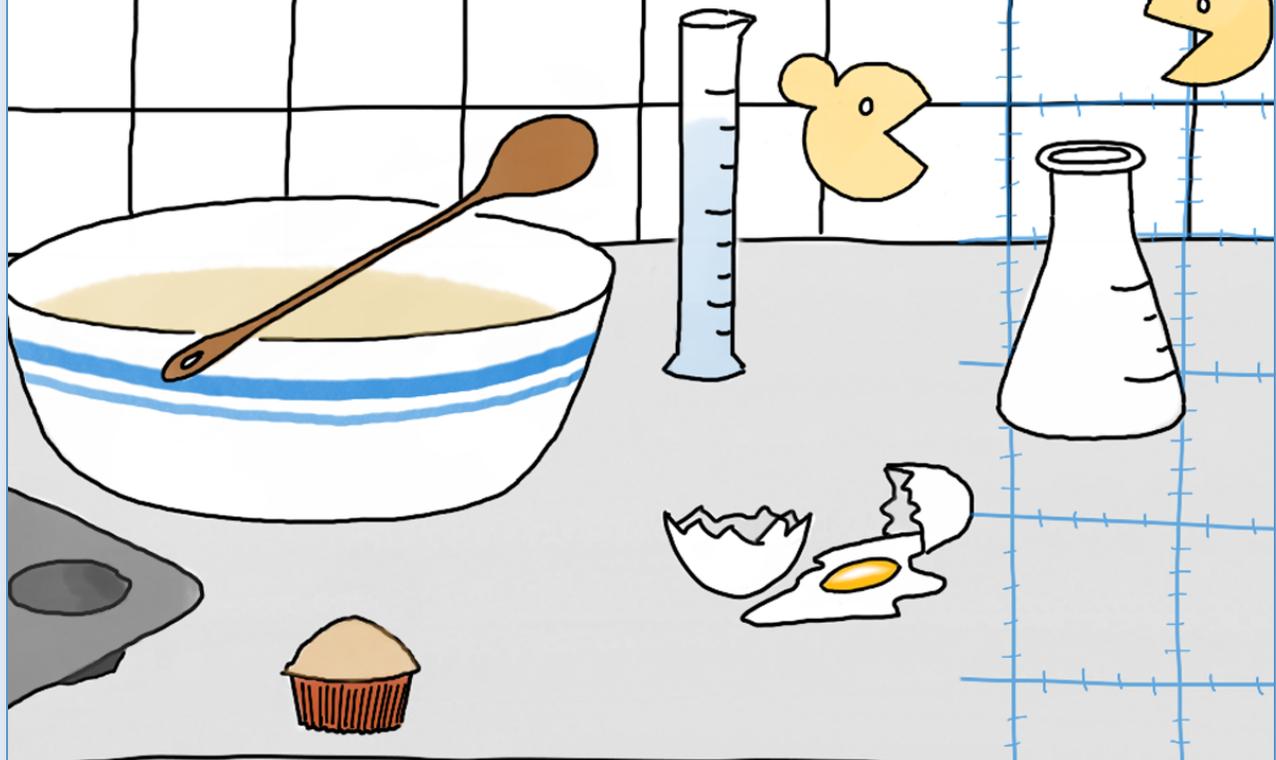




# From Microwaves to Microbreweries



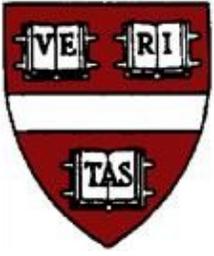
## The Science Behind Our Food

**Renee Geck and Chiara Ricci-Tam**

**Science In The News Seminar**

**October 18<sup>th</sup>, 2017**





# From Microwaves to Microbreweries: The Science Behind Our Food

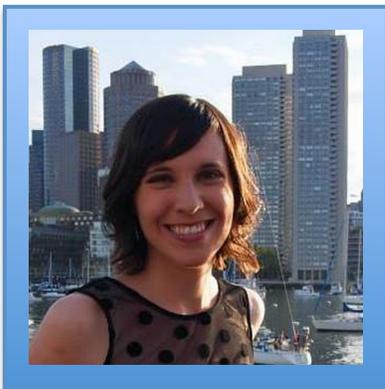
October 18<sup>th</sup>, 2017

## *Introduction*

We want our cakes fluffy, our bread crusty, and our beer frothy. But what is happening beneath the surface when we craft our favorite bakes and brews? Come learn about the science that goes into making cakes and breads rise, why it's so hard to bake anything in a microwave, and the microbes we use to make some of our favorite fermented drinks.

Following the talk, there will be a tour of Dr. Michael Springer's lab where they compare yeast DNA sequences to learn how different yeast strains respond to unique surroundings.

## *Speakers*



**Renee Geck** is a PhD Candidate in Biological and Biomedical Sciences, studying tumor cell metabolism. She spends a considerable amount of her spare time challenging her own metabolism with lots of baked goods as she experiments with new recipes. Sometimes she wishes she lived in the UK so she could try out for the Great British Baking Show, which she follows obsessively.



**Chiara Ricci-Tam** is also a PhD Candidate in Biological and Biomedical Sciences, studying how yeast make decisions in complex environments. In her spare time she is still surrounded by yeast as she tests bread recipes and samples beers. She is currently growing yeast she harvested from apples, and hopes it will make an amazing loaf of bread

## ***Glossary of Important Terms***

**Acidic vs. basic:** a measure of the chemical properties of substances that describes how they interact. Acids react when mixed with bases, and some of these reactions produce gas - for instance, the acidic vinegar and basic baking soda that react in a science fair volcano.

**Metabolize:** to consume a nutrient and convert it into energy and other nutrients; for example, yeast metabolizes sugar to produce energy, alcohol, and carbon dioxide gas.

**SCOBY:** Symbiotic Community of Bacteria and Yeast - a group of yeast and bacteria living together in a mutually beneficial way; the starter for kombucha tea.

## ***Resources to learn more***

### **Books:**

**The Science of Cooking: Every Question Answered to Perfect Your Cooking** by *Stuart Farrimond*

**Salt Fat Acid Heat** by *Samin Nosrat*

**Bread Science: The Chemistry and Craft of Making Bread** by *Emily Buehler*

**What Einstein Told His Cook** by *Robert L. Wolke*

### **Online:**

**Bootleg Biology yeast culture kits:** [www.bootlegbiology.com](http://www.bootlegbiology.com)

**BeerAdvocate's yeast guide:** [www.beeradvocate.com/beer/101/yeast/](http://www.beeradvocate.com/beer/101/yeast/)



### ***Follow the News - Science in the News***

#### ***Upcoming SITN Events***

October 23, Dr. Lee Rubin - Tapping into the fountain of youth:

Does the key to reversing the aging process circulate within us?

October 25, Here Comes the Sun: Harnessing the power of renewable energy

November 1, What Genes Cannot Tell: The role of epigenetics in determining who we are



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