



# SOFT MATTER & MATERIALS

## Master of Science



### PROGRAMME – KEY FACTS

#### ■ Our approach:

Theoretical readings ▪ Research internships ▪ Cooperation between Johannes Gutenberg University Mainz (JGU), Technical University Darmstadt (TUDa) and Max-Planck-Institute for Polymer research Mainz (MPI-P)

#### ■ Starting each Semester:

April → Darmstadt  
October → Mainz

#### ■ Language:

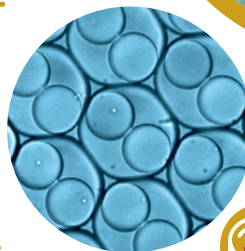
English

#### ■ Duration:

4 semesters

#### ■ Tuition fee:

None – JGU semester fee: ~350 € per semester



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### ENTRY LEVEL REQUIREMENTS

#### You have ...

- a **Bachelor's degree** in Chemistry, Physics, Chemical Engineering, or Materials Science
- an interest in combining **polymer research** and **engineering**
- proof of the required **English skills** (e. g. Cambridge Certificate of Advanced English (C1 Advanced) min. C, B, A (180 – 199), PTE Academic 76 – 84, TOEFL itp 627)



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**PROF. DR. SEBASTIAN SEIFFERT**  
JOHANNES GUTENBERG UNIVERSITY MAINZ

»Once I heard a materials scientists saying that »a good material is one that you do not even recognize; because it is so good in performing its function that you don't even realize it's there«. Soft Matter is such kind of material class. Many students have never heard about it before. But once you realize what it is, you see it everywhere – and you see its amazing function.«

## WHY STUDY AT JGU AND TUDA?

### JGU – Johannes Gutenberg University Mainz

- Internationally entangled campus university
- Globally renowned research
- Committed to diversity and equal opportunities

### Mainz

- Within Rhine-Main area – major metropolitan area of Germany
- Capital of Rhineland-Palatinate
- Main regional media and broadcasting hub

### TUDa – Technical University Darmstadt

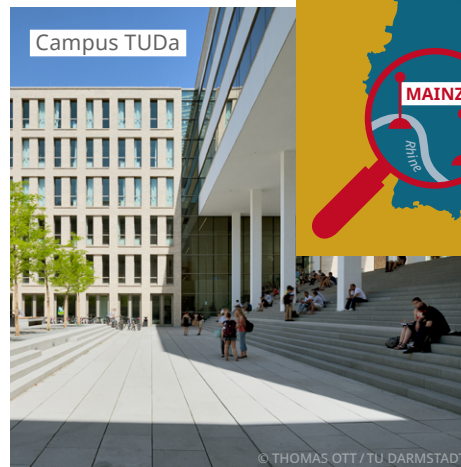
- International, interdisciplinary and future-oriented
- Innovative degree programs for excellent and relevant science

### Darmstadt

- Is centrally located in the Rhine-Main region
- Has been named »City of Science«
- Boasts art and culture (World Heritage Site »Mathildenhöhe«)

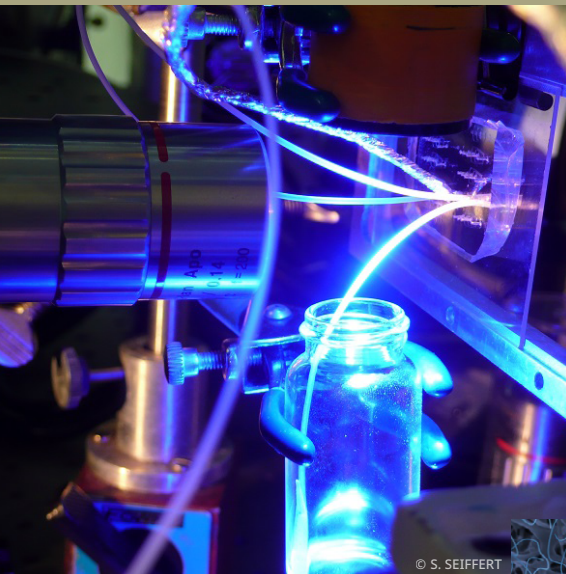


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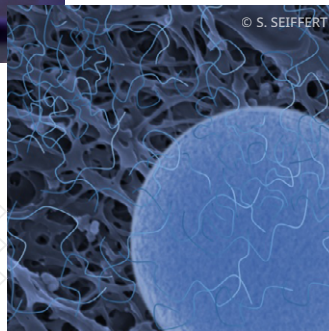


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## WHAT DOES THE PROGRAMME OFFER?

- Dissemination of technical knowledge and conceptual competence concerning
  - ... *the preparation, characterization and use of polymers and colloids and*
  - ... *the structure-dynamics-property relationships of soft matter and materials*
- Functional concepts
  - ... *of general synthetic components and*
  - ... *biologically relevant components*
- Technical processing and industrial use of soft materials
- Independent implementation of the acquired knowledge in research projects
- Acquisition of intercultural skills in international working groups during the research phase, starting in the second half of the degree program

»Soft matter research is a fascinating playground for me. Mixing different components and studying them on different length and time scales brings different and often novel phenomena to light.«

**PROF. DR. REGINE V. KLITZING**  
TECHNICAL UNIVERSITY DARMSTADT



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## PROGRAMME STRUCTURE

1ST SEMESTER	2ND SEMESTER	3RD SEMESTER	4TH SEMESTER
Macromolecular Chemistry → JGU	Physics of Soft Matter I → TUDa	Advanced Soft Matter and Materials	Master Thesis
Modern and Industrial Aspects of Polymer Materials → JGU	Physics of Soft Matter II → TUDa	<u>Research Module 1</u> (8 weeks)	
Colloids and Interfaces → JGU	<u>Practical Work:</u> Physics Experiments & Theory → TUDa	<u>Research Module 2</u> (8 weeks)	
<u>Practical Course:</u> Modern Aspects of Macromolecular Chemistry → JGU	Advanced Polymer Chemistry and Polymer Nanotechnology → TUDa	<u>or:</u>	
Advanced Statistical Physics → JGU	2 out of 4: Polymers at Interfaces	Advanced Soft Matter and Materials	
	Chemical Technology of Pulp and Paper	<u>Research Module</u> (16 weeks)	
	Sustainable Polymer Chemistry		
	Engineering Aspects in Macromolecular Chemistry		

## PROGRAMME DIRECTORS



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### IN COOPERATION WITH

→ **Max-Planck-Institut**  
[www.mpip-mainz.mpg.de/en/home](http://www.mpip-mainz.mpg.de/en/home)

## OVERVIEW

[studyoffice.chemistry.uni-mainz.de/](http://studyoffice.chemistry.uni-mainz.de/)

## APPLICATION

[www.studium.uni-mainz.de/en/your-application](http://www.studium.uni-mainz.de/en/your-application)



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