

The Particle Society of Minnesota Newsletter

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Letter from the President

Greetings from the newly elected PSM President!

As we wind down the calendar year, I want to take a moment to reflect on the Particle Society accomplishments. First, a gracious thanks to past-president Jim Marti for his leadership and effort in bringing the Society the recognition and membership it has today. In 2004, we hosted monthly lunch seminars on such diverse scientific topics as aerosol electrical charge, powder morphology, scattering metrology, encapsulation and nanoparticle health effects. Our speakers were made up of academic professors from the U of MN and Germany as well as a variety of industrial professionals. Our membership continues to expand and our communication efforts will further develop through website and newsletter updates.

In 2005, we plan to resume the fine programs and events that Society members have come to expect. In the coming months, the PSM executive committee is planning a variety of excellent programs for its membership. We will host a series of lunch seminars throughout the year highlighting both industrial and academic research interests, so watch for newsletters updating our schedule. Also, we are in the midst of planning a larger spring program which will cover medical device applications utilizing particle science and technology. Please stay tuned for more details on this full-day event! It should be very exciting!

As always, the PSM executive board is actively recruiting committee members to help steer the direction of future programs. If you are interested in serving on either planning, financial or communication groups - please contact either Bruce Forsyth (forsythb@bsci.com) or Sara Gantner (sgantner@bepex.com) for more information.

Have a wonderful holiday and New Year!

Bruce Forsyth
President of Particle Society of Minnesota

You can always get up-to-date information on Particle Society activities at our web site, www.particlesociety.org. If you no longer wish to get PSM notices, please see the end of this newsletter for instructions on removing your name from our list.

Lunch Speaker Program Continues

Date: late January, timing to be confirmed - watch for updates by email or on our website.

Title: Particle Measurement and Filtration in Liquids

Speaker: Mark Litchy, CT Associates, Inc.

Abstract: This presentation will provide a broad overview of the factors affecting particle measurement and control in liquids. A brief discussion of particle measurement techniques in liquids and the factors that affect the measurements will be presented. Factors discussed will include particle and medium refractive indices, optical measurement techniques, sampling pressure, and coincidence.

Factors affecting the efficacy of particle removal from liquids such as filter pore size, filter type and material, particle loading, and the effect of flow stoppages will be covered. Particle capture mechanisms will be discussed and compared to removal mechanisms in aerosols.

Finally, particle control in liquid handling systems will be presented. The effects of stabilized distribution, particle shedding from components, and other factors affecting the cleanliness of process liquids will be addressed.

Speaker Bio:

Mark Litchy works as an R&D engineer for CT Associates, Inc. in Bloomington, MN. He has several years of experience in particle measurement and control in high purity liquid chemicals and gases, surface contamination, and CMP slurry characterization. He has an MS in Mechanical Engineering from the University of Minnesota and a BA in Physics from St. John's University. He has authored or co-authored more than 15 publications and presentations.

Full Day Program - Coming in March Biomedical and Biotechnology Spring Event

The Particle Society of Minnesota is pleased to announce our spring program dedicated to current particle related issues in the constantly growing Biotechnology/Biomedical industry. This event will feature experts from a variety of disciplines offering the latest information on the challenges faced using particle technology in this field. Preliminary topics include:

Characterization and Exposure to Particles
Controlled Release Technologies and Processes
Wear Debris Issues of Implantable Medical Devices
Dosage
Bio-inspired Nanotechnology
Inhalation Toxicology

This will be a day-long event at a local venue and will include lunch, inter-disciplinary interaction and a variety of industrial vendors offering products and services relevant to your field. More information will be sent out after the first of the year, but please feel free to contact Debbie Paetznick at dpaetzni@umn.edu if you have any immediate questions.

Other Upcoming Events

Friday, December 10th 2004

U of M IGERT for Nanoparticle Science & Engineering:
<http://www.nanoigert.umn.edu/News.htm> for more info.

Philippe Buhlmann, Assistant Professor Department of Chemistry, University of Minnesota

Title: CHEMICALLY SELECTIVE IMAGING WITH SCANNING
TUNNELING MICROSCOPY USING
CHEMICALLY MODIFIED TIPS

Friday, December 10th 2004

U of M PTL - contact Xiaoliang Wang [wxl@me.umn.edu] for more info.

Time: 2:30- 3:30 pm.

Location: ME 1130

Title: Oxidation Kinetic Studies of Aluminum Nanoparticles: Use of Laser Induced Breakdown Spectroscopy as a Tool for Quantitative Spectrochemical Analysis

Wednesday, December 15th 2004

U of M Physics Department: <http://www.physics.umn.edu/news/colloquia.html> for more info.

Speaker: Robijn Bruinsma, University of California Los Angeles

Subject: Physics of Viral Self-Assembly

Company Profile - CT Associates, Inc. (CTA)

CT Associates, Inc. (CTA) is an engineering R&D firm founded in 1991 to focus on technical problems in particle technology and contamination control. Since then it has grown into a small, closely knit team of engineers who enjoy tackling tough technical problems.

Research and Development:

CT Associates provides creative research and engineering services to manufacturers who want to outsource portions of their R & D effort. These initiatives, such as product evaluation, product development and process design, are critical to product development/customer support but are either difficult or impractical to conduct in-house.

Our primary focus is in the field of filtration and contamination control in the semiconductor industry; however, our diverse chemical engineering and particle technology expertise has been invaluable to clients in biotechnology, ink-jet printing, fluid measurement and delivery, environmental engineering and other fields. We provide engineering expertise in the areas of:

- particle measurement in high-purity liquids
- contamination control
- filtration
- slurry characterization
- permeation

Testing Services:

The methodologies developed in our R&D projects have also evolved into a specialized testing service. CT Associates offers a unique series of tests developed in house to support our R&D activities. The tests were developed when standard methods were inadequate. We provide data to supplement in-house R&D, third-party certification of product performance, and field performance data. Particle testing services include a measurement of product cleanliness under steady state and dynamic conditions, particle characterization in process liquids, and filter performance evaluations in liquids. Other testing services include reliability, extraction, and permeation testing of products in ultra pure water, acids, and solvents.

For more information about CT Associates, please visit their website at:

www.ctassociatesinc.com.

If you have a suggestion for the next company profile, please email Sara at sgantner@bepex.com