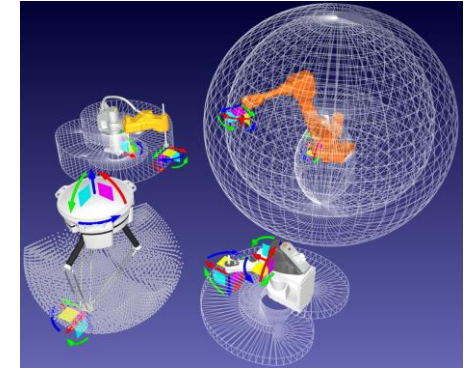


Organisation

Lecturer

Prof. Dr. Ing. Adrian PISLA
III, MSc



Lecture (2 SWS)

Mittwoch | 09:00-10:30 | weekly | online

Applications (2 SWS)

Mittwoch | 10:45-12:15 | weekly | online

Workload/ Übung

150h | 60h (Attendance time) | 90h (Self study)

Credits

6 CP Master

Participation requirements

No prerequisite requirements

Teilnahmevoraussetzungen

Examination form/ Prüfungsform

Homework (Semester Project) + Consultation

Language/ Sprache

English

Online-Ressourcen

TEAMS or [Moodle Kurs-Link](#)- To be created !



Table of Contents

1. Meaning and benefits of robotics for Global Industrial Enterprises
2. Robotics characterization, performances and human factors in industry 4.0
3. Basics of the Robotics systems and control
4. Analysis and evaluation of robotics systems integration within manufacturing lines
5. Robots' applications
6. Methods and principles of Robotics life cycle management
7. Methods and management of I4.0 related aspects in automation and robot applications



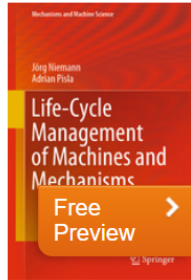
Inhalte/ Content

- The real-world value relates to robotic technologies enterprises;
- Expertise that you have, must be raised beyond the robotics folklore;
- Creates an intuitive Mental Industrial Landkarte, as a skill in your future activities or hobbies;
- Enabling the possibility to access remotely laboratories in order to create your own applications;
- Benefit from inspirational presentations;
- The dynamic advancement in robotic industry creates values in the years to come;
- Connect the Engineering with Management, Innovation and Entrepreneurial skills in coping with the digital manufacturing.

Literatur |

» Engineering » Mechanical Engineering

Mechanisms and Machine Science



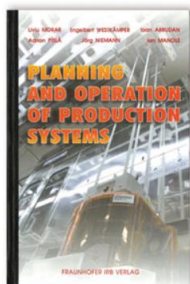
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Life-Cycle Management of Machines and Mechanisms

Authors: **Niemann**, Jörg, **Pisla**, Adrian

Written with beginning practitioners in mind, whereas the existing literature is mostly dedicated to companies and trained specialists

<https://www.springer.com/gp/book/9783030564476>



Planning and operation of production systems

Liviu Morar, Engelbert Westkämper, Ioan Abrudan, Adrian Pisla, Jörg Niemann
Hrsg.: Liviu Morar, Engelbert Westkämper, Ioan Abrudan, Adrian Pisla, Jörg Niemann; Fraunhofer IPA, Stuttgart; Univ. Stuttgart, Institut für Industrielle Fertigung und Fabrikbetrieb IFF, Stuttgart; TU Cluj-Napoca, Rumänien
2007, 724 S., numerous pictures and tabs, Softcover
Sprache: Englisch
Fraunhofer IRB Verlag
ISBN 978-3-8167-7327-6

Existing in about 90 libraries in Europe, Asia and even in the Library of Congress USA

Optional Literatur | Besonderheiten



- **Pisla** Adrian: Development of a Learning Management System for Knowledge Transfer in Engineering, ACTA TECHNICA NAPOCENSIS - Series: APPLIED MATHEMATICS MECHANICS and ENGINEERING, (2021)
- **Kravets**, A.: Robotics: Industry 4.0 Issues & New Intelligent Control Paradigms. Heidelberg. Berlin, Springer, (2020)
- **Nayyar**, A., Kumar, A.: A Roadmap to Industry 4.0: Smart Production, Sharp Business and Sustainable Development. Berlin, Heidelberg, (2020)
- Pisla, D., Bleuler, H., Rodić, A., Vaida, C., **Pisla**, A., New Trends in Medical and Service Robots - Theory and Integrated Applications, Springer International Publishing, Series, (2014).
- **Niemann**, Jörg; Tichkiewitch, Serge; Westkämper Engelbert: Design of Sustainable Product Life Cycles, Springer Verlag, Heidelberg Berlin, 2009



... Looking forward to see you in the classes