



**The International Academy for Production Engineering**

# **NEWSLETTER**

**N° 58 – Spring 2019**

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# From the President

Dear CIRP Colleagues,

The 69<sup>th</sup> CIRP General Assembly will be held this year in Birmingham, UK, from August 18 to 24. Birmingham is located in the centre of the West Midlands region in England. It is an attractive city with the highest number of full-time and research students of any major city in the UK outside London. Dr. Soo and Prof. Roy and their team are working hard to finalize the organization and make this General Assembly a very fruitful and outstanding event. The General Assembly will take place at the International Convention Center (ICC), ideally located in the heart of Birmingham, with suitable facilities for our meetings.

The program will feature several special events, all of them being held at the ICC except the Farewell Dinner that will take place at the Great Hall, University of Birmingham, in a very impressive room. We can look forward to a unique General Assembly in Birmingham.



As usual, our CIRP Winter Meetings this past February were very well-attended, with intensive meetings of the STCs and the Collaborative Working Groups, in particular the first occurrence of the Collaborative Working Group on Biological Transformation in Manufacturing.

During this week in Paris, Board and Council addressed several important issues, such as the monitoring of the attendance in Paris meetings. The policy for the invitation of Guests still needs some adjustments; a proposal to the CIRP Members will be prepared and examined during the next General Assembly.

Board and Council also highlight the role and mission of CIRP to promote research in the field of production engineering for a sustainable development, and to contribute to environmentally sustainable well-being of society. This goal can be reached considering the most recent advances in emerging topics and advanced techniques: augmented and virtual reality, modelling and simulation, digital twins, machine learning and artificial intelligence, big data, IoT, cyberphysical systems and cybersecurity.

Contributing to environmentally sustainable well-being of society is also a matter of education engagements. In this direction, a specific “Education menu” called CIRPePortal has been implemented in our website, so that education actions and information can be shared within the CIRP community. The CIRPePortal includes in particular a forum for discussion and an “Adverts for internships and PhD positions” section where any kind of proposals appropriate in terms of education can be posted. This initiative to make education more visible within CIRP may be the starting point to identify a CIRP Education Group in the near future.

I wish you a very nice summer period, and I look forward to meeting you in Birmingham.  
With my best regards,

Didier Dumur  
President of CIRP 2018-2019

# 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](http://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. Organizers of CIRP conferences are invited to send a small report (high lights, pictures,..) that can be published in the newsletter. Input can be sent to the CIRP office ([cirp@cirp.net](mailto:cirp@cirp.net)) or directly to me ([bert.lauwers@kuleuven.be](mailto:bert.lauwers@kuleuven.be)).



Bert Lauwers  
CIRP Technical Secretary

# News from Members

## Distinguished University Professor Hoda EIMaraghy Inducted Fellow of Two Royal Academies

**Professor Hoda EIMaraghy** 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. The induction took place on 26 October 2018 (right picture), where the Chairman of the Academy, Carl-Henric Svanberg, presented the Fellow certificate during IVA's annual general meeting in Stockholm City Hall.



scholar of manufacturing systems research” in Canada and internationally.

Hailing Prof. EIMaraghy as a “world leader in manufacturing systems”, the Royal Society of Canada (RSC) elected her on 11 September 2018 to the class of 2018 Fellows (left). “Distinguished scholars and artists are elected to the Fellowship of the Royal Society of Canada on the basis of their exceptional contributions to Canadian intellectual life. The RSC cited her pioneering research and publications in naming Prof. EIMaraghy the “pre-eminent

## Factories-In-Space is recognized for 2018 David Dornfeld Manufacturing Vision Award for Blue Sky Competition

Factories-In-Space was runners up winner of 2018 David Dornfeld Manufacturing Vision Award for Blue Sky Competition. Team of Harsha Malshe and **Ajay P. Malshe** competed in this international blue sky manufacturing vision idea competition among 25 teams to win this prestigious award named for Prof. David Dornfeld. Competition was conducted at Texas A&M during NAMRC Conference and was sponsored by SME and NSF. The award ceremony was conducted by SME in December 2018. Malshes discussed vision of building various manufacturing factories in space including energy production, reuse of space trash, assembly of space systems and more.

