We will begin momentarily at 2pm ET

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Upcoming ACS Webinars

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Thursday, January 26, 2017

**Fighting Cancer: Targeting CNS Malignancy with Kinase Inhibitors**
Session 1 of the 2017 Drug Design and Delivery Symposium

Timothy Heffron, Senior Scientist, Genentech
Mark Wittman, Sr. Principal Scientist/Project Leader, Bristol-Myers Squibb

Thursday, February 2, 2017

**The Future of Flight: Advanced Renewable Jet Fuels**
Session 1 of the 2017 Industry Science Series

Stanley Frey, R&D Fellow, Chemical Process Development, Honeywell
Melody Bomgardner, Senior Business Editor, Chemical & Engineering News

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More Delicious Webinars!
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How to Make Chocolate for your Special Valentine: Flowers Bloom, Chocolate Shouldn’t

February 9, 2017

Have you tried making chocolates at home only to find that white hazy surface on your pieces the next day? That’s no mold; it means you didn’t temper your chocolate properly. Learn the chemistry of chocolate bloom by attending this webinar so you can wax your sweet with delicious handcrafted chocolates for Valentine’s Day.

What You Will Learn

• The multiple crystalline forms or polymorphs that cocoa butter creates
• How to control cocoa butter polymorphism to make great chocolate
• Why misstamping causes chocolate bloom.

Webinar Details

• Date/Time: Thursday, February 9 @ 2:30pm ET
• Fee: Free to Attend
• Download Slides: Available Day of Broadcast

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“Kitchen Chemistry: We’ve Got a Lot to Learn from Professional and Recreational Cooks”

Slides available now! Recordings are an exclusive ACS member benefit.

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The Kitchen Chemist

Matt Hartings
American University
hartings@american.edu
@sciencegeist

Communicating Chemistry

Engagement with Non-Scientists

Teaching Chemistry
What is the first step in the mechanism for the caramelization of sucrose?

- Sucrose bucruse
- Sucrose decomposition
- Sucrose aggregation
- Sucrose melting
- None of the above
Single pot reaction with defined output

Control over multiple reaction products

Monitor tricky reaction based on system color and consistency
**COOKING MEAT**

Actin – Unfolds at 66 °C (Well Done)

Muscle Fiber

Myosin

Unfolds at 58 °C (Medium)

Unfolds between 47 and 55 °C (Rare to Medium Rare)


What is perfect?
User defined

Protein Unfolding

Maillard Reaction
Internal Temperature = “Done-ness”
Speed at which you get there makes it interesting
Kinetics FTW!!

The Maillard Reaction is responsible for the browning in making which of the following dishes? (possible multiple correct answers)

- Toast
- Fried chicken
- Cookies
- Ceviche
- Steak
Give your food (and its prep) the time it needs

Pizza dough
Long rise time

Chicken
Dry brining

Chartreus Liqueur
Barrel Aging

Process Matters

Biomimetic spinning of artificial spider silk from a chimeric minispidrin


Image Credit: Lena Holm

Scientists Have Finally Figured Out How To Spin Artificial Silk

The Way Spiders Do

Process mimics spider silk spinning

Combining parts of silk proteins from various spider species improves production of artificial silk

(C) Coda Henry Aminual
Gluten, the protein network that defines the consistency of most baked goods, is held together with interactions that can be generally classified as:

- Hydrophilic
- Hydrophobic
- Even mix of both
- Neither
In bread dough, gluten forms throughout.

In laminated dough, layers of gluten are separated by layers of oil.

**PIE DOUGH**

- Coat flour with butter
- Streak the dough (fraisage)

Pie dough isn’t fully laminated, but the presence of small patches of flour separated by a thin layer of butter is what makes it flaky.
Great chemistry can and does come from many places. We chemists would be well served to do a better job of looking for chemistry where we might not expect it.
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