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Speaker: Dr. Joerg Schlatterer, Manager, ACS Graduate and Postdoctoral Scholars Office, and Former NSF GRFP Program Director (2014–2017)

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Disappearing Spoon: Video Series

Each video in this classroom resource series tells the story of an element from the periodic table. The name of the series may be familiar to you because the video content has been adapted, with author involvement, from the widely popular book, The Disappearing Spoon: And Other True Tales of Madness, Love, and the History of the World from the Periodic Table of the Elements, by Sam Kean.

https://www.acs.org/content/aact/en/multimedia/disappearing-spoon.html
Next Month's Industrial Science Series Webinar!

Chemistry in Numbers: How to Master the Statistical Analysis of Laboratory Data

September 7, 2017 @ 2:00pm ET
Part eight of the 2017 Industrial Science Series

Everyone knows the importance of rigorous lab work, but that's not the first step. Experimental design should be employed at the beginning of your research because often once you have gathered the data it may be too late. Join us as Stanley Deming of Statistical Designs and Steve Morgan of the University of South Carolina share how to assess the quality of what you are collecting and improve the outcome of your statistical analysis by careful design of your experiments.

What You Will Learn
- How to create a confidence interval for the mean
- The importance of a narrow confidence interval
- What you can do to make the confidence interval narrower


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Thursday, August 17, 2017

Spinal Muscular Atrophy: Novel Approaches for Treatment
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Stephen L. Morgan, Professor, Department of Chemistry & Biochemistry, University of South Carolina
Bryan Tweedy, Manager, Office of Career and Professional Resources, American Chemical Society

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Chemical & Engineering News


Sam Kean's latest book explores the molecules we breathe

By Sam Kean

Breathe in. Statistically, that and every other breath you’ll ever take contains one of the roughly 25 sextillion molecules that Julius Caesar exhaled in his dying breath.

That mind-boggling fact sets the stage for author Sam Kean's latest book, appropriately titled "Caesar's Last Breath: Decoding the Secrets of the Air Around Us." Kean explores the components of the air we breathe with a stream of anecdotes about the science and scientists behind the molecules that make up our atmosphere. He takes the reader on a journey that winds through the early, fusty days on planet Earth to the atomic tests at Bikini Atoll, and from tumor surgery in a Boston operating theater to UFO landings in Roswell, N.M.

After his first book, "The Disappearing Spoon," about the elements, Kean took a break from chemistry, writing about genetics. 

“Caesar’s Last Breath and the Fascinating Science and History of the Air We Breathe”

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This ACS Webinar was co-produced by Chemical & Engineering News.

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http://samkean.com/books/caesars-last-breath
Earth’s Four Atmospheres

(1) wispy hydrogen & helium, a comb-over

**Audience Challenge Question**

ANSWER THE QUESTION ON BLUE SCREEN IN ONE MOMENT

**Where did Earth’s second atmosphere come from?**

- Microbes
- Comets/asteroids burning up
- Volcanoes
- Incoming space dust
Earth’s Four Atmospheres

(1) wispy hydrogen & helium, a comb-over

(2) searing, nasty ammonia, hydrogen sulfide, carbon dioxide
Earth’s Four Atmospheres

(1) wispy **hydrogen & helium**, a comb-over

(2) searing, nasty **ammonia, hydrogen sulfide, carbon dioxide**

(3) benign **nitrogen**, safe for life

\[
\begin{align*}
N_2 & \\
O_2 & \\
N_2 & \\
N_2 & \\
N_2 & \\
\end{align*}
\]
Earth’s Four Atmospheres

(1) wispy hydrogen & helium, a comb-over

(2) searing, nasty ammonia, hydrogen sulfide, carbon dioxide

(3) benign nitrogen, safe for life

(4) rise of oxygen, allowed complex life
What animals were affected most obviously by high levels of $O_2$?

- Reptiles
- Insects
- Birds
- Mammals
Why did Einstein’s fridge fail?

• He and Szilard had a fight
• Einstein got distracted with other work
• Chemists developed better coolants
• Nazis declared the patents null and void
25,000,000,000,000,000,000,000 molecules exhaled in every breath

vs.

each breath comprising 0.00000000000000000001 percent of the atmosphere
Chemical & Engineering News is a weekly magazine published by ACS.

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Sam Kean's latest book explores the molecules we breathe

By Sam Kean

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“Caesar’s Last Breath and the Fascinating Science and History of the Air We Breathe”

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New York Times Bestselling Author

Celia Arnaud
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