board. Currently, the board consists of Olga Battaïa (Chair, Professor, ISAE-SUPAERO, France), John Erkoyuncu (Vice Chair, Lecturer and Deputy-Director of the Through-life Engineering Services Centre, Cranfield University, UK) and Taner Tunc (Secretary, Assistant Professor, Sabanci University, Turkey). The new board was involved in the organization of a strategical annual RA workshop hosted at ISAE-SUPAERO, Toulouse, France on the 3rd and 4th of July 2017. The topic of this workshop was “How can we enhance the impact of the RA group?”. This workshop provided a forum for a rich discussion and generation of new ideas for RA activities. The workshop also included a range of technical presentations, Airbus Final Assembly Line visit and lab tours.

Some of these new ideas were implemented during our meeting at CIRP General Assembly in Lugano. In particular, we launched collaborative projects within RA group on the following topics “Additive manufacturing by multi-axis deposition” (initiator S. Campocasso, France), “Sustainability of production systems” (initiator P. Bilge, Germany), “Modelling and visualisation for through-life engineering” (initiator J. A. Erkoyuncu, UK), “Human-robot cooperation” (initiator S. Pellegrinelli, Italy), “Engineering education” (initiator R. Damgrave, Netherlands). The RA group is also developing Expertise Atlas, a web-based platform dedicated to the creation and management of collaborative projects within RA group.

Our last meeting during GA in Lugano introduced another new activity having as the objective to enrich the discussions and experience exchanges between the RA and CIRP Fellows and Associate Members. Our Vice Chair J. A. Erkoyuncu prepared and organized a Panel Discussion on the topic “The Future of Manufacturing in 5, 10 and 50 Years”. The panel consisted of CIRP Fellows and Associate Members, namely Prof. Gisela Lanza, Karlsruhe Institute of Technology, Germany, Prof. Jan Aurich, Kaiserslautern University, Germany, Prof. John Sutherland, Purdue University, USA, Prof. Tetsuo Tomiyama, Cranfield University, UK and Dr. Wessel Wits, Twente University, Netherlands.



The RA have really appreciated this opportunity to exchange with CIRP Senior Researchers on the vision of the future of manufacturing and upcoming challenges in this field. Many of us left the room with exciting ideas about future research steps. We are looking forward to new opportunities to learn from the CIRP community and make progress together.



New books from our members

Analysis of Machining and Machine Tools

Liang, Steven Y., Shih, Albert J.

This book provides readers with the fundamental, analytical, and quantitative knowledge of machining process planning and optimization based on advanced and practical understanding of machinery, mechanics, accuracy, dynamics, monitoring techniques, and control strategies that they need to understanding machining and machine tools. It is written for first-year graduate students in mechanical engineering, and is also appropriate for use as a reference book by practicing engineers. It covers topics such as single and multiple point cutting processes; grinding processes; machine tool components, accuracy, and metrology; shear stress in cutting, cutting temperature and thermal analysis, and machine tool chatter. The second section of the book is devoted to "Non-Traditional Machining," where readers can find chapters on electrical discharge machining, electrochemical machining, laser and electron beam machining, and biomedical machining. Examples of realistic problems that engineers are likely to face in the field are included, along with solutions and explanations that foster a didactic learning experience.

<http://www.springer.com/us/book/9781489976437>

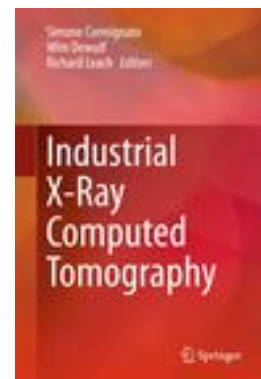


Industrial X-Ray Computed Tomography

S. Carmignato, W. Dewulf, R. Leach

X-ray computed tomography has been used for several decades as a tool for measuring the three-dimensional geometry of the internal organs in medicine. However, in recent years, we have seen a move in manufacturing industries for the use of X-ray computed tomography; first to give qualitative information about the internal geometry and defects in a component, and more recently, as a fully-quantitative technique for dimensional and materials analysis. This trend is primarily due to the ability of X-ray computed tomography to give a high-density and multi-scale representation of both the external and internal geometry of a component, in a non-destructive, non-contact and relatively fast way. But, due to the complexity of X-ray computed tomography, there are remaining metrological issues to solve and the specification standards are still under development. This book will act as a one-stop-shop resource for students and users of X-ray computed tomography in both academia and industry. It presents the fundamental principles of the technique, detailed descriptions of the various components (hardware and software), current developments in calibration and performance verification and a wealth of example applications. The book will also highlight where there is still work to do, in the perspective that X-ray computed tomography will be an essential part of Industry 4.0.

<http://www.springer.com/us/book/9783319595719>



From the CIRP Office



Chantal Timar-Schubert

Annals papers/keynote papers submissions follow up, CIRP meetings, CIRP Website, candidatures for Membership, Internal Regulations and any internal information.



Agnès Chelet

Financial aspects: accountancy, membership fees, page charges, conferences sponsorships, Winter meetings registrations + Agendas & Minutes of the scientific meetings

News

- Information and registration to the next [CIRP Winter Meetings](#) is ready online on the Website (from the Home Page or through “EVENTS”).
- We kindly remind you that only Fellows and Honorary Fellows attending the Winter Meetings can invite a guest (from their own country).
- We remind Fellows, Honorary Fellows and Fellows (Emeritus) that they can propose candidates for the 2018 General Nicolau Award ([rules in Art.22](#)) and candidates for CIRP Membership up to December 1st.

Updated CIRP Regulations

Please read online the modifications to the Internal Regulations (through the button “About CIRP”) voted at the last General Assembly in Lugano. Modifications were made on the following articles:

- Article 5.2 - Conditions for [Fellow membership](#)
- Article 6.3 - Conditions for [Associate membership](#)
- Article 15.2 - Procedure for the [election of STC secretaries](#)
- Appendix 6.2.2 - Criteria for [Keynote papers](#)

Future CIRP Meetings

Dates of the next [future CIRP Winter Meetings](#) 2018 - 2021

Dates of the next [future CIRP General Assemblies](#) 2018 - 2021