Burrs – Analysis, Control and Removal
Preface

The International Conference on Analysis, Control and Removal of Burrs, held at the University of Kaiserslautern, Germany, marks the end of the three-year cycle of the CIRP working group on Burrs. During these years, researchers as well as experts from industry have contributed and gathered knowledge on research and industrial practice in the area of burrs, edge conditions and part cleanliness. A CIRP round robin has been carried out with participants in many countries and three continents to compare available methods on burr measurement.

This conference now brings together the members of the working group as well as experts from industry and academia from all over the world to discuss the state of the art in research as well as industrial applications in the area of burrs in one focused conference with a special workshop character. The conference shall provide a forum for the intense exchange of concepts and methods, the dissemination of technological breakthroughs, and for discussions of future directions of research and development.

The conference program covers a broad spectrum of topics ranging from standards for burr description and classification and the mechanics of burr formation over modeling and simulation of the underlying mechanisms to burr control and deburring strategies. Our special appreciation goes to the invited keynote speakers: Prof. Dornfeld from UC Berkeley, USA, one of the leading experts in the field, will give an overview of the state of research in analysis, control and removal of burrs. Prof. Biermann from TU Dortmund, Germany, will draw on his scientific and industrial experience to present burr reduction and control strategies. Mr. Berger from Daimler, Germany, and Dr. Martinsen from RTIM, Norway, will give an insight into the industrial importance of burr issues and part cleanliness.

Our special gratitude goes to the International Program Committee and Local Organizing Committee members for their wonderful efforts in reviewing papers, handling papers, and preparing the technical and social program. Without their effort and dedication the conference would not have been possible. We would also like to extend our sincere appreciation to the paper authors for their excellent contributions to the conference. The authors who are willing to share their most recent findings in basic research as well as in industrial application, both in presentations and in many discussions in and around the technical sessions, represent the dominant factor in the success of this conference. Finally, the organizations and companies who contributed to the financial support of the conference, even in financially difficult times, deserve our great respect for their contribution. We would also like to thank the companies who opened their facilities for the industrial tour. They allowed giving this conference the final touch of strong interaction between research institutions and industry.
On behalf of the organizing committee, I wish all of you a successful conference, with exciting technical sessions, fruitful discussions and a perfect get together of our research community.

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A Short View on CIRP

CIRP was founded in 1951 with the aim to address scientifically, through international cooperation, issues related to modern production science and technology. The International Academy for Production Engineering takes its abbreviated name from the French acronym of College International pour la Recherche en Productique (CIRP) and includes ca. 550 members from 41 countries. The number of members is intentionally kept limited, so as to facilitate informal scientific information exchange and personal contacts.

CIRP has some 170 Fellows and Honorary Fellows who are internationally recognized scientists elected to be CIRP members for life. Due to the limited number of CIRP Fellows, the election of a Fellow is a lengthy, rigorous process ensuring the highest possible academic standards.

CIRP includes some 130 associate members, well known scientists, with high potential, elected typically for a period of three years with the possibility of renewal. A number of Associate members eventually become Fellows. Some Associated members may also belong to fields related to Manufacturing.

CIRP, although an academic organization, encourages the participation of industry in its activities. There are ca. 140 corporate members who follow the research work of the academic members of CIRP, and very often contribute to the information exchange within CIRP by presenting their views on industrial needs and perspectives.

Invited members, particularly from countries not yet involved in CIRP, are also included in the CIRP community.

In a recent development, there is work under way to establish a CIRP Network of young scientists active in manufacturing research.

CIRP aims in general at:

• Promoting scientific research, related to
  • manufacturing processes,
  • production equipment and automation,
  • manufacturing systems, and
  • product design and manufacturing.

• Promoting cooperative research among the members of the Academy and creating opportunities for informal contacts among CIRP members at large.

• Promoting the industrial application of the fundamental research work and simultaneously receiving feedback from industry, related to industrial needs and their evolution.

• Organizing an annual General Assembly with keynote and paper sessions and meetings of the Scientific and Technical Committees, publishing papers, reports, annals and other technical information, organizing and sponsoring international conferences.

CIRP is organized along the lines of a number of Scientific Technical Committees (STCs) and Working Groups (WGs), covering many areas. CIRP organizes annually a General Assembly and the so called January Meetings. In the General Assembly (GA), which lasts
for a week, there is an intensive technical program with over 140 technical paper presentations from different fields of manufacturing, a number of keynote papers, at the opening of the conference, as well as technical work within the STCs. In parallel, there is a social program, aiming at making the culture of the General Assembly site known to the members and also at creating an informal environment for information exchange among the members. The January meetings are always organized in Paris, and last three days. Moreover CIRP organizes, through its membership, a number of conferences, notably the Manufacturing Systems Seminar and a number of other conferences with relevant topics. CIRP members also organize a variety of conferences, under the sponsorship of CIRP.

The main publications of CIRP are the CIRP Annals under ISI standards with two volumes; Volume I, with refereed papers presented in the GA by Fellows, Associate, Corporate and Invited members and Volume II with refereed keynote papers. There are also CIRP proceedings, including round table discussions, technical reports, special issues, reports and internal communications, proceedings of CIRP conferences, dictionaries of production engineering etc. A Newsletter is also published twice a year. Currently the CIRP Annals are published by Elsevier, while Springer Verlag publishes the Dictionaries of Production Engineering. There are under development one or more journals, complementing the work published in the CIRP Annals.

The CIRP organization includes besides the President, who is elected annually, the Council and a number of other committees ensuring a continuous improvement of the CIRP organization and reflecting the changing needs of manufacturing science and technology.

CIRP has its headquarters in Paris, staffed by permanent personnel and welcomes potential corporate members and interested parties in CIRP publication and activities in general.

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