

最先端レーザ計測技術に関する講演会 報告書

1. 開催日時：2019年11月12日（火） 13：30～16：00
2. 開催場所：徳島大学 産学官連携プラザ3階 日亜ホール
3. 主催：徳島大学研究クラスター（重点クラスター）
「工業応用展開を可能とする最先端レーザ応用計測技術/装置の開発」
4. 参加者：20名（学生11名）
5. スケジュール

13：30～14：30 Professor Jozef Kaiser

The Central European Institute of Technology

“Methodology and data processing in Laser-Induced breakdown spectroscopy”

Laser ablation of materials is a complex phenomenon and demands a thorough understanding of individual parameters involved in laser-matter interaction processes and dynamics of plasma formation. In my talk, I review good practices in the implementation of Laser-Induced Breakdown Spectroscopy in various applications. I advise on the optimization analytical methodology and consequent data processing, including recent advantages found in machine learning. Selected applications reflect the state-of-the-art of LIBS developed at the Central European Institute of Technology in Brno, Czech Republic.

14：30～14：40 Coffee

14：40～15：10 Dr. Porizka

The Central European Institute of Technology

“ *Benchmarking in Laser Spectroscopy, a new challenge for chemometrics* ”

The recent technological boom in LIBS resulted in the production of very large spectroscopic data. Well-established algorithms based on classical statistics are not anymore usable for more advanced processing of large high-dimensional data. On the other side, modern Machine Learning techniques (Neural Networks, Support Vector Machines, etc.) are very often overused or applied in an incorrect way. Establishing a robust benchmark for a specific task (classification or quantification,...) is necessary to distinguish between approaches and select a “correct” solution/s to each problem.

15：10～15：40 Dr. Zikmund

The Central European Institute of Technology

“ *Application of lab-based X-ray computed tomography in industry and developmental biology* ”

3D imaging based on X-ray computed tomography have become increasingly accessible with advancements in methods, instruments and expertise. This technique becomes an inseparable part of quality assurance and development in automotive industry. On the contrary, it also is booming for visualization of laboratory animals organs in the life science. Multi-disciplinary centre CEITEC has found the bridge between these different applications and uses experience from industrial tools for basic research in developmental biology.

15：40～16：00 Lab Tour

6. 写真



Professor Jozef Kaiser



Dr. Porizka



Dr. Zikmund