



## Newsletter 1 (PCIG N1) - 26.04.2023

Welcome to the first edition of our brand new newsletter!

### PREFACE

This newsletter aims to serve as a means of internal communication of useful information and  
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edition (January ±April 2023) consists of three main sections:

**A. Research highlights**, which represents the emerging technologies in particle characterisation.

**B. People focus**, which reveals the motivation and sharing from different researcher members.

**C. Update corner**, which summarises the new events, collaboration, and other opportunities.

Our current edition team includes **Tien Quach, Merel Bout, and Mauro Davide Cappelluti**. We would like to express great appreciation to **the PCIG Committee** for encouraging and advising us to issue the first edition of PCIG Newsletter. Many thanks for the contribution from the people who are willing to co-operate with us. We look forward to your collaboration in the next editions!



*Welcome to the PCIG Newsletter,  
where we network and work together for better particle technologies.*



## A. RESEARCH HIGHLIGHT

### Introduction: What can we achieve with Particle characterisation?

Written by: Merel Bout

Almost everything that we deal with is made up from particles. All these particles together determine the properties and make up of a material. An easy example of a material to think about is sand. Sand is a collection of small particles of rock granules. These granules mostly consist of silica. But we can also think of particles as small as electrons or something as big as stars as particles. This not only makes particle characterisation a very broad subject but also a very interesting one to dive further into!

*(image credit: Maocheng, Bobanny, Marshall Space Flight Center (MSFC))*

Particles are characterized in numerous fields to learn more about materials and predict their behaviour. In industries, these characteristics can be critical as they are important indicators of quality and performance. At this present day, we have a wide range of techniques available to characterize particles. It depends on what information you are looking for. If we get back to our example of sand, we can look at this material in different ways. These ways involve the physical or chemical nature of the material. Analytical techniques have developed into a broad spectrum. Some examples of conventional techniques for chemical analysis are IR, RAMAN, NMR, X-ray analysis and elemental analysis. The exact chemical composition of sand can tell you the origin where the sand was derived from. It can also tell you how reactive the sand will be with other materials. On the other hand, the physical properties of sand can tell you what it will behave like under flow or during compaction. Some examples of conventional techniques for physical analysis are morphological analysis, SEM and DLS/ Zeta-potential. It studies the size, shape, distribution, surface area and colour of particles. To find out the size shape and distribution, we use microscopes. Another way to analyse-











**Particle Characterisation Interest Group  
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P/s: In the context of the outbreak of Corona Virus (COVID-19) all over the world, I hope that we can take good care of ourselves and remind other individuals to be more alert, pay attention to take the recommended protective measures (3). Please stay healthy to be able to complete and share your ow4o[c]23(ceL0.118 0.129 rg5(y)23(o)-11(u)-10.)-11(b)-11y842 re3W31 70.775 729.22 Tm0



## C. UPDATE CORNERS

### Questionnaire results

Written by: Merel Bout

The PCIG is an interest group that exists now for 60 years. Just as science is always evolving, we also like to hear how we can evolve as an interest group. In the month of February 2023, we asked you what your current thoughts are on the PCIG. We received a number of industrial respondents covering a wide range of sectors (Pharma, Forensics, Food, Chemicals, Coatings, filler for Plastics etc.). Thank you very much for filling this in, the feedback is very helpful for us to bring you the right information! The outcome of your answers are presented below.

Of the platforms available, you have Ims availai yo





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Training - Summer school (in-person)	0.0	0.0	26.1	26.1	47.8
Outreach programmes	.5				







Find more information at: <https://constableandsmith.com/events/uk-china-PTF9-2023>

## International events

**11<sup>th</sup> - 14<sup>th</sup> June: 12th International Colloids Conference**

Palau de Congressos de Palma, Mallorca, Spain

**Deadlines:** 14/3 early bird registration

**Fees:** ¼ V W X 0830 Academic delegates

Find more information at:

<https://www.elsevier.com/events/conferences/international-colloids-conference>

**26<sup>th</sup> - 28<sup>th</sup> September: Partec 2023: International Congress on Particle Technology**

Nürnberg Convention Center (NCC3ptembn0embn0, Spain)



## CONTACT US

Visit our website for further information: <https://www.rsc.org/membership-and-community/connect-with-others/through-interests/interest-groups/particle-characterisation/>

Do you have any questions, feedback or are you willing to contribute as a collaborative writer? Please email the RSC-PCIG Particle Newsletter Team via:

[Particlenewsletter@gmail.com](mailto:Particlenewsletter@gmail.com) and we will get back to you.