

Important Information for FILTECH Presenters

All Authors must supply 2 versions of their paper/s to be submitted for oral and short oral /poster presentation: A short version (1 page, word document) for publication in the Abstract Book and long version (6-18 pages, PDF) for electronic publication. Short oral presenters must also submit their posters.

Index your Paper: October 30, 2017

Submit Full Paper / Poster data: December 12, 2017

Confirm Copyright Agreement: December 12, 2017

Index your paper and upload your files easily in the Speakers Area.

Log-in details are communicated with the acceptance notice.

Paper Version 1 (1 page word document)

The first one is a **1 page abstract** in word format which will be published in the FILTECH Abstract Book.

It should contain:

- **Title**
Arial, 14 pt, capital letters, bold, center aligned
- **Author(s) with address**
Arial, 12 pt, center aligned
- **Start 1 page short version (Background, Aim, Method, Main results, keywords)**
Arial, 12 pt, left- and right-justified
- **Finish with 4–6 keywords from keyword list**
Arial, 12 pt, center aligned
- Figures, diagrams and tables should be inserted in the appropriate position using the same typing
- You can include 1 graphic (printable format)
- Prepare in A4 format (21.0 cm x 29.7 cm) with margins of 2.5 cm

Paper Version 2 (6–18 pages PDF-file)

The second version is a **6-18 pages version** which should include the abstract (version 1) as a first page.

It will be published electronically (CD/USB-stick).

The length of the paper can vary between 6 and 18 pages in total.

Please note that **6 pages are a minimum**. Shorter papers cannot be accepted. A Text version is required. Powerpoint Presentations are not accepted.

FORMATING

Prepare in A4 format (21.0 cm x 29.7 cm) with margins of 2.5 cm

- Start with your version 1 as the first page
- Start your full paper on the second page
- You can use coloured figures, photos etc.
- Please do not use any kind of pagination, footer or header

Forgot log-in details? Contact us at info@filtech.de

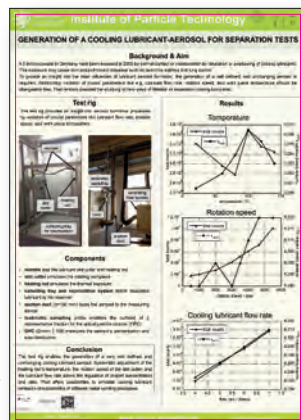
NEW · Poster Printing Service

Poster Upload

FILTECH provides a new Service: We will print your poster and set it up, You just have to provide us with a printable file until **December 12, 2017**.

A good poster strikes a balance between giving too much or too little information. An effective poster presentation is not just a report or journal article hung on the wall. It should highlight the major points of the topic in a form that the viewer can absorb in a few minutes.

- Please prepare your file in a format 85,1 cm wide and 119,9 cm high. Due to printing reasons 5 mm bleed on all sides will be cut off.
- Please prepare your poster in the above format e.g in Powerpoint or provide us with a printable PDF in a high resolution (pictures should have 300dpi).
In case you use powerpoint please change your sheet to a user-defined format in 85,1 cm wide and 119,9 cm high.
- The organizer will print your poster and set it up on poster walls



119,9 cm

85,1 cm



Tips for Preparing Posters

- Keep the text brief.
- Don't use all capital letters for text. It is harder to read than upper & lower cases.
- Use graphics (charts, tables, pictures) that can be understood in a minute or less.
- Emphasize important information by using color, different type sizes, etc.
- Too many colors or fonts can be distracting. An effective poster is interesting without being too flamboyant.
- Assume that people will be looking at your poster from about 1 meter away, and design it to be read from that distance.

Presentation

- All speakers must contact their session chairman in the conference room prior to their session
- Poster presentations include a short oral presentation of 5 minutes in the session room. The short oral poster presentation in the session rooms will be followed by individual presentations of the authors in front of the posters directly after every poster session. Authors with a short oral/poster presentation are asked to be present in front of their poster after their session.

**Prepare your presentation
in a 16:9 aspect ratio**

ONLINE MEASUREMENT OF CENTRIFUGATION PROCESS MONITORING AND CONTROL

Title: Arial 14 pt, capital letters, bold, centre aligned

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ABSTRACT

Nowadays submicron particles are applied in various industrial sectors. CMP slurries in silicon wafer industry, pigments for coatings or varnishes and iron oxide particles in cancer treatment are just a few examples. Usually there are special requirements on the particle system as a narrow size distribution and limits concerning fine or coarse material. However, most particle synthesis techniques provide wide size distributions leading to the necessity of subsequent classification steps. Due to their high relative centrifugal force (RCF) cut sizes of less than 100 nm can be reached by using tubular bowl centrifuges. Competitive processes are limited to lab scale or lead to the irreversible loss of a significant amount of the solid matter. In contrast to that, tubular bowl centrifuges are scalable and offer the use of both fine and coarse fraction. The separation process in tubular bowl centrifuges is a semi-continuous process. Sediment built-up during the process leads to a decreasing free volume for the suspension and therefore to a loss in residence time. As a result of that, there is a decrease in grade efficiency.

Abstract: Arial 12 pt, left- and right justified

A novel approach is to compensate this disadvantage by a dynamic increase of the rotational speed. Thus relevant output parameters like product loss and grade efficiency are kept constant. The idea is realized by an online measurement of solids concentration at the outlet of the centrifuge. A turbidity sensor (Visolid, *WTW GmbH*) is used for that task. The acquisition of the total suspended solids is carried out as a scattered light measurement. The signal is implemented into a control cycle which is using the rotational speed of the centrifuge (GLE, *Carl Padberg Zentrifugenbau GmbH*) as a correcting variable. When the desired solids concentration is exceeded, rotational speed is increased. Experiments show fitness of the sensor to a large concentration range and - after an appropriate calibration - no limitation concerning the particle system. A special flow-through cell which is also suitable for low flow rates improves the controllability of the system. Depending on the particle system, product loss and grade efficiency can nearly be kept constant up to high filling levels of the rotor. In summary, a direct monitoring of the solids content at the centrifuge outlet is suitable for an acquisition of the relevant separation process parameters. Furthermore, the measured values may be used for process optimization by dynamic speed control. This technology represents a perspective for future centrifuges. Especially with fast-running machines a constant cut size in the nanometer range will be accessible.

KEYWORDS

Centrifugation, Process Monitoring and Control, Separation of Nanoparticles

Classification **4-7 Keywords: Arial 12 pt, centre aligned**