

September 5, 2023
European Aerosol Conference, Malaga

My experience with abstract submission and selection

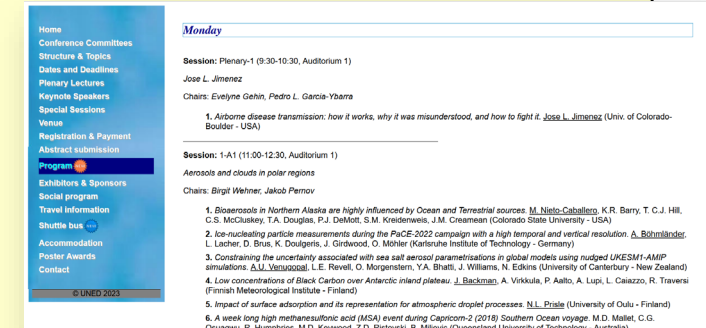
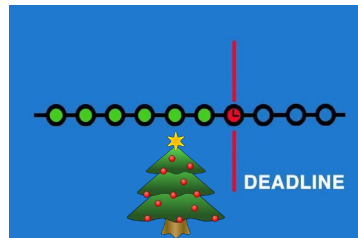
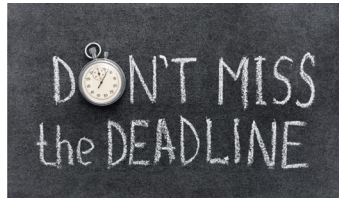
Christof Asbach

¹ IUTA – Institut für Umwelt & Energie, Technik & Analytik e. V., Duisburg, Germany

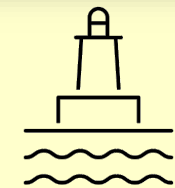
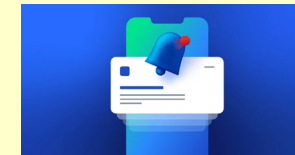
² Gesellschaft für Aerosolforschung, Germany

From abstract writing to the conference program

Your job



Notification to authors



**EAC
2023
MALAGA
SPAIN
3-8 SEPTEMBER**

Fall/winter 2022

March 10

April 9

now

- Abstracts are reviewed by the chairs and co-chairs of the working groups of the European Aerosol Assembly (WG meetings open to everyone!)
- Every reviewer receives several dozens of abstracts for review
- Decisions to be made:
 - Accept/reject
 - If accepted: poster/oral
- Criteria:
 - Scientific quality
 - Quality of presentation
 - Is the scope suitable for an oral presentation
- Important to note
 - Oral slots are much more limited than poster slots
 - Oral sessions should have a „storyline“
 - Selection oral or poster is often not a question of the scientific quality!

- Recommendation of reviewer:
 - Definitely oral
 - Could be oral or poster
 - Definitely poster

Due to limited oral slots:

- If you submit an abstract as a poster, you will likely get a poster
- If you leave it open: much more likely to get a poster than oral talk

Instructions for abstract preparation for EAC2023

J.L. First¹, P.L. Second² and J.C. Third²

¹Department of Aerosols, University of Somewhere, City, Postcode, Country

²Department of Particulate Matter, National Research Centre, City, Postcode, Country

Keywords: first, second, third, fourth, fifth.

Associated conference topics: 2.4, 1.6, 3.5 (up to three conference topics for review and allocation)

Presenting author email: j.first@somewhere.edu

Abstract (Fortlaufend)

Please use this template for abstract preparation and submit your abstract in pdf format.

- The abstract should be in double column (like this example) and ONE page long (any additional page will be automatically deleted). Use A4 page set-up and make all margins (top, bottom, left, right) 20 mm wide. Use 10 pt Calibri font (except for the title which should be in 12 pt bold and in sentence case). Centre the title, the authors' names, the addresses, keywords, conference topics and contact email address. Please compose a title that clearly and succinctly describes the content of your work in order to maximise its impact.
- Start each paragraph, except the first, with an indent. Justify the body of the text both left and right. Do not use page numbers. Keywords and listing of associated topics are there to draw attention to your abstract, and to help the organisers allocate the abstract to the most appropriate reviewers and conference session.
- Use clear English to write your abstract, with an emphasis on describing what is new and why it should attract the attention of the audience.
- Figures can be in colour or in black and white. Ensure that Figures and Tables have a caption and that they are numbered consecutively.

