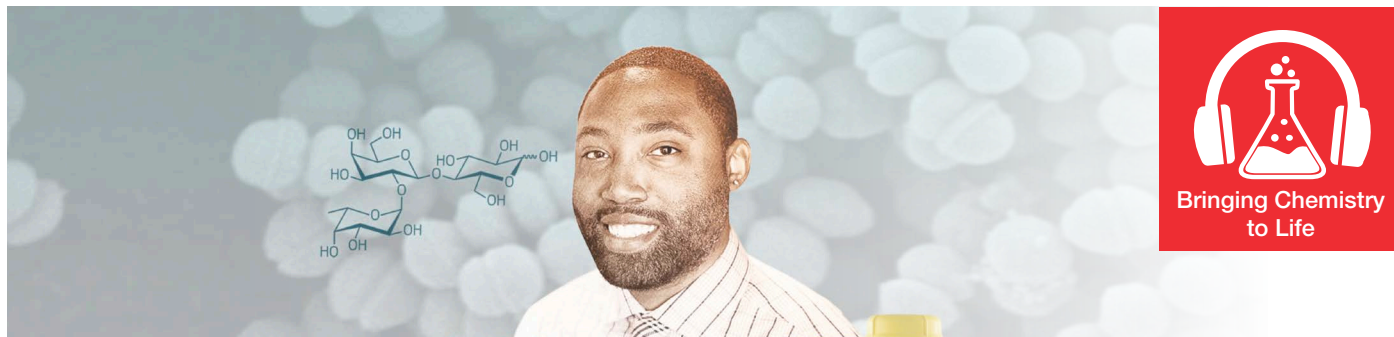


# Bringing Chemistry to Life podcast series

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## Season 1: The 2019 C&EN's Talented 12 Episode 1: Human milk; it's a matter of chemistry



### Episode abstract

Human milk provides both nutritional and non-nutritional components tailored to the specific need of the infant at all phases of growth. It is a wonderful example of personalized medicine and diet and its complexity is only partially understood. The oligosaccharides contained in breastmilk have only recently emerged as potent pro- and anti-biotics and they are proven to have effects on several other physiological mechanisms and biological pathways, such as the immune system.

We discuss with Dr. Townsend, a leading scientist in this field, about these special carbohydrates' properties, about their chemistry and the challenges of running ambitious multidisciplinary research at the interface between chemistry and biology.

Dr. Townsend takes us on a surprising journey of personal development and scientific progress that could lead to a revolution in nutrition, the design of novel antimicrobial and antifungal drugs and even re-think contraception.

### About our guest

#### Steven D. Townsend, PhD

Assistant Professor of Chemistry, Vanderbilt University

Steve's group sites:

<https://www.townsendchemistry.org/>

<https://www.vanderbilt.edu/chemistry/faculty/townsend.php>

C&EN's Talented 12 profile of Steve:

[https://cen.acs.org/biological-chemistry/natural-products/](https://cen.acs.org/biological-chemistry/natural-products/Steven-D-Townsend/97/i33)

[Steven-D-Townsend/97/i33](https://cen.acs.org/biological-chemistry/natural-products/Steven-D-Townsend/97/i33)

### Recent Publications from Steve's Group:

- [Two-step conversion of unprotected oligosaccharides to generate bioorthogonal oligosaccharide tool compounds](#)
- [Like mother, like microbe: human milk oligosaccharide mediated microbiome symbiosis](#)
- [An effective reagent to functionalize alcohols with phosphocholine](#)
- [Mother Knows Best: Deciphering the Antibacterial Properties of Human Milk Oligosaccharides](#)
- [Interrogation of Human Milk Oligosaccharide Fucosylation Patterns for Antimicrobial and Antibiofilm Trends in Group B Streptococcus](#)
- [Strategies and Tactics for Achieving Work–Life Integration as a Junior Faculty Member](#)

### Recommended Readings from Steve:

- [The Silent Patient](#) by Alex Michaelides
- [An Anonymous Girl](#) by Greer Hendricks

This podcast series is available via the following links



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