

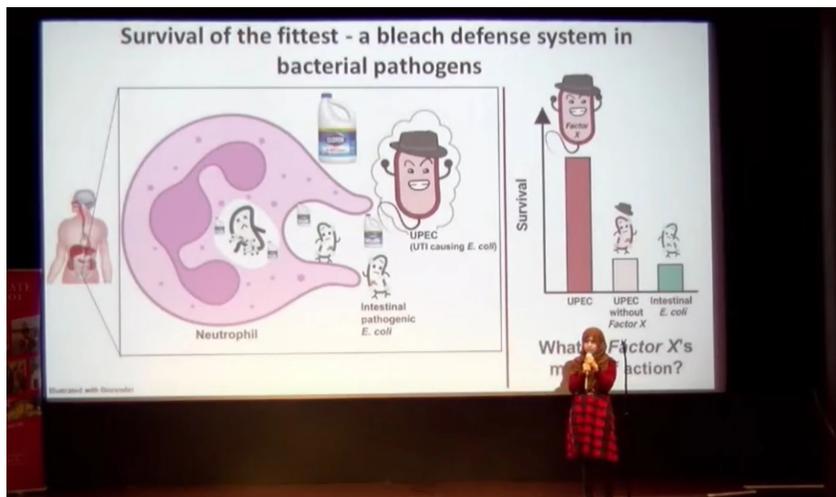
# Bleach, music, Western culture examined in ISU's 3MT competition

WGLT | By [Megan Spoerlein](#)

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Sadia Sultana won first prize at the Three Minute Thesis competition with her presentation, "Survival of the Fittest – a Bleach Defense System in Bacterial Pathogens."

Everyone is familiar with bleach. It's often used for cleaning and sanitizing, but did you know that it's also present in our bodies?

Illinois State University graduate biological sciences student Sadia Sultana dove into

WGLT  
World Cafe

the Feb. 23 event at the Normal Theater in Uptown.

Sultana focused on how different bacteria respond to the presence of bleach.

“We have a very sophisticated immune system to fight with invading pathogens,” Sultana said. “An important member of our immune system is neutrophil. Neutrophils are present in our blood to search for pathogens and whenever they recognize a pathogen, they engulf the pathogen and kill it. So in this killing process, neutrophil generates a toxic microbial: bleach.”

Sultana looked at *E. coli* due to its diversity. She found that intestinal pathogenic *E. coli* easily died off when in the presence of bleach, while UPEC, a urinary tract infection causing *E. coli*, thrived and lived better with bleach and neutrophil.

In her research, Sultana also identified a gene as *Factor X* that allows UPEC to survive better in bleach. If the gene is deleted, UPEC would respond similarly to the intestinal pathogenic *E. coli*.

Sultana said she is working toward seeing what *Factor X* can do.

As the first-place winner, Sultana was awarded \$750 and was entered into the Midwestern Association of Graduate Schools competition.

Judges awarded Nicholas Steffenhagen, graduate assistant for the School of Music, second place, earning him \$500.

**Musical Mastery:**  
How French Horn Students Become Professionals

1. Mus. in F 2. Mus. in Eb

And rehearsal order  
practice time not pla  
e master  
tal load

**Key Differences:**

1. Pre-practice preparation
2. Time allocation and rehearsal order
3. Percentage of practice time not playing

**Professionals have mastered:**

- Efficiency
- Managing mental load

YouTube /

Nicholas Steffenhagen took second place at the Three-Minute Thesis competition with 'Music Mastery: How Students Become Professionals.'

Steffenhagen's study focused on what he calls Musical Mastery that explores the importance of practice in the music industry.

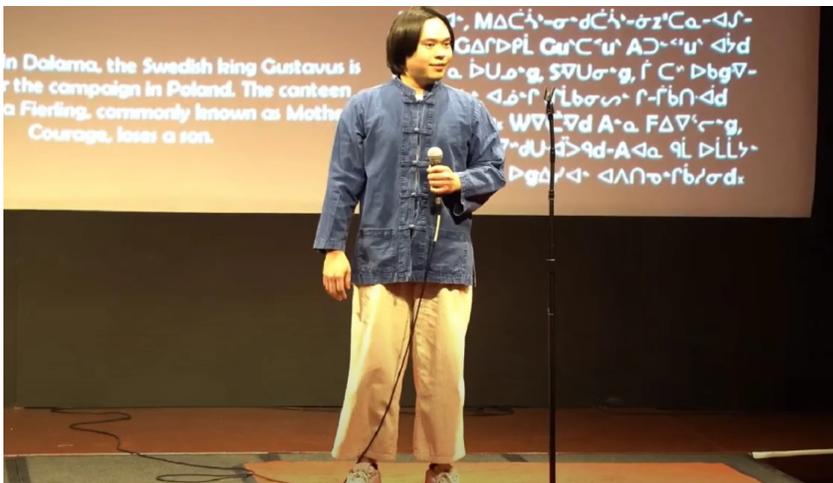
"It's pretty well known in our field that the music industry is very competitive," Steffenhagen said. "The truth is that most aspiring professionals will not make a living as a musician. What we know is the number one indicator of success is efficient practice. We tell our students that they need to practice like their life depends on it, because in a way it does."

For his study, Steffenhagen gathered 20 French horn professionals and 16 ISU French horn students and gave them all an hour to practice the same, new piece of music.

When comparing the groups, three major differences were found: the professionals took more time to analyze the piece for fine details before playing, spent more time identifying and rehearsing the more difficult sections and overall spent less time playing.

These small differences determined whether the performance was excellent or proficient.

Graduate theater and dance student Sanhawich Meateanuwat was awarded \$750 for the People's Choice Award.



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Sanhawich Meateanuwat won the People's Choice Award at the Three-Minute Thesis competition with 'From Eurocentric to Global: Flipping Canonical Western Texts to Create Global Conversations.'

“Slavery, economic collapse, racism,” said Meateanuwat. “What images come to mind when I name these events? The American Civil War, the Great Depression, or the Holocaust. If you only thought of the images from the Western experience, you might want to broaden your mind a little. These events happened repeatedly worldwide, disguised in various foreign names and cultural contexts.”

Meateanuwat looked at Bertolt Brecht’s *Mother Courage and Her Children* and flipped it beyond its Eurocentric roots.

The set design featured a painting in the background with worldwide architecture.

Additionally, a brief description is provided before each scene in the play. Meateanuwat translated and recorded the descriptions in many different languages from countries that have been impacted by war. Meateanuwat calls this global narration.

Meateanuwat found that we can continue to study canonical western texts, while taking control of the narrative and creating conversation that includes everyone and makes everyone feel connected.

### 3 Minute Thesis Competition 2023





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## Megan Spoerlein

Megan Spoerlein is a reporting intern at WGLT. She started in 2023. Megan is also studying journalism at Illinois State University.

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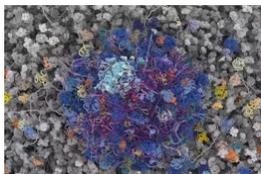


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