



29th CIRP Design Conference

Special Session on Design for Metrology

May 8-10, 2018

PÓVOA DE VARZIM, PORTUGAL



Introduction

We have long known that manufacturing constraints can negatively impact our ability to realize a designer's intent and that manufacturing capabilities and constraints should be considered early in the design process to avoid costly rework later on. Design for Manufacturing and Concurrent Engineering were developed to address this issue and have become a standard part of industrial practice. However, designers rarely have line of sight to manufacturing verification and validation processes, or understand the capabilities and constraints of the dimensional and surface metrology equipment used to perform them. Thus, metrology-related capabilities and constraints are rarely considered in early engineering design or product development processes.

Continued developments in production technology such as Additive Manufacturing are increasing the geometric complexity of design artifacts. Improved understanding of physics at the micro and nano scales are increasing the use of functional surfaces. And, industrial value chains are becoming increasingly connected. Designers must now accept some responsibility for understanding and planning for all activities downstream, including metrology.

We are pleased to invite contributions to a Special Session on Design for Metrology at the 29th CIRP Design Conference where we will explore the implications of Design for Metrology throughout the engineering and product development value chains and the roles of research and education for advancing the state of the art in this area.

Call for Papers

You are cordially invited to submit a paper for a Special Session on Design for Metrology at the 29th CIRP Design Conference. Original research papers, educational and industrial case studies, and editorial essays are all welcome. Papers must be original, unpublished, and written in English. Abstracts and papers will be reviewed by the Scientific Committee and the Session Chairs. Authors will be notified of the results via e-mail.

All accepted papers will be published as Open Access papers in Procedia CIRP. At least one author of each accepted paper is expected to register and present the paper.

Topics

Topics of interest for the Special Session of Design for Metrology include, but are not limited to:

- The Need for / State of the Art in Design for Metrology
- Design for Metrology in Additive / Advanced Manufacturing
- Design for Metrology in Precision / Micro Manufacturing
- Design for Metrology in Freeform & Industrial Design
- Design for Metrology in Repair and Remanufacturing
- Design for Metrology in the Age of Big Data
- Design for Metrology in Design Theory & Methodology
- Mapping Value Chain Constraints in the Design Process
- GD&T and Design for Metrology
- Design for Metrology vs. the Design of Metrological Systems & Artifacts
- Case Studies in Design for Metrology
- Metrology in Design and Manufacturing Education

Important Dates

Jan. 15, 2019	Abstracts Due
Jan. 20, 2019	Abstract Acceptance
Feb. 15, 2019	Full Papers Due
Mar. 15, 2019	Paper Acceptance
Mar. 31, 2019	Final Papers Due
Apr. 10, 2019	Early Registration Due
May 8-10, 2019	CIRP Design Conf

Venue

The conference will be held at the Axis Vermar Conference & Beach Hotel. For more information see:

<https://www.cirpdesign2019.org/venue>

General Contact

For general questions, please contact:
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Special Session Contact

For specific questions related to the special session, please contact:
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