



M4Dconf 2022

IMEKO TC 6 – First International Conference on
Metrology and Digital Transformation

19. – 21. September 2022



Berlin, Germany

SPECIAL SESSION

Machine-readable Digital Calibration Certificates (DCC)

One of the first and highest priority steps for the metrology community is recognized in the replacement of paper-based calibration certificates with their digital counterparts, Digital Calibration Certificates (DCCs). A DCC is not a simple digitalization of the paper-based certificate in the sense of an exact copy in electronic format like PDF or Word. DCCs provide the calibration data in fully machine-readable data structures in a way that a software can automatically read the data from a DCC without error-prone human transcription. DCCs potentially allowing automated and machine-aided approaches to be used throughout all parts of calibration and measurement processes are essential for many organisations on the road to full digital transformation. The adoption of DCCs will thus lead to increased efficiency within those processes. The organizers of the session are encouraging participants to submit papers on their recent findings in the domain of DCCs, new innovations and challenges. For all accepted contributions there will be time for a presentation in the session followed by a short Q&A.

SESSION TOPICS

- Digital Transformation in the Quality Infrastructure related to DCCs
- Hands-on example for issuing DCCs
- Representations of measurement data in DCCs
- Establishing links of metrological traceability with DCCs
- DCCs for end-users and laboratories in the calibration chain
- Usage of DCCs in automated processes like Industry 4.0
- Tools and services for the creation, use and interoperation of DCCs
- Harmonization and good practice examples for DCCs in different areas
- Examples of new measurement capabilities enabled by DCCs
- Digital infrastructure for the secure exchange and storage of DCCs

SESSION ORGANIZERS

- › Shanna Schönhals, PhD
Physikalisch-Technische Bundesanstalt,
Germany
- › Clifford Brown, PhD
Physikalisch-Technische Bundesanstalt,
Germany
- › Daniel Hutzschenreuter, PhD
Physikalisch-Technische Bundesanstalt,
Germany

IMPORTANT DATES

- › Extended Abstract Submission Deadline:
15 March 2022

WEBSITE & CONTACTS

www.m4dconf2022.ptb.de
m4dconf2022@ptb.de



M4Dconf 2022

IMEKO TC 6 – First International Conference on
Metrology and Digital Transformation

19. – 21. September 2022

Special Session: Modeling metrology in software for digital transformation

SESSION ORGANIZERS



Shanna Schönhals, PhD

Shanna Schönhals has joined the Physikalisch-Technische Bundesanstalt (PTB) in Germany in 2020. Since then, she has been contributing to the development of the DCC data format, with a special focus on the area of solid mechanics and quantities such as force and torque. Closely connected with these research activities is Shanna's contribution to EURAMET TC-IM 1448 Development of Digital Calibration Certificates and the EURAMET TC-IM WG Metrology for Digital Transformation.

Clifford Brown, PhD

Clifford Brown was originally trained as a physicist and subsequently worked for over 25 years in the software industry working on big data projects, and in academia on digital science projects related to renewable energy. He has worked in the field of metrology for over 10 years again with particular focus on digital science and specifically was a team member of the EMPIR SmartCom project.



Daniel Hutzschenreuter, PhD

Daniel Hutzschenreuter has been a member of the Physikalisch-Technische Bundesanstalt (PTB) in Germany since 2015. His field of work is focused on the online validation of computational extensive evaluation algorithms and the development of universal data models for the digital transformation in metrology. On the international level, Daniel is actively supporting the EURAMET TC-IM WG Metrology for Digital Transformation and the CIPM Task Group on the "Digital-SI".

SUBMISSION OF ABSTRACTS

- › Submission of abstracts for this Special Session are handled by the IMEKO Conference platform:
<https://conferences.imeko.org/event/2>
- › The deadline for submission of abstracts is 15th March 2022
- › Response to authors is scheduled for 31st May 2022