

# THE SUMTIMES



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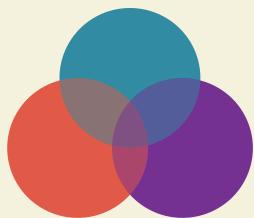
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Spring flowers at the Villa d'Este in Tivoli. -Jessa



## GET INVOLVED!



The **General Liaison Committee** (GLC) will have a meeting on April 27th from 2:30-3:30 pm in B11 MLH. All are welcome and encouraged to attend. In the meeting, they will relay department updates and they will also have important conversations pertaining to our graduate school experience. This is a meeting you do not want to miss. Also, snacks will be provided!



Are you interested in working with undergrads on interesting reading projects in math, and do you enjoy connecting math graduate students with undergrads who have a passion for math?

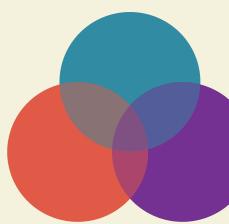
Maybe you just like organizing things? Consider becoming an organizer for the **Directed Reading Program** for 2023-2024 academic year. The time commitment is low, and it looks cute on a CV. Email/talk to Yari, Cody, or Praneel for more information. Also visit the website at <https://sites.google.com/view/uiowadrp>.



### Mathematics and Applied Mathematics 3 Minutes Research Competition

The SIAM Student chapter is organizing a 3 minute research competition. The format will be very similar to the 3MT organized by the Graduate College but in a much more chill and mathy environment. All students doing research in Math or Applied Mathematics can participate and have the chance to WIN a cash prize \$150 or \$100. The date is set for Friday, April 28, 2023 at 4:30PM. Be on the lookout for an email about this very soon with information on how to register. In the meantime, direct all questions to Fatou, Ibrahim, or Nikita.





# SUPERSTITIONS & ST. PATRICK'S DAY

Some superstitions that my family have are:

1. If your palm is itchy, then you will be receiving money soon!
2. Do not put any decorations of the sea in your home or you will be salty for several years.
3. Never place your purse on the floor. If you do, all your money will fall out or you will enter into a period of bad fortune.

-Margarita



(right) Despite traveling on St. Patrick's Day, Yariana and Margarita did not forget to wear green!



I wear a specific pair of socks every time I have a big test. I believe they give me good luck. Yes, I wore them three days in a row during quals.

-Kitrick

If I get Green Ball stuck underneath the bookcase at least 5 times before Mom leaves for school (which means Mom has to fish it out at least 4 times), then I know it's going to be a great day!

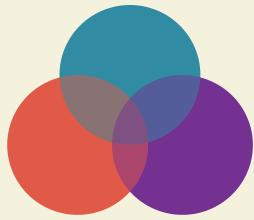
-Reese

(Jessa & Devon's dog)  
Photo courtesy of Devon



(left) Garrett and Jose David celebrated at an Irish bar. Feast your eyes on that vibrant green drink.





# SPRING BREAK ADVENTURES!

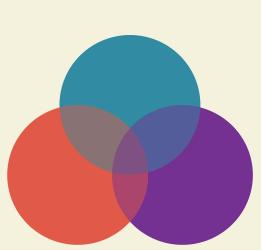


(above) On Wednesday, Victoria Valdez made tacos al pastor and cochinitas for some of her fellow mathematicians. Yummy!

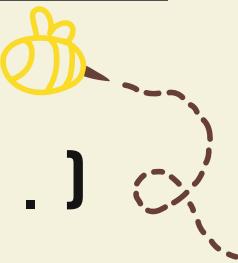
(right) On Friday, several of our second and third year students visited Coa Cantina! Cheers!

(below) Jessa reunited with her best friends from Agnes Scott College in Atlanta after a 3-year hiatus!





## SPRING BREAK ADVENTURES! (CONT.)

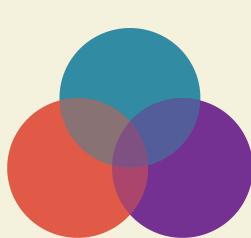


The weekend before Spring Break was over, Yariana Diaz, Margarita Bustos Gonzalez, and Elise Askelsen went to USTARS at the University of Washington.