<https://www.sme.org/aboutsme/awards/david-dornfeld-manufacturing-vision-award/david-dornfeld-manufacturing-vision-award-winners/>

# Professor Lihui Wang was inducted a new Fellow of the Canadian Academy of Engineering (CAE)

On 21 June 2019, **Professor Lihui Wang** was inducted a new Fellow of the Canadian Academy of Engineering (CAE) at its 2019 Annual General Meeting and Induction Ceremony held in Québec City, Canada. CAE comprises many of the country's most accomplished engineers, who have expressed their dedication to the application of science and engineering principles in the interests of Canada and its enterprises. Being a Chinese-Canadian and a Chair Professor of KTH Royal Institute of Technology in Sweden, Professor Wang is active on world stage as an internationally renowned scholar in manufacturing research and education. With rich multi-national experience in Canada, China, Japan and now in Sweden, he has been promoting Canada beyond the boarder.



# Professor Gideon Levy Selected for AMUG Innovators Award

On December 12, 2018, the Additive Manufacturing Users Group (AMUG) announced **Professor Gideon Levy** of Technology Turn Around (TTA) as the recipient of its esteemed Innovators Award. The award is bestowed on those that have cultivated innovative ideas that in turn have advanced the additive manufacturing industry. Previous recipients include technology creators Chuck Hull, Scott Crump, and Carl Deckard-inventors of Stereolithography, Fused Deposition Modeling, and Selective Laser Sintering, respectively - and Fried Vancraen, founder of Materialise. The Innovators Award has been presented at the 2019 AMUG Conference. He has taken the stage for a casual, relaxed interview during the AMUG Conference. He was also nominated for vote for the TCT Hall of Fame.



<https://tctawards.com/tctawards/en/page/tct-hall-of-fame-public-vote>

## Honorary Fellow Professor Emeritus Ichiro Inasaki received the Georg-Schlesinger-Prize 2018

On March 28, 2019, **Professor Ichiro Inasaki** received the Georg-Schlesinger-Prize 2018. On the occasion of the 75<sup>th</sup> anniversary of the Institute for Machine Tools and Factory Management of the TU Berlin, the state of Berlin decided 1979 to award a prize in memory of Georg Schlesinger. The prize is awarded every three years for internationally recognized, outstanding achievements in the field of production technology.



The award ceremony for 2018 was held at the IVF in Berlin. Professor Eckart Uhlmann gave greetings and Professor Emeritus Hans Kurt Toenshoff made the Laudatio. The prize winner Professor Ichiro Inasaki gave a keynote lecture entitled “Importance of basic research for improving production technology”.

## Professor Jian Cao has been elected as a fellow of the American Association for the Advancement of Science (AAAS)

**Professor Jian Cao** of Northwestern University has been elected as a fellow of the American Association for the Advancement of Science (AAAS) for her fundamental contributions to our understanding of failure mechanisms in forming processes and for process innovation to advance flexible manufacturing processes. The formation of AAAS in 1848 marked the emergence of a national scientific community in the United States. Through its Science family of journals, AAAS now has members in more than 91 countries around the globe and is the world's largest multidisciplinary scientific society. Professor Cao was honored at the 2019 AAAS Annual Meeting in Washington, D.C., received her rosette pin with its gold and blue colors to signify science and engineering from the Chair of the Board, Dr. Margaret Hamburg of National Academy of Medicine.





## Professor Robert Gao Received the 2019 SME Eli Whitney Productivity Award

**Professor Robert X. Gao**, Department Chair and Cady Staley Professor of Mechanical and Aerospace Engineering at Case Western Reserve University in Cleveland, Ohio, recently received the 2019 SME (Society of Manufacturing Engineers) Eli Whitney Productivity Award at the SME International Awards Gala in Detroit, MI. Professor Gao was recognized for his outstanding contributions to advancing the science base for manufacturing process monitoring and quality control through significant published research on innovative, multi-physics sensing and advanced data analytic methods.



(left to right): Sandra L. Bouckley (SME Executive Director and CEO), Professor Robert X. Gao, and Mark L. Michalski (SME 2019 President)

## Professor Dirk Biermann was appointed Honorary Professor Nanjing University of Aeronautics and Astronautics

**Professor Dirk Biermann**, Head of the Institute of Machining Technology at the TU Dortmund University, Germany, was appointed Honorary Professor at the Nanjing University of Aeronautics and Astronautics in China in appreciation of his scientific work and application-oriented developments for efficient and resource-saving manufacturing processes. The award ceremony took place during the international conference "Green Manufacturing" in Nanjing.



