



PITTSBURGH SOCIETY FOR COATINGS TECHNOLOGY

JANUARY 10, 2011

TOPIC: Coatings for Medical Device Applications

SPEAKER: Paul Nowatzki

PLACE: Meadows Harmarville, PA

TIME:

Board Meeting	4:00 pm
Happy Hour	5:00 pm
Presentation	6:00 pm
Dinner / Meeting	7:00 pm
Adjourn	8:00 pm



COST: Members: \$30 w/reservation / \$35 at door / Retired/Job Seekers: \$10

RESERVATIONS:

Please contact Debra Longhini by January 7, 2011
at longhini@ppg.com or 412.434.2236

A MESSAGE FROM THE PRESIDENT

On behalf of Pittsburgh Society for Coatings Technology, I would like to wish a Happy New Year to all of PSCT members and their families. I wish that 2011 enables all your dreams come true.

We will not have a speaker for February. The second Monday of the month is Valentine's Day. We thought we will keep you guys with your loved ones and not create a conflict. The speaker for January is Paul Nowatzki. He is from Bayer's Functional Films and Smart Surfaces Group. This is one of the areas where both coatings science and industry are heading towards and I thought it will be nice to hear where they think we will be in the future.

The Steelers are in the playoffs again. Enjoy the playoffs at stay warm. GO STEELERS!

Abdullah Ekin

PSCT President 2010-2011

SPEAKER'S BIO:

PAUL NOWATZKI completed a B.S. in Chemical Engineering at the University of Minnesota in 1999 and did research there on reactive polymer blends. He earned a Ph.D. in Chemical Engineering at the California Institute of Technology in 2006, having investigated the physical properties of artificial proteins genetically engineered for medical device applications like vascular grafts and corneal implants. He has worked at Bayer MaterialScience since 2006, initially in R&D inventing new antimicrobial materials, and since 2009 in business development for the Baymedix medical coatings product line.

ABSTRACT:

The medical device industry uses coatings for many purposes, employing both products intended for general use and those with unique properties specific to medical applications. Medical devices that use coatings include stents, catheters, guidewires, sensors, and implanted devices. Medical device engineers and designers need coatings that are biocompatible, biostable, hemocompatible, lubricious, antimicrobial, and/or durable. This talk will present examples of how polymer architectures relate to suitability for medical use. For example, hydrophilic groups can enhance coating hemocompatibility, but often reduce physical properties. Effective drug-eluting coatings have both release control and long-term biocompatibility. Successful biostable materials resist both hydrolytic and oxidative degradation. Some challenges and opportunities of supplying coatings to the medical device industry will be discussed.

<http://paintsociety.org/>



DECEMBER MEETING

The December meeting was held of Dec 13, 2010 at Bayer's headquarters in Robinson with twenty people attending. We wish to thank Bayer for their hospitality in hosting this event and Gary Balint of Lanxess for his informative presentation on iron oxides. The IRS has accepted our tax return and Debbie has submitted the form to officially change our name from Pittsburgh Society for Paint Technology to the Pittsburgh Society for Coatings Technology.

MEMBERSHIP RENEWAL

Current membership is 64. It is that time of the year for membership renewals. Terry Scheftic is our membership chair. You can contact him to renew your membership at tscheftic@ppg.com or at 724-274-3337. You will also be getting paper copies of membership renewal form for those who have not renewed their membership yet. If you renewed online please confirm your status with Terry.

PAINT POT

The winner was not present and the pot rolls to \$50 for the January meeting at Harmarville.

MEETING SCHEDULE

For the remainder of this season the PSCT will alternate meetings between the Meadows in Harmarville and the Spaghetti Warehouse in the Strip district of Pittsburgh. For future meetings at the Spaghetti Warehouse a microphone and sound system will be used to try to overcome the noise from the kitchen.

January 10	Meadows
February	No Meeting
March 14	Spaghetti Warehouse
April 11	Meadows
May	Spouses outing

Tim Hurley graciously volunteered to plan the season ending outing again. We are in luck as he did a very good job last year in picking the Hofbrahaus. If you have any suggestions for this year please contact Tim at thurley@ppg.com.