Yariana and  
Margarita  
presenting  
their  
research!





## SPRING BREAK ADVENTURES! (CONT.)



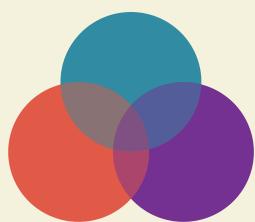
They were fortunate enough to see a friend of theirs and meet some University of Iowa math graduates!



(left to right)

Front: Amrei Oswald, Shannon Talbott, Jeannine Abiva  
Back: aBa Mbirika, Margarita, Elise, Yariana





## SPRING BREAK ADVENTURES! (CONT.)

Here is a little bit of information about what the former Iowa students are doing today!



**Amrei Oswald** received their PhD last year under the supervision of Dr. Ryan Kinser. They currently are a Postdoctoral Scholar at The University of Washington in Seattle.

Currently, Amrei is working in several research projects with collaborators.

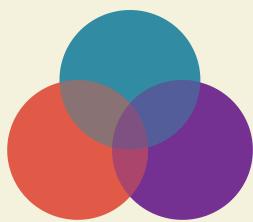
**Jeannine Abiva** graduated in 2013 under the supervision of Dr. Rodica Curtu. She is currently a research and development engineer at Industrial Light and Magic. From 2015-2020, Jeannine worked at the Naval Surface Warfare Center Panama City Division in Panama City, Florida. During this time, she also worked as a visiting scientist at NATO-STO-CMRE (Center for Maritime Research and Experimentation) at La Spezia, Liguria, Italy.

**aBa Mbiraka** graduated from Ulowa in 2010 under the supervision of Dr. Julianna Tymoczko and Dr. Frederick Goodman. He is currently a professor of mathematics at the University of Wisconsin – Eau Claire. aBa enjoys teaching the lower-level math courses. He tries to make math exciting to the individuals that feel fear towards mathematics.



**Shannon Talbott** graduated for Ulowa in 2012 under the supervision of Dr. Frauke Bleher. She is currently an Associate Professor of Mathematics and Chair of the Department of Mathematics and Computer Science at Moravian University in Bethlehem, PA. She has been lucky to find amazing collaborators with whom she has explored interesting mathematics and published several papers (find her on the arXiv). She has enjoyed regularly attending conferences like USTARS, SACNAS, and EPaDel. Shannon has appreciated the ability to travel frequently over academic breaks, particularly when spring break travels includes visiting Ulowa fellow alumnae Jeannine (while in Italy) and Syvillia (while in Georgia).





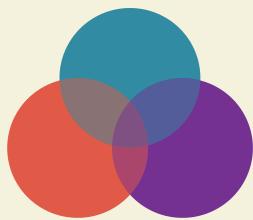
# CELEBRATING PI DAY!

$\pi$

This year, we had Pi Day on March 31st.  
Despite the unfavorable weather, we had a grand time!



# C E L E B R A T I N G P I D A Y !



A  
precious  
fur baby  
joined us!



The face of wonderment for the pies!

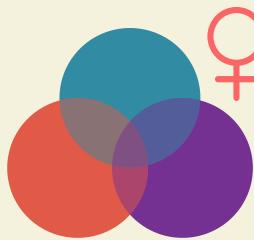


Patiently waiting for pie!



The storm brewing outside!  
Photo courtesy of Hemanth.





# SONIA KOVALEVSKY DAY!

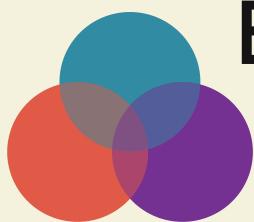


This year, Sonia Kovalevsky (SK) Day was organized by Elise Askelsen, Claire Christian, and Kerry Tarrant with the assistance of Dr. Tong Li. SK Day is an outreach program whose goal is to excite young ladies in high school about mathematics. Congrats to the organizers on their very successful event!!



We love  
these  
daisy  
SK Day  
shