

## Smart Coatings: Update on Current & Future Opportunities

A 90 min online short course  
by Mike Clingerman



To register, please visit:

<http://coatings.specialchem.com/online-course/1127-Smart-Coatings-Innovations>

The coatings industry is rapidly changing with an **increasing need** for coating formulations and components that actively respond to the environment in a predictable and useful manner. But what are “**smart coatings**” today? What is commercialized? What are the next functionalities to come?

Get clear on your **development and business opportunities** with smart coatings by reviewing:

- **Current state-of-the-art:** micro-encapsulated self-healing materials, air-cleaning coatings ...
- Latest **formulation strategies** to make smart coatings more affordable
- The next **concepts to be commercialized:** Electrically tunable, self-replenishing ...

### Why you should attend:

1. **Save time** mapping smart/Functional coatings opportunities with a 1 hour **update** by an independent expert covering both **technology & applications**
2. **Capture fresh ideas** by reviewing successful **formulation strategies** to get an active response to environment changes (temperature, pH, light...) at a lower price
3. Improve your competitiveness with **emerging materials** (carbon nanotubes, nano-clays, microcapsules...) that lend "**smart**" **properties** to coatings



## Who is it for?

**Formulators, Scientists & Managers** willing to keep up with latest innovations & unmet technical challenges in the coating market.

## Outline

Mike Clingerman closely followed developments in smart / functional coatings over the year (conferences, publications...). He will present & comment the following

- 1. Definition of Smart Coatings**
- 2. Categories of Smart Coatings**  
self-assembling, conductive, anti-fouling, self-repairing, corrosion indicating...
- 3. Examples of Smart Coatings**  
conductive, anti-corrosion, medical, anti-icing...
- 4. Components for Smart Coatings**  
carbon nanotubes, nano-clays, microcapsules, binders...
- 5. Commercialization trends**
- 6. Concluding remarks**
- 7. Acknowledgements**

At the end of the training there will be a **Q&A Session** where you can pose questions to Mike Clingerman.

A transcript of all the questions & answers will be made available after the event.

## Presented by Mike Clingerman



Michael Clingerman has over 30 years experience in a range of polymer, coatings, adhesives and sealants arenas. Mike earned his PhD in Synthetic Organic Chemistry at *The Ohio State University* and went to *DuPont* to begin his career. In eight years at DuPont, he developed formulations and designed polymers for low VOC automotive topcoats, participating in all stages of commercial development and scale-up. Mike's next professional stop was 15 years at *Ashland* where he invented/developed new adhesives and sealants for construction; rapid cure urethanes for composite parts; and binders for foundry applications. From Ashland, Mike worked for 8 years at *Battelle Memorial Institute*, where projects included the invention of a polymer, largely bio-based, for low temperature powder coatings (a 2008 R&D 100 award winner); security coatings; and a recently patented "smart" adhesive for packaging.

For the last two years, Mike has pursued an independent strategy; winning grants for energy-related sealant work, helping companies sort out their technical needs as a "part-time" senior scientist, and teaching/presenting on technical topics related to organic or hybrid organic-inorganic applications.



## Past attendees feedback

Content: ★★★★★

Technical Level: ★★★★★

Speaker: ★★★★★

(114 evaluations)

**Tayo Y. , from Hewlett-Packard:**

"Excellent course! I learned so many new concepts!"

**Hong X. , from Cardolite Corporation:**

"It's very good to know current smart coatings available and future pictures."

**Tiffany P. , from Sherwin-Williams:**

"It provides a very good snapshot of state of the art with easy to follow leads- not easy to stay on top of all topics in addition to your regular life."

**Jurgen S. , from DSM:**

"Very nice overview and picked up a few useful thoughts."

**Luis M. , from Repsol:**

"Very well presented. Very deep knowledge of the subject. Provide useful supporting information for future smart coatings developments."