Table 1. Comparison between theoretical predictions and experimental measurements.

Month	Measured density ($\mu\text{g}/\text{m}^3$)	Predicted density ($\mu\text{g}/\text{m}^3$)
Feb	0.4H	0.4711H
Jun	2.4H	1.528*10 ¹⁰ H

References should be made in the style (Rosner, 2000), Fernandez de la Mora and Kozlowski (2013) or as Neubauer et al (2010). Examples of references are shown below. Leave a blank line above the list of references, and also above the acknowledgements.

Section headings can be used, but they do take up valuable space: the same can be said of equations.

Abstract review

Abstracts will be reviewed by the Program Committee (chairs and co-chairs of the EAA working groups). Abstracts which do not fulfil the standards

Figure 1. Upper-view SEM-micrograph of a dry-ES deposit formed by carbon nanoparticles.

A very good new impactor

I.A.M. King¹

¹Aristocratic King's University, somewhere

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Abchnittswechsel (Fortlaufend)

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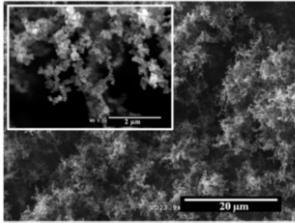


Figure 1. Upper-view SEM-micrograph of a dry-ES deposit formed by carbon nanoparticles.

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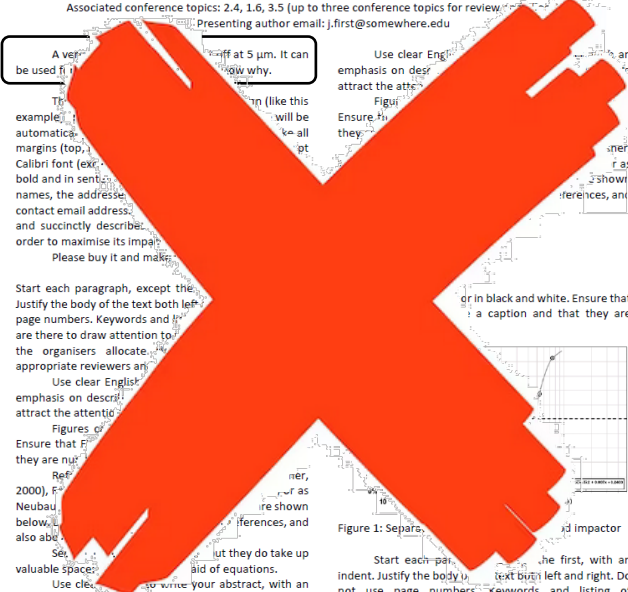
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A very good new impactor has a cut off at 5 µm. It can be used for anything and I don't really know why.

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Figure 1: Separation of particles by a new impactor.



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Figure 1-Upper view SEM-micrograph of a dry-ES-deposit formed by carbon nanoparticles.

This work was supported by the National Council for Aerosol Research under grant JC/2102.

Fernandez de la Mora, J. and Kozlowski, J. (2013). *J. Aerosol Sci.*, 57, 45-53.

Neubauer, N., Seipenbusch, M. and Kasper, G. (2010). *Proc. European Aerosol Conference, EAC2010, Granada*.

Rosner, D.E. (2000). *Transport Processes in Chemically Reacting Flow Systems*. Dover Publications.

Development and Characterization of a 3D-printed Differential Mobility Analyzer

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Keywords: 3D-printing, Differential Mobility Analyzer (DMA), Tandem DMA, Characterization

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Introduction

The Differential Mobility Analyzer (DMA) is one of the most important instruments for measuring the size of aerosol particles (Knutson – Whitby, 1975) based on their electrical mobility. Recent efforts have been made to reduce their manufacturing cost and weight (Barmounis et al., 2016), while maintaining their good performance. At the same time, 3D-printing technology is rapidly evolving offering new methods and materials with unique properties. In this work, we have built and characterized a 3D-printed DMA (3Dp-DMA), and its performance was compared to that of a metallic custom-made DMA.

