

## 3 REASONS TO ATTEND SPhERe 2019

- Discuss low-cost and individualized drug production approaches with colleagues from academia and industry.
- Connect with regulatory and industry representatives about key topics of pharmaceutical engineering.
- Grow your understanding of innovative technologies and actual developments concerning production and processes of pharmaceutical engineering.



### REGISTRATION FEES

Registration is possible via the conference website [www.pvz-sphere.de](http://www.pvz-sphere.de). Confirmation of registration will be sent immediately by email. The invoice including payment confirmation will be sent by email on short notice.

#### Registration Fees

Participants from:	Early bird <sup>1)</sup>	Late registration
Industry	550 EUR	600 EUR
Academia	320 EUR	370 EUR
Doctoral cand. <sup>2)</sup> , students <sup>2)</sup> , accompanying persons	150 EUR	180 EUR

<sup>1)</sup> Early bird registration is possible by 13 August 2019.

<sup>2)</sup> Proof of status (student card required).

The registration fee includes the conference ticket, electronic proceedings, beverages, lunches, and conference dinner on 26 September 2019. All documents will be handed out on-site. Cancellations are only accepted in writing (by email). In case of no-show the conference fees will not be refunded.

### CALL FOR PAPERS

Oral presentations and posters are welcome. The abstract should be prepared using the two-page format given at the conference website [www.pvz-sphere.de](http://www.pvz-sphere.de).

**Deadline for Abstract Submission: 21 June 2019**

Notification of acceptance of your abstract by 26 July 2019.

#### Presentation Formats

Oral presentations will be 20 min (including 5 min discussion). For posters, a 3 min introductory presentation is scheduled, followed by a dedicated poster session on Wednesday, 25 September 2019.



### REGISTRATION

Registration for the 3rd International Symposium on Pharmaceutical Engineering Research – SPhERe 2019 – is possible **online at [www.pvz-sphere.de](http://www.pvz-sphere.de)**.

### IMPORTANT DATES

Abstract Submission Deadline	21 June 2019
Notification of Acceptance	26 July 2019
Early Bird Registration Deadline	13 August 2019
Conference Date	25 – 27 September 2019

### GENERAL INFORMATION

#### Venue and Date

TU Braunschweig • Center of Pharmaceutical Engineering • Franz-Liszt-Str. 35 A • 38106 Braunschweig • Germany

#### Conference Dinner

Herzog Anton Ulrich-Museum • Museumstraße 1 • 38100 Braunschweig

#### Scientific Committee

Andreas Dietzel • Arno Kwade • Gerlinde Benninger • Heike Bunjes • Ludger Beerhues • Stephan Scholl (chairman)

[www.pvz-sphere.de](http://www.pvz-sphere.de)

### CONTACT

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**SPhERe**

CONFERENCE DATE  
**25 – 27 September 2019**

TU Braunschweig, Germany

# WELCOME

The 3rd International Symposium on Pharmaceutical Engineering Research – SPhERe 2019 – offers an exciting, interdisciplinary forum addressing current and future trends in pharmaceutical engineering research. New challenges, technologies, and processes impact the potential to develop low-cost, effective and customized drugs. SPhERe brings together pharmacists, process and production engineers as well as microtechnologists from academia and industry to share knowledge and boost multidisciplinary exchange and collaborations. We provide an ambitious programme with plenary lectures presented by keynote and invited speakers as well as selected oral & poster presentations.

It is our great pleasure to introduce our **HOT TOPIC** Session on Cannabis for Medicinal Use – Production Challenges and Legal Requirements. This special session focuses on the current Cannabis debate and addresses the challenges on the way to effective and safe Cannabis products, which best serve patients' health and meet the regulation aspects.

## CONFERENCE TOPICS ARE:

- Production Processes for Biological and Chemical API
- Advanced Design and Processing of Liquid and Solid Preparations
- Microsystems for Analytics, Screening and Continuous Processing

We look forward to your valued contributions and to welcoming you in Braunschweig, the LionCity!

Sincerely yours  
Prof. Dr.-Ing. Stephan Scholl  
Conference chair

## WEDNESDAY, 25 SEPTEMBER 2019

11:00 am **REGISTRATION**

1:00 pm **OPENING**

Anke Kaysser-Pyzalla, President of TU Braunschweig  
Stephan Scholl, Conference Chair

1:30 pm **SESSION I**

**Microsystems for Analytics, Screening & Continuous Processing**

**Keynote: Emulation of Gut - Liver Crosstalk: An Organ-on-Chip Platform for Translational Research and Drug Development**

Alexander Mosig, University Hospital Jena, Germany

→ Selected oral presentations

3:30 pm **Coffee Break**

4:00 pm **POSTER SESSION**

6:00 pm **Guided PVZ Tours**

7:00 pm **Get Together**

## THURSDAY, 26 SEPTEMBER 2019

8:30 am **SESSION II**

**Production Processes for Chemical API**

**Invited Speaker: Shaping the Process to Fit the Assets: The Lonza Way**

Andreas Klein, Lonza AG, Visp, Switzerland

→ Selected oral presentations

10:00 am **Coffee Break**

10:30 am **SESSION III**

**Production Processes for Biological API**

**Invited Speaker: CO<sub>2</sub> Extraction - A Production Process for the Recovery of API**

Dieter Gerard, Flavex Naturextrakte GmbH, Rehlingen, Germany

→ Selected oral presentations

12:00 pm **Lunch**

1:30 pm **HOT TOPIC SESSION**

**Cannabis for Medicinal Use – Production Challenges and Legal Requirements**



**Cannabis for Medical Use – Key Elements of Regulation**

Werner Knöss, Bundesinstitut für Arzneimittel und Medizinprodukte, Bonn, Germany

**Cultivation and Production of Medicinal Cannabis – Global View**

Claudia Zieres-Nauth, Medropharm GmbH, Kradolf, Switzerland

3:00 pm **Coffee Break**

3:15 pm **SESSION IV**

**Formulation**

**Keynote: Pellets 4.0 – Advanced Fluidized Bed Technologies**

Annette Grave, Glatt Pharmaceutical Services GmbH & Co. KG, Binzen, Germany

→ Selected oral presentations

4:50 pm **SESSION V**

**Pharmaceutical and Biological Processes**

**Invited Speaker: Process Intensification in Viral Vaccine Manufacturing**

Udo Reichl, University of Magdeburg & MPI for Dynamics of Complex Technical Systems, Magdeburg, Germany

→ Selected oral presentations

6:20 pm **End of Second Day**

7:30 pm **Conference Dinner** | Herzog Anton Ulrich Museum

## FRIDAY, 27 SEPTEMBER 2019

8:30 am **SESSION VI**

**Preparations Liquid/Solid I**

**Keynote: Amorphous Drugs and Dosage Forms – New Developments and Perspectives**

Thomas Rades, University of Copenhagen, Denmark

→ Selected oral presentations

10:05 am **Coffee Break**

10:30 am **SESSION VII**

**Preparations Liquid/Solid II**

**Invited Speaker: Design and Processing of Solid Dispersions in Pharmaceutical Industry**

Carsten Timpe, F. Hoffmann La Roche AG, Basel, Switzerland

→ Selected oral presentations

12:15 pm **POSTER AWARD**

12:30 pm **Concluding Remarks, General Discussion, Farewell**