

Portland Section Meeting Notice

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November 2019

2019 November 14 Meeting Notice

COLORANT CHEMISTRY

a talk presented by

Jeffery Banning, Ph.D.

Principal Scientist, 3D Systems

7:45 PM Thursday November 14, 2019

Reed College Vollum Lounge

3203 SE Woodstock Blvd, Portland, OR 97202

[map](#) (use East Parking Lot; Vollum is number 37 on map)

[Dinner Reservations—Dinners are \\$20 for early reservation](#)

Dinner reservations FIRM deadline **9 AM Friday Nov. 8**

Please Note: Reed College catering requires reservations one week in advance.

Prices increase to \$25 after the deadline! (including at the door)

Schedule: 6:00 pm social with SEED Student Poster Session • 6:45 pm buffet dinner • 7:45 talk

Portland Section webpage <http://www.acsportland.org>



Jeffery Banning

Abstract: Colorant Chemistry

Very little research is being conducted in the traditional (textile) dye industry. Instead, most dye research effort is being conducted in the modification or “tuning” of existing dyes, or dye classes in terms of shade, solubility, fluorescence, chromism and/or reactivity - often referred to as “functional dyes”. The talk is intended to assist in understanding such tuning processes. Starting with the concept of a light interact-

ing with a prism, the talk will guide the attendee to an understanding of additive and subtractive coloration, further explaining the cause of coloration of a dye or pigment, and continuing on to the area of structure/property (color) relationships. A cursory understanding of how one develops strategies for tuning/tailoring the shade and other physical and chemical properties of a dye will emerge throughout the course of the talk.

Bio: Jeff Banning

Jeff Banning is a Principal Scientist with 3D Systems Inc. He has worked in the areas of dye, polymer, and organic synthesis as well as coatings and ink formulation at Milliken Chemicals, the BIC Corp., Tektronix Inc., Xerox Corp [where he was a Xerox Fellow] and Penford Products Corp. He holds over 150 US patents in these areas and has scaled-up many dye intermediates and dyes, leading to many commercial products and several product lines.

Jeff began his career in color chemistry at Milliken Chemicals. It was there that he learned the “tricks of the trade” under many outstanding organic dye and textile chemists, as well as with frequent interactions with 2 world renowned dye chemist consultants: the late Max Weaver of Eastman Chemicals and John Griffiths (retired) of the University of Leeds. Jeff received a B.S. in chemistry from Mankato State University in 1983, and a Ph.D. in organic chemistry from the University of North Dakota in 1987.

Three Teachers to receive OilExTech, LLC Microwave Distillation kits

During NORM 2019 ten teachers participated in a workshop presented by Dr. David Hackleman, Oregon State University. Dr. Hackleman demonstrated his [microwave distillation system](#) used to extract essential oils from fresh botanicals such as rosemary, orange peel, and lavender.



OilExTech, LLC extraction device demonstrated during Teacher workshop 6/16/19 at NORM 2019. (Dibblee)

The ten teachers were asked to complete a survey describing how they would integrate and use the kit in their classroom if they were awarded a kit. Three teachers responded to the survey and each wrote a short proposal on how the kit would be used. An ACS grant provided funds to buy three of Dr. Hackleman’s distillation kits, each kit enough for a class of 24 students. The three teachers who responded to the survey each will receive a kit at the upcoming Portland Section meeting November 14. The three teachers are Emmely Briley of Molalla High School; Neil Ford from St. Helens High School; and Gina Portillo from Valley Catholic School.

Compared with classical steam distillation, [OilExTech](#) provides a safe, high-quality distillation procedure in less than 10 minutes with cleanup in a dishwasher. The totally enclosed microwave system reduces risk of steam burns and fire hazard. Furthermore, independent research has shown that microwave extracted oils are higher quality than conventional steam distillation.