# News from the CMAG Group

(by Dr. Ömer Sahin Ganiyusufoglu - CMAG Chairman)

The CMAG Winter meeting focussed on global sustainability issues. At the beginning of the meeting, Professor D. Dumur (CIRP President) addressed the meeting and encouraged feedback from industry to the academic members of CIRP. He particularly welcomed the coverage of education issues which will feature on the CIRP website more prominently in the future.

After setting the context for the discussions, the challenges of climate change etc. are well recognised and the United Nations has set out clearly its seventeen sustainable development goals (SDGs). Science alone cannot save the earth and individuals need to take responsibility for their behaviour. Key pillars are **education**, **innovation** and **standardisation**. Related to these three topics speakers from academy and industry introduced their activities and the state of the art.



In order to communicate the sustainability message effectively to engineering students Professor Kara commissioned a professional animated video titled “Relative to Absolute Sustainability: Staying within the Planetary Boundaries”. There is also a follow-on video titled Life Cycle Engineering: Technology-Based Solution to Sustainability? It was agreed that these productions are a very effective way of inspiring the next generation to tackle the challenges posed by climate change and other environmental concerns.

Dr. Matt Cotterell introduced the Horizon 2020 project which seeks to develop and validate new education and training solutions for advanced manufacturing. It places the worker at the centre of the co-design process building upon the educational paradigm of communities of practice. Partners are drawn from education/training providers and manufacturing companies across Europe and the focus is on digitalisation of the workplace in industry sectors comprising automotive, consumer appliances and medical devices. There is an open call to submit case studies and examples of best practice on the project website ([www.fit4fof.eu](http://www.fit4fof.eu)).

Related to second key topic, innovation, speakers introduced insights from industry and academy which are expected to play a dominant role in future. Dr. Foerster from company B. Braun (Germany), delivered a review of the development of medicine and associated medical devices and it was recognised that we are now entering the era of bio-engineering. This encompasses bionic/biomimetic implants, regenerative therapies, automated cell culture systems for tissue/organ production and a range of individualised solutions/personalised implants. The regulatory challenges presented by bio-materials and the complexity of devices with embedded sensing were discussed. Sustainability has not been to the fore in the medtech sector which is highly regulated and can be wasteful in terms of resources. Healthcare treatments and systems are evolving and new approaches are required that encourage creativity and innovation and the meaning of bio-inspiration was discussed in this context. Professor J. Krüger from TU Berlin highlighted the potential and maturity of Artificial Intelligence (AI) technologies and their major application in production engineering. CIRP publications/research in machine learning has increased greatly in recent years. The VDMA has published a Quick Guide to Machine Learning that provides a review of the software platforms available and their potential for value creation. A systematic approach AI deployment was presented and the issue of regulation of AI in a production environment was discussed.

Digitalisation will play an important role when fulfilling SDGs. But for realising a smooth interoperability global standards are essential. Dr. A. Broos (VDW - Germany Machine Tool Builders' Association) gave an overview of global activities for Standardisation State of the Art. The major obstacle to wide scale digitalisation in manufacturing is the lack of open, transparent interfaces for industrial use. The current situation and initiatives for standardisation of connectivity with a focus on machine tools / manufacturing equipment were presented.

In 2018, 12 new corporate members were welcomed from all over the world. Unfortunately 8 companies resigned thus comprising 172 corporate members in total.

# News from the Research Affiliates

(input edited by Sebastien Campocasso)

## ***Words from the Research Affiliate (RA) Steering Committee, by John Erkoyuncu***

Dear Research Affiliates and CIRP Colleagues,

As the RA Steering Committee with Dr. Roy Damgrave (University of Twente, Netherlands) and Dr. Vincent Wang (KTH, Sweden), we would like to thank you for the ongoing fruitful engagements throughout the network! Since the Winter 2019 meetings there have been a number of activities that we would like to update you on in this newsletter.

The CIRP RA program offers young academics globally to develop in multiple ways. As of March 2019, the RA community has 114 members. Some of the key benefits of the RA scheme are networking, sharing knowledge, and collaboration opportunities. Presently 36 former RAs are Associate Members and 8 former RAs are Corporate Members. The most recent former RAs to become Associate Members are: R Lupoi, A. Brosius, A. Clare, and F. Tao.