**Elizabeth Y. , from Baker Hughes Inc.:**

"A very good overview of the industry segment- 'smart coating'."

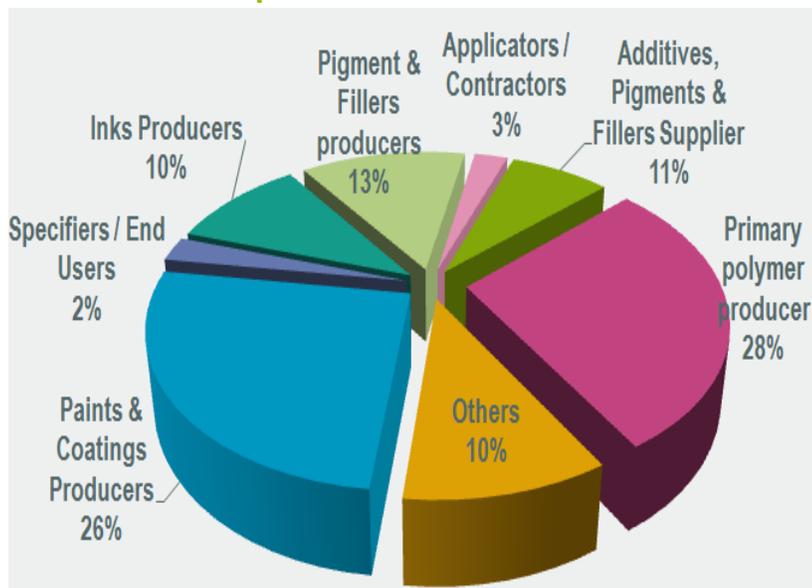
**Helena C. , from Rescoll:**

"The training was very easy to follow, in order to make a smart coating - and this is an area of much interest."

**Dan D. , from Essilor of America, Inc.:**

"This excellent course gave an up-to-date view of smart coatings and covered new developments very well."

## Past attendees profile



- R&D- Applied/Formulation/Prod. Dev. – 82%
- R&D Basics – 5%
- Sales/Marketing - 5%
- Consulting/Training/Education – 3%

Absolute Coatings Inc, Cray Valley USA, Rescoll, Domino UK, Temptime Corp, Wacker Chemie AG, FPInnovations, Teknos, Cytec, BASF, Momentive Specialty Chemicals, Baker Hughes Inc, Wacker Chemie AG...



**Next session: Wed. June 15, 2016** at 10 a.m. ET / 4 p.m. CET - [Your local time](#)

## Fee:

	Regular Access	Group / Multi Access
<b>Number of attendees</b>	Up to 3 attendees	Up to 10 attendees
<b>Number of connections</b> (1 Internet Access)	1 connection	Up to 3 connections
<b>Fee</b> ( <a href="#">Currency Converter</a> )	€ 290	€ 580

SpecialChem is not accountable for users' costs linked to participating in the online Course, including but not limited to the phone and Internet connection fees. We provide local phone numbers when available.

### Your registration includes:

- **Pdf slides** at least 24h before the live session
- **1h online short course** by an independent expert
- Live interaction with the expert during the **30-minute Q&A session**
- **Q&A Transcript** when you submit your feedback on the course
- **Expert contact details** to further discuss your projects

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- Our 500 000+ members from the chemical industry help us **tailor trainings to your needs**
- Our course catalogue has been refined over the years (since 2003) to improve **pedagogy & content quality**
- **2000 of your peers** are trained by us every year
- **97% satisfied attendees** in 2015

## Tips to optimize cost of attending

- 1- **Attend with your colleagues**: a REGULAR access allow 3 attendees sharing the same connection
- 2- Purchase **OC Credits** in advance, you can save
  - ✓ up to 30% with the 5 OC Credits option
  - ✓ up to 55% with the 10 OC Credits option.
- 3- Get a **12-month unlimited access** to all online courses – anyone from your company can use this access



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## Attending an Online Course is EASY !

