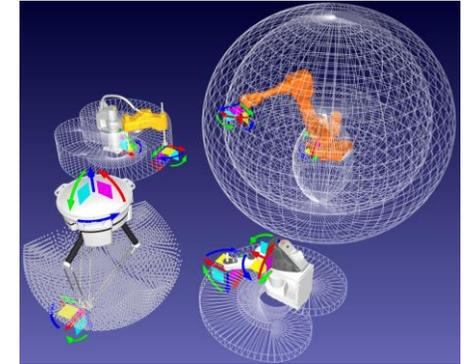


Organisation

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**



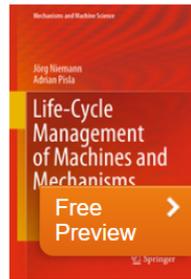
Inhalte/ Content

- **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



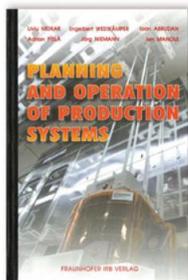
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Life-Cycle Management of Machines and Mechanisms

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