On the 26th-28th of June 2019, we will have our next RA workshop at the University of Twente, Netherlands. Roy Damgrave and Jos de Lange are organizing this event, which offers an opportunity to discuss 'Virtual Dashboards'. The workshop also gives the opportunity for the collaborative discussions to progress (1: Digital Twin and Digital Transformation, 2: Material process chain and metrology, 3: Flexible production digitalised system, 4: Sustainability). New research collaboration opportunities are also welcome; we encourage you to propose one. I hope you will be able to join this important event! I also would like to encourage volunteers to host the workshop in 2020 and 2021.

I am also happy to note the upcoming CIRPe Global Web Conference 2019. This is organized by Prof. Dr.-Ing. Franz Dietrich, TU Berlin and Nicole Krenkel, University of Kaiserslautern. CIRPe 2019 – 7th CIRP Global Web Conference will take place on October 16th-18th and further information is provided at [www.CIRPe2019.com](http://www.CIRPe2019.com). I encourage all RAs to contribute to the conference and I am sure it will yet again be a great event. 85 abstracts have been submitted, which is extremely exciting! The conference theme is "Towards shifted production value stream patterns through inference of data, models, and technology".

At the next CIRP GA to be held in August in Birmingham, UK, we once again have a packed agenda, which I am looking forward to your involvement. We will also have opportunities for networking during the RA meeting and dinner. We will continue to allocate time for collaborative working to progress with activities such as paper writing, and other opportunities.



*Winter meeting in Paris 2019*

The RA proposed Expertise Atlas has further been developed by Jos De Lange and Roy Damgrave following on from the work that was led by Rok Vrabic. The idea is to use information about the CIRP Members and RAs and to offer a platform to connect people based on their interests, publications, and proposals/projects. This is intended to stimulate further collaboration across CIRP. As a first step, the CIRP Annals have been loaded on to this tool. So the first draft of the tool is ready for use, and it could be brought in to the CIRP website. At the CIRP GA in Birmingham, we will be holding elections for the Secretary position on the RA Steering Committee. We would like to encourage interested RAs to get in touch with the current board.

We are looking forward to meeting you in person at our upcoming events and we hope you will enjoy your RA experience in 2019.

John Erkoyuncu, Chair of RA on behalf of Roy and Vincent

### ***Collaborative work between RAs***

- CIRP Research Affiliates Group “Digital Twin and Digital Transformation”:  
In the context of the group, twelve RAs from different STCs elaborate on current and future potentials of Digital Twins in design and manufacturing. In this regard, a technical presentation about “Future Challenges for Digital Twins in Production Engineering” was given at the STC Dn during the winter meeting 2019. More technical presentations as well as an article on “Digital Twins – Different Perspectives over the Product Lifecycle” for the CIRPe conference are planned.  
More information: B. Schleich, M. Dittrich, or J. de Lange.
- CIRP Research Affiliates Group “Flexible production digitalised system”:  
Following discussions of the group during the CIRP meetings, a short visit of Mines Saint-Etienne (France) by Dr. Ann-Louise Andersen was organised. The visit included work meetings with Dr. Khaled Medini to identify collaboration opportunities and priority calls for project.  
A project proposal titled ‘SUSTAIN – Steering variety and complexity in operations management towards sustainability’ and coordinated by Dr. Khaled Medini and Dr. Thorsten Wuest was submitted in March 2019 for the Thomas Jefferson Fund. In 2018, a special session at APMS 2018 titled ‘PSS Customer-driven Innovation and Value Co-creation’ was co-organised by Dr. Khaled Medini and Dr. Thorsten Wuest in collaboration with 5 other researchers. 5 papers were presented and discussed. This year, a special session at APMS 2019 titled ‘Variety and complexity management in the era of

industry 4.0' is also co-organised by the following CIRP Research Affiliates in collaboration with 5 other researchers: Dr. Ann-Louise Andersen, Dr. Khaled Medini and Dr. Thorsten Wuest. 10 papers were received for this session.