EDUCATIONAL TOUR

Tim Knell met with a student member of Carnegie-Mellon's Chemical Engineering Club. She is taking the Colloids, Polymers, and Surfaces program which I am sure most of you are familiar with and some of you may even have taken a few of these courses. They are looking for field trip opportunities to local chemical and / or coatings companies to see how what they learn is school relates to the industrial world. This is a perfect opportunity to reach out to younger people and fulfill our goal of providing coatings related education. If your company or you know any local chemical facility that might want to host a tour of a plant or lab, please contact Tim Knell at tknell@shorecorporation.com.

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UPCOMING EVENTS:



February 28 - March 4, 2011
New Orleans, Louisiana

<http://www.psrc.usm.edu/waterborne/>



http://www.paint.org/meetings/coatings_tech.cfm



<http://www.paint.org>

AmericanCoatings NEWS ASSOCIATION

Impact of Revised Green Guides on the Coatings Industry

January 20, 2011

1:00 pm to 2:00 pm (ET)

Instructors:

Stacey-Ann Taylor and Steve Sides CIH, MS - ACA

The Federal Trade Commission (FTC) has released an updated draft version of its Green Guides that are used by the agency to enforce environmental marketing laws and unfair and deceptive product labels and advertising. Recent press statements attributed to FTC officials indicate that the guides could render many of the current "green product" and "green building" standards useless. They could also stymie the efforts of many retailers to establish some form of procurement system based, at least in part, on green marketing claims.

The guides will call for tighter standards for packaging claims such as "recyclable" or "biodegradable" and regulate how marketers can use terms such as "carbon neutral".

ACA has been actively following the development of FTC's Green Guides over the past four years, and participated in the workshops the commission hosted to understand how industries were approaching the matter of product labeling in general, and environmental marketing claims specifically.

Basics of Coatings Adhesion

January 27, 2011

1:00 pm to 2:00 pm (ET)

Instructors:

Jamil Baghdachi, Eastern Michigan University

One of the least understood phenomena and most challenging issue in coatings and allied science and technology is the adhesion of coating films to various surfaces. To perform as a coatings, virtually all coatings must adhere to a surface as long as it is desired. In this one-hour Virtual Learning Conference, a qualitative overview of the adhesion phenomena, surface characteristics, and factors affecting and controlling adhesion of coatings to various substrates including metals and plastics will be discussed. In addition, fundamentals of the chemistry and physics of adhesion as well as measurement techniques and methods of improving coating adhesion will be presented.

Concrete Coatings

March 10, 2011

1:00 pm to 2:00 pm (ET)

Instructors: Mike Praw, BASF

Course Description

This webinar will discuss the current available technologies for concrete coatings as well as low VOC technologies and options. With environmental regulations and advances in dispersion and emulsion technologies, chemists and formulators are confronted with several and confusing choices. We will help provide chemists and formulators with a better understanding and assess performance balance for concrete substrates. Benefits and performance properties of the current and newer technologies are presented together with several practical options.

Concrete coatings are an extensive subject that encompasses a wide variety of protective, functional and decorative coatings. The choice of coatings is determined by the substrate (concrete) condition, environmental issues and the desired performance properties. Whatever the ultimate purpose of the coating may be it is crucial that we understand Concrete as a substrate as well as its proper surface preparation.

Concrete is most commonly used building material, it is a mixture of water, Portland cement, aggregates (sand, gravel), pozzolans (soda ash) and air (added on purpose). Water in this mixture combines with cement to form a rigid mass called concrete. Usually concrete is strong, however environmental elements like water and UV attack the surface both physically and chemically. Concrete surfaces are porous and often exposed to water, UV and environmental conditions. Physical attacks cause cracking; concrete being porous, water is absorbed and released within the concrete and causes spalling or cracking. Therefore it is necessary to protect its surface from deterioration and contamination by applying a coating. Surface preparation is also of prime importance to the durability and adhesion of applied coatings.

In the recent years decorative coatings for concrete have gained popularity and are primarily based on acrylic emulsions. Emulsions include pure acrylic, acrylic styrene, epoxy acrylic, and vinyl acrylics. This technology also provides protective

CONTINUED ON NEXT PAGE

and functional value - chemical resistance, good corrosion and weathering resistance, alkali resistance, abrasion resistance, dirt pick-up resistance and good gloss. Most of the 1K pigmented commercial coatings fall in to this category.

