The Chemical Consultant

Association of Consulting Chemists and Chemical Engineers, Inc.
Scientific, Engineering, Business & Management Consultants

Volume 35-1
January-April 2023

The Association of Consulting Chemists & Chemical Engineers (ACC&CE) is a network of senior-level consultants with a broad range of functional expertise and many years of experience in the chemical and allied industries.

The purposes of the organization are:

To offer prospective clients a "clearing house" which they can use to find the most qualified consultants, whatever their particular problem may be.

To furnish support to its members as they conduct their consulting practices.

This newsletter is intended to support those purposes as well as to educate prospective new members and prospective client organizations about ACC&CE, and how we can be most helpful to them.

The ACC&CE has an interactive website **https://chemconsult.org** that allows prospective clients either to input their problem or to search for those consultants most skilled their area of concern. The LinkedIn page is also active now and accessible to all.

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FUTURE MEETINGS

All members are invited to attend.

Council Zoom Meetings to be announced

ACC&CE Officers & Leaders

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https://youtu.be/e027r5vWSMQ

LETTER FROM THE PRESIDENT

Alfred A. Sagarese, President of ACC&CE
Certificate # 955

This is my first letter to the membership. I am honored to be the president for the next 2 years. I was introduced to ACC&CE by my friend Joe Porcelli – we were both Board members of Société in NYC. My new role for ACC&CE began in October 2022. Before this time, I was chair of the program committee. In that chair, I was able to use my extensive network of contacts, which included accessing individuals from the following sources:
Institute of Management Consultants [IMC] –I was President of the NJ Chapter for over nearly 10 years; and I now belong to the Philadelphia chapter. Also, I served on the IMC National Board for 3 years.
Société de Chimie Industrielle – I was a long-time member -- VP Finance for 7 years.
Princeton Independent Consultants since 2001.
Former colleagues: Forrestal Consultants, Strategic Analysis and Butler University.

The first 6 months have been a work in process. We have had to adjust to the needs of ACC&CE:

We have asked Heather Wahab to assume the role of membership chair/ vetting of new members. Dick Schauer is helping Heather in the transition. We thank Dick for his many years as membership chair.
John Fetzer, formerly of Chevron R&D., has taken over the program committee from me.
Charlie Leonard has joined the Council and will be transferring his web duties.
We have asked Kerry Wolfe to act as a third-party consulting person to review our legacy website. It needs modernizing. Steve Duerr has offered to be our webmaster. Steve is the long-time treasurer. Also, he manages the membership lists and has offered to take on some of the tasks performed by Lori Powers, our former administrative person.

For people that want to know more of my background, a YouTube presentation is included. This presentation was given originally to ACC&CE when we were active in the Chem Show in NYC pre-pandemic. + The link below combines a slide show and a blog broadcast, which is an interview outlining my work career:

https://youtu.be/e027r5vWSMQ

EDITOR'S LETTER

As a result of a recent decision by the ACC&CE Board of Directors, the position of Newsletter Editor has become the de facto job of the Immediate Past President of the Association. It parallels the role of the incoming Vice President to serve as Program Chair. In this way the Presidential succession provides valuable support to basic needs of the Association members and also provides opportunities for Association leadership to extend their expertise beyond their terms as President. I look forward to taking over the editorship of this Newsletter.

In this issue the current President, Al Sagarese, gives his views on the state of the Association and his ideas for building a growing future. John Fetzer, Vice President will outline his plans for a set of interesting programs for the rest of 2023. His first program delivered by Greg Mehos was the most watched program in recent ACC&CE history with 21 people attending the Zoom presentation. In this issue Greg outlines some of the key takeaways from his presentation.

Council member Marvin DeTar has been working diligently to build up ACC&CE presence on the LinkedIn platform. Contact Marvin if you want to assist him in his efforts.

As usual, we provide a vehicle for members to advertise their consultant specialties in the form of advertisements in this newsletter. We help clients in many ways not directly tied to chemical knowledge We welcome anyone to use the Newsletter to promote their business. Our mailing list is over 200 professionals-many of whom are key decision makers.

Richard Goodman
Member # 747

Webinar Summary by Greg Mehos - Member #989

Compared to fluids, engineers' and scientists' training and education in powder handling is lacking. Perhaps that is why it is often easy to identify which lines or equipment in a chemical plant handle solids – they are the ones with all the hammer marks!

Fortunately, powder flow behavior and the design of reliable bins and hoppers are straightforward once the powder's fundamental flow properties have been measured. These properties are (1) cohesive strength, (2) internal friction, (3) compressibility, (4) wall friction, and (5) permeability. Andrew Jenike developed test methods for measuring these properties and design procedures based on fundamental engineering principles.

To prevent obstructions to flow in a bin or hopper, the external stresses on the powder at its outlet must be greater than its cohesive strength. Jenike's analysis allows the minimum outlet dimension to be calculated or it can be used to determine if an existing storage vessel will discharge a new powder.

To allow flow along the walls and prevent ratholes, the walls must be steep enough given the wall friction. The flow pattern in which all powder flows when a valve is opened or feeder is started is called mass flow. Jenike's analysis allows the recommended hopper angle for mass flow to be determined.

Powder dilates as it flows toward the hopper outlet, causing the void fraction to increase and vacuum to develop. The negative pressure gradient causes air to flow counter to the solids, disrupting flow. Permeability and compressibility test results can be used to size the outlet to give the desired steady solids discharge rate.

The equations used in Jenike's analysis are rather serpentine and have more Greek characters than an Athens post office. Fortunately, the formulas can be entered into spreadsheets, which allows the iterative calculations to be easily performed.

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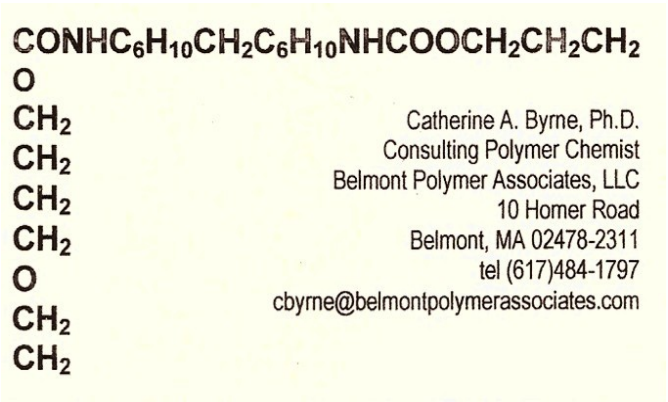

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This newsletter issues three times and for special situations, four times a year, and advertising is sold on an annual basis, with ads appearing in each issue. Advertising is open to all members, and nonmember ads will be considered on a case-by-case basis. The price list for advertising is as follows:

Business Card Size (2.0 x 3.5 inches)	$50/year
Larger Size (3.0 x 5.0 inches) -	$90/year
Half-page—	$250/year
Custom size and features—	pricing upon request

To discuss advertising with us, please contact:

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THE CHEMICAL CONSULTANT

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