Finally, the group is working on a CIRPe Highlighted paper related to Customer-Driven Operations Management in the Era of Industry 4.0. The paper is coordinated by Khaled Medini and is being co-authored by three CIRP Research Affiliates/Associate members (Dr. Ang Liu, Dr. Ann-Louise Andersen and Dr. Fei Tao) in collaboration with 2 other researchers.

More information: Khaled Medini, Ann-Louise Andersen, Thorsten Wuest

- CIRP Research Affiliates work on the CIRP expertise network:  
During the 51st CIRP CMS conference, a collaborative work entitled "Identification of the CIRP expertise network based on public data" (Published in Procedia CIRP, Vol. 72, pp. 165-168, 2018) was presented. This initiative was launched some years ago within the Research Affiliates group by Rok Vrabič, Erdem Öztürk and Taner Tunç and leads to two interesting tools for the CIRP RA community:
  - The Expertise Atlas, which is a tool facilitating the search of complementary scientific skills in order to build project consortiums for example;
  - A web-based tool giving a deep analysis of the CIRP network from different points of view such as interactions between the institutions from the several countries, the connections with companies, or a keyword-based classification of the STCs works.

## ***CIRPe 2019***

The 7th CIRPe Web Conference 2019 (16.-18.10.2019) revolves around the theme "towards shifted production value stream patterns through inference of data, models, and technology". The record number of 89 abstracts has been received from within and beyond the CIRP community, out of which 71 abstracts are accepted.

This year's CIRPe Conference introduces two special items in order to promote discussion on the latest achievements in Production Engineering. Highlighted papers report about collaborative efforts of groups of RAs, which has been conducted in the past RA workshops, meetings, and beyond:

- Digital Twins – Different Perspectives over the Product Life Cycle
- Customer-driven Operations Management in the Era of industry 4.0
- Sustainability and change management for cybernetic production

The industry panel discussion addresses "the Challenge of Cost Estimating in Production Engineering", offering insights to researchers regarding how to create robust cost estimates for progressing their research contribution in the area of production engineering into industrial applications. The panel consists of seasoned estimators from industry.

For more information, please visit: <http://www.cirpe2019.com/>

## ***Awards & recognitions***

### **WGP awards Otto Kienzle commemorative coin to Dr. Frederik Zanger**

On November 19, 2018, **Dr. Frederik Zanger** from the wbk Institute of Production Science at Karlsruhe Institute of Technology (KIT) received the renowned Otto Kienzle commemorative coin of the WGP (Wissenschaftliche Gesellschaft für Produktionstechnik) for his outstanding research work, including the combination of machining processes with mechanical surface treatment, as part of the wgp annual congress in Aachen. "Dr. Zanger has set new international accents in the field of process analysis by means of chip formation simulations and thus also made the Karlsruhe WGP Institute further visible in the production technology community," praised Prof. Berend Denkena, President of the WGP and Head of the Institute for Manufacturing Technology and Machine Tools (IFW) at Leibniz University Hannover. "In addition, he is an outstanding young scientist who significantly advances the combination of manufacturing processes."



### **Best Paper Award from International Journal of Production Research received by Dr. Ray Y. Zhong**

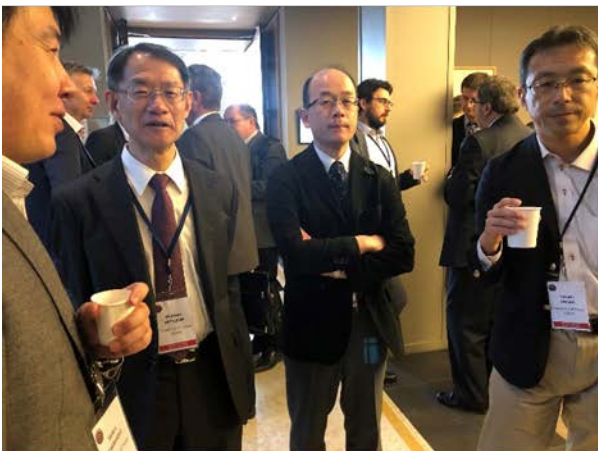
Dr. Ray Y. Zhong, Research Affiliate and first author of the paper, and his co-authors received the Best Paper Award from International Journal of Production Research with the paper entitled "Big Data Analytics for Physical Internet-based intelligent manufacturing shop floors" (Vol. 55, Iss. 9, pp. 2610-2621, 2017).