Advanced Environmental Management Systems

March 24, 2011

1:00 pm to 2:00 pm (ET)

Instructors:

Steve Sides CIH, MS and Dave Darling PE, MS, American Coatings Association

Leading companies and organizations have increasingly begun to use Environmental Management Systems (EMS) to organize and administer an ever-expanding slate of site, facility and firm-related environmental performance requirements. Traditionally, most EMS requirements have focused on bolstering compliance with existing legislation and regulation. Recently, however, more advanced EMS have moved "beyond compliance" to embrace broader performance objectives. These broader objectives include those emanating from corporate sustainability initiatives, output from expanded life-cycle assessments (LCA) of manufacturing activities, and assessment of facility/location-specific ecosystem impacts. This VLC will provide a brief review of the most active EMS constructs in the coatings industry, ISO 14001 and Coatings Care®, provide information on the business value that has accrued to current participants, and the associated changes in environmental performance that can be expected. New and creative initiatives that are expanding the boundaries of traditional EMS will also be detailed, and the demise of some longstanding EMS-related initiatives will be chronicled. Participants will also gain perspective from short, illustrative case studies of participants from different industry EMS.

Coatings Rheology I - Fundamentals

April 7, 2011

1:00 pm to 2:00 pm (ET)

Instructor:

Raymond Fernando, California Polytechnic State University

Scientific approach is very common today in R&D and technical problem solving related to a wide range of coating issues. However, trial-and-error is still the most prevalent approach when it comes to addressing rheological issues. Often, major problems related to rheology do not come to surface until scale up of laboratory formulations. A trial-and-error approach is very resource-intensive, especially during the scale up stage. Prerequisites for the scientific approach are the combined knowledge

of how coating formulation ingredients and their interactions impact rheological properties (structure/property relationships), and how these properties impact real-world flow behavior (property/performance relationships) of coatings during mixing, pumping, application, and flow and leveling, etc. This two-part course is designed to provide coating formulators with the necessary foundation for both of these aspects.

This course covers important rheology parameters (viscosity, shear-thinning, thixotropy, viscoelasticity, etc.) and their measurement. How these parameters are related to various formulation aspects is discussed.

Coatings Rheology II - Applications

April 14, 2011

1:00 pm to 2:00 pm (ET)

Instructor:

Raymond Fernando, California Polytechnic State University

Scientific approach is very common today in R&D and technical problem solving related to a wide range of coating issues. However, trial-and-error is still the most prevalent approach when it comes to addressing rheological issues. Often, major problems related to rheology do not come to surface until scale up of laboratory formulations. A trial-and-error approach is very resource-intensive, especially during the scale up stage. Prerequisites for the scientific approach are the combined knowledge of how coating formulation ingredients and their interactions impact rheological properties (structure/property relationships), and how these properties impact real-world flow behavior (property/performance relationships) of coatings during mixing, pumping, application, and flow and leveling, etc. This two-part course is designed to provide coating formulators with the necessary foundation for both of these aspects.

Focusing on key rheological properties that control their application behavior, this course will examine a number of real-world scenarios to emphasize important principles.



www.paint.org/meetings



Carl J. Alessandro
Senior Technical Sales Representative

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Pittsburgh Society for Coatings Technology
2010-2011 Hiram P. Ball Memorial Scholarship Application
APPLICATION DEADLINE: MARCH 31, 2011

Applicant: _____
Address: _____
Phone: _____ Fax: _____
Email: _____
Present School/University _____
Class Status: _____
(GRADUATING HIGH SCHOOL SENIOR, COLLEGE: FRESHMAN, SOPHOMORE, JUNIOR, SENIOR)
College / University (2010-2011): _____ Grade Point Average: _____
(ATTACH COPY OF TRANSCRIPT)
Major Course of Study: _____
PSCT Sponsoring Member: _____
PSCT Member Company: _____

ALL APPLICANTS: Please complete a short statement explaining how the course of study you are following will allow you to reach your career goals. It should also include comments regarding the student's participation in on academic areas such as community service, etc. (extra sheets may be attached). **NEW APPLICANTS** are requested to submit character references from teachers, clergy, employers, professionals, etc. who are familiar with the student's goals and aspirations.