Methods

All parts of the 3Dp-DMA were printed by a 3D-printer (Formlabs, Form3) using resin (Formlabs, Tough) as material. The surfaces that needed to become conductive (i.e. central rod and inner surface of the outside electrode), were painted with graphite spray (DUE-Cl, Product N-77).

We used a Tandem-DMA system to characterize the 3Dp-DMA and its metallic counterpart. Particles were generated by an atomizer (TSI, Model 3076), using 0.5% w/v (NH₄)₂SO₄ solution. Sub-10-µm particles were produced by a custom-made Glowing Wire aerosol generator (Peineke et al., 2006). The particles produced by the atomizer were dried by a silica-gel drier, then charge-neutralized by an ²⁴¹Am source particle neutralizer (GRIMM, Model 5.522) and led to the inlet of a custom-made long-metal DMA (L-DMA) which was used to produce a monodisperse sample. An ultrahigh Condensation Particle Counter (CPC; TSI, Model 3025A) was used to measure the particle number concentration downstream of the L-DMA. The monodisperse outlet flow of the L-DMA was then led to the characterized DMA (i.e., first the 3Dp-DMA and then the metallic-DMA). A second CPC (TSI, Model 7640) was used to measure the particle concentration at the outlet of the characterized DMA. For every measurement, the L-DMA was operated at a different fixed voltage (corresponding to a specific particle diameter), while the voltage in the characterized DMAs was increased stepwise.

The above-mentioned setup, was used to measure the number of particles that penetrated through the characterized DMA at different voltages. Apart from the measurements, theoretical values of the penetration were calculated by using the convolution of the transfer functions of the L-DMA and the characterized DMA for diffusive particles (Stolzenburg, 1988). The results from each measurement for the 3Dp-DMA and its metallic counterpart, were log-normally fitted and compared to their respective theoretical values. CPC counting ratios and losses in the tubing for particles smaller than 20 nm were also included in the calculations.

Conclusions

Particle penetration for the two characterized DMAs were in good agreement. Most importantly, their deviations from theoretical centroid particle diameter (which corresponds to the peak of the log-normal fitting curve), were less than 2% as shown in Figure 1. Finally, the resolution of the 3Dp-DMA, which corresponds to the width at half maximum of the log-normal fit, was 40% lower compared to the metallic DMA.

References

Knutson, E. O., Whitby K. T. (1975). *Aerosol Sci.*, 6: 443-451.

Barmounis K., Maissner A., Schmidt-Ott A., Biskos G. (2016). *Aerosol Sci., Technol.*, 50: 2-5.

Peineke C., Attoui M.B., Schmidt-Ott A. (2006). *Aerosol Sci., Technol.* 37: 1651 – 1661.

Stolzenburg, M.R., Ph-D thesis (1988). University of Minnesota. Order No: 8900565.

A short and concise title

A clear structure

A short, but informative introduction, putting your research into perspective

A convincing story

Results!

Brief summary → what can the audience expect to learn from your contribution?

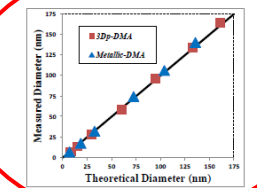


Figure 1-3Dp-DMA and metallic-DMA measured centroid particle diameter, compared to the theory.

Will it be an oral or a poster presentation?



- Guide the reviewer through your work
- Use a clear structure, follow the conference guidelines
- Keep in mind that the reviewer does not necessarily know the details and background of your work
- Include results in the abstract, even if preliminary
- Provide a short and comprehensive summary
- Never submit a half-empty abstract page!



announces the first



conference on AEROSOL SCIENCE

20 & 21 February 2024

at the University of Vienna



Abstract submission and registration will open soon

<https://www.info.gaef.de/start2024>