# CIRP Winter Meeting 2019

The annual Winter Meeting at "La Mutualité" meeting-centre in Paris has been attended by **212 members, 62 Corporate members, 67 RAs, and 45 guests**. The minutes from all the scientific meetings are available online.







# The Terminology Committee

(by G.E. O'Donnell, S. Chatti, M. Uργο)

When you scan the agenda of the CIRP meeting in Paris, or at the Part B meeting of the General Assembly, have you ever wondered what the “Terminology” meetings are about? Well, in fact there is a group of highly enthusiastic CIRP members, collaborators and guests who spend time thinking about how we can improve the way we communicate technically in different languages. More precisely **the Terminology Committee** carries the responsibility for publication of the CIRP dictionaries on advanced manufacturing engineering and the CIRP Encyclopedia of Production Engineering. They cover definitions and terminology for manufacturing processes, machines, tooling, materials and systems formulated by the Scientific Committees (STC's) and about how to translate technical terms into different languages.



The engine that drives the CIRP Encyclopedia under the current leadership of Professor Tolio and Professor Chatti (formerly Professor Reinhart & Professor Laperrière) meet to hear about the strategy and proposals for new terms, new authors, and new editions. Contributions and vibrant discussion about increasing exposure and encouraging more contributions from CIRP colleagues take place. The encyclopedia is already on the 2<sup>nd</sup> edition will contain approximately 343 terms, and be approximately 1800 pages long. The statistics on downloads are impressive up to now and the CIRP Encyclopedia sits well above average in the performance of technical category according to Springer.

The work on the technical dictionaries may well be one of the CIRP's best kept secrets, with in excess of 6000 terms now in 4 main languages including English, French, German and Italian, with the forming dictionary also translated into Turkish. There are rumors that there could be a translation into Spanish and perhaps also Chinese coming in the next years!

The database of terms is surely unprecedented and was recently unified by the CIRP colleagues from Italy during their efforts to translate all dictionaries into Italian. This was an amazing effort through AITeM – Associazione Italiana di Tecnologia Meccanica which included the development of own technical workflow tools by the colleagues and regularly reported on at CIRP Terminology by Professor Tolio and Professor Uργο.

A digital transformation is underway within the dictionary group with colleagues Professors O'Donnell, Uργο, Chatti, Schilp and others eagerly trying to identify and put in place more online access with partners such as Springer and other online possibilities. Due to the work dating back more than 30 years defining terms, and placing the terms in the context of their domains in forming, material removal, manufacturing systems and assembly, there is a level of Symantec's that is unparalleled in the world with would be highly valued by search engines such as Google and others. With ongoing efforts on digitization focusing on ease-of-access, and the near completion of the new dictionary by Prof Goch on Geometric Measurement the excitement continues at CIRP Terminology. Why not come and join in and shape the next technical terms and phrases of the future.

# Future CIRP 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](#)

# CIRP 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.

## 2020 Keynote Papers proposals

### STC A

Absolute Sustainability - challenges to life-cycle engineering - M. Hauschild (1) et al. -  
Contact: [mzha@dtu.dk](mailto:mzha@dtu.dk)

### STC C

Broaching: Cutting Tools and Machine Tools for Manufacturing High Quality Features in Components - P. Arrazola (1) - Contact: [pjarrazola@mondragon.edu](mailto:pjarrazola@mondragon.edu)

### STC Dn

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

### STC E

Space Manufacturing - B. Hon (1) et al. - Contact: [hon@liv.ac.uk](mailto:hon@liv.ac.uk)

### STC F

Damage in Metal Forming: Mechanisms, Origin, Effects & Control - E. Tekkaya (1) et al -  
Contact: [Erman.Tekkaya@iul.tu-dortmund.de](mailto:Erman.Tekkaya@iul.tu-dortmund.de)

### STC G

Interactions of Grinding Tool and Supplied Fluid - C. Heinzl (2) et al. -  
Contact: [heinzl@iwt.uni-bremen.de](mailto:heinzl@iwt.uni-bremen.de)

### STC M

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

### STC O

Big data analytics for smart factories of the future - R. Gao (1) et al. - Contact: [robert.gao@case.edu](mailto:robert.gao@case.edu)

### STC P

Dimensional artefacts to achieve measurement traceability for advanced manufacturing - S. Carmignato (2) et al. - Contact: [simone.carmignato@unipd.it](mailto:simone.carmignato@unipd.it)