Signature: _____ Date: _____

Return to: Mark Harley, PSCT Education Chairman
530 – 6th Street
Oakmont PA 15139

REQUIREMENTS

- The PSCT Board of Directors will determine the total amount of scholarship money to be awarded each year.
- The maximum dollar amount of each scholarship will be \$1500. Scholarship money will be awarded equally to students as recommended by the Scholarship Committee.
- Scholarship awards are to support undergraduate studies of full time students only en-rolled in an accredited college or university seeking an associate or bachelor degree.
- Scholarships may be awarded to any one given applicant a maximum of four times.
- Applicant must be the child of an actively participating PSCT member. An actively participating member is current with dues. The member must also attend at least four (4) PSCT meetings a year or serve on a PSCT committee (e.g.: Fund Raising, Newsletter, Membership, Education, Program, etc)
- Scholarships are limited to one award per applicant per member per year.
- Applicants must submit a Hiram P. Ball Memorial Scholarship Application which in-clude: a short essay explaining how the course of study will allow the student to reach their career goals; current GPA; name of sponsoring PSCT member; name of univer-sity or college that they are attending; and two character references. Students cur-rently receiving scholarships will not be required to submit references, however they must submit essays regarding their educational progress.
- Applicants must maintain a 2.5 (out of 4.0) grade average.
- The Scholarship Committee will consist of five PSCT Members who do not have a child or relative applying for a scholarship.
- COURSE OF STUDY: Although all courses of study are open, students are encouraged to pur-sue scientific, engineering or math-ematical programs that lead to employment in the Coat-ings Industry.
- CHARACTER REFERENCES (examples of those who know the student and their goals)
 - Teachers
 - Clergy
 - Employers
 - Neighbors/Friends
 - Professionals (doctors, business people)

PSCT Membership Application and Dues Renewal Form for 2010-2011

1. MAILING ADDRESS:

Name: _____

Company: _____

Address : _____

City: _____

State/Prov: _____ Postal Code: _____

2. CONTACT INFORMATION:

Work Phone: _____

Fax: _____

Toll Free: _____

Home Phone: _____

Email: _____

3. MEMBERSHIP DUES

☐ Primary Full Membership \$30

☐ Secondary Full Membership \$30

☐ Student/Educator \$5

☐ Retired Member \$5

*Please indicate primary society membership: _____

5. PAYMENT INFORMATION:

☐ Check payable to PSCT

6. SIGNATURE AND DATE: (Required)

Signature: _____ Date: _____

7. RETURN FORM AND CHECK

Terry Scheftic/PPG Industries, Inc.
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tscheftic@ppg.com

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PSCT OFFICERS FOR 2010-2011

PRESIDENT
Abdullah Ekin
Bayer Material Science
100 Bayer Road
Pittsburgh PA 15205-9741
412-777-2703
abdullah.ekin@bayer.com

VICE PRESIDENT
Timothy Knell
Shore Corporation
2917 Spruce Way
Pittsburgh PA 15201-1508
412-471-3330
tknell@shorecorporation.com

SECRETARY
Gary Balint
Lanxess Corp.
8 Morgan Road
Burgettstown PA 15021
412-809-4735
gary.balint@lanxess.com

TREASURER
Debra M. Longhini
PPG Industries, Inc.
One PPG Place
Pittsburgh, PA 15272
412.434.2236
longhini@ppg.com

PAST PRESIDENT
Cyndy L. Sherman
PPG Industries, Inc.
151 Colfax Street
Springdale PA 15144
724-274-3409
clsherman@ppg.com

DIRECTOR AT LARGE
Peter Chakos
Neville Chemical Co.
2800 Neville Road
Pittsburgh PA 15225
412-777-4244
pchakos@nevchem.com

REP. TO ACA SOCIETY LIAISON COMMITTEE
James A. Wasik
PPG Industries, Inc.
151 Colfax Street
Springdale PA 15144
724-274-3307
wasik@ppg.com

MEMBERSHIP
Terry Scheftic
PPG Industries, Inc.
151 Colfax Street
Springdale PA 15144
724-274-3337
tscheftic@ppg.com

EDUCATION & SCHOLARSHIP
Mark Harley
530 6th Street
Oakmont PA 15139
412-828-2568

BYLAWS
Raymond Stewart
Bayer MaterialScience LLC
100 Bayer Road, Bldg. 8
Pittsburgh, PA 15205
raymond.stewart@bayerbms.com

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