### STC S

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

### Cross-STCs

Self-Optimizing Machining Systems – H.C. Möhring (2) et al. - Contact: [hc.moehring@ovgu.de](mailto:hc.moehring@ovgu.de)

## **2021 Keynote Papers proposals**

### STC A

Electronics Module Assembly - J. Franke (2) - Contact: [Joerg.Franke@faps.fau.de](mailto:Joerg.Franke@faps.fau.de)

### STC C

Structured and Textured Cutting Tool Surfaces for Machining Applications - P. Mativenga (2) - Contact: [P.Mativenga@manchester.ac.uk](mailto:P.Mativenga@manchester.ac.uk)

### STC Dn

The Digital Design Transformation - L. Roucoules (2) - Contact: [lionel.roucoules@ensam.eu](mailto:lionel.roucoules@ensam.eu)

### STC E

Ultrafast Laser Manufact.: from physics to industrial applications - L. Orazi (2) - Contact: [leonardo.orazi@unimore.it](mailto:leonardo.orazi@unimore.it)

### STC F

Forming of Metal-Based Composite Materials - S. Bruschi (1) - Contact: [stefania.bruschi@unipd.it](mailto:stefania.bruschi@unipd.it)

### STC G

Grinding of future automotive powertrain components - P. Krajnik (2) - Contact: [krajnik@chalmers.se](mailto:krajnik@chalmers.se)

### STC M

Noise and Vibration in machine tools - K. Wegener (1) et al. - Contact: [wegener@iwf.mavt.ethz.ch](mailto:wegener@iwf.mavt.ethz.ch)

### STC O

Evolution and future of manufacturing systems - H. ElMaraghy (1) - Contact: [hae@uwindsor.ca](mailto:hae@uwindsor.ca)

### STC P

Scalability of precision design principles for machines and instruments - J.A. Yagüe-Fabra (2) et al. - Contact: [jyague@unizar.es](mailto:jyague@unizar.es)

### STC S

Feature-based characterisation and applications - X. (Jane) Jiang (1) - Contact: [x.jiang@hud.ac.uk](mailto:x.jiang@hud.ac.uk)

## **2022 Keynote Papers proposals**

### STC A

Closed Loop Systems to Circular Economy: Staying within the Planetary Boundaries - S. Kara (1) - Contact: [S.Kara@unsw.edu.au](mailto:S.Kara@unsw.edu.au)

### STC E

Bioprinting: Materials, Processes and Applications - P. Bartolo (1) - Contact: [paulojorge.dasilvabartolo@manchester.ac.uk](mailto:paulojorge.dasilvabartolo@manchester.ac.uk)

### STC G

Grinding tools and abrasives - A. Beaucamp (2) - Contact: [beaucamp@me.kyoto-u.ac.jp](mailto:beaucamp@me.kyoto-u.ac.jp)

### STC M

Mechanical Interfaces in Machine Tools - E. Budak (1) - Contact: [ebudak@sabanciuniv.edu](mailto:ebudak@sabanciuniv.edu)

### STC P

Advances in performance and traceability of X-ray CT metrology - W. Dewulf (2) - Contact: [wim.dewulf@kuleuven.be](mailto:wim.dewulf@kuleuven.be)

### STC S

The implications and evaluation of geometrical surface defects - B. Mullany (2) - Contact: [bamullan@uncc.edu](mailto:bamullan@uncc.edu)

## **2023 Keynote Papers proposals**

### STC M

Sensor and Actuator integrated tooling systems - F. Bleicher (2) - Contact: [bleicher@ift.at](mailto:bleicher@ift.at)

# 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 [General Assembly in Birmingham](#) is ready online on the Website (from the Home Page or through "EVENTS").

We suggest you book quickly your hotel in Birmingham to have cheaper prices.

- We kindly remind you that all categories of members can invite one guest from any country to the General Assembly, even if the member does not attend the meeting.
- The new Forum on Education is now open on the website (through "EDUCATION"). You will find a section to post adverts for [Internships and PhD positions](#), with already 5 positions offers posted by CIRP members

## Future CIRP Meetings

- Dates of the [future CIRP Winter Meetings](#) 2020 - 2025
- Dates of the [future CIRP General Assemblies](#) 2019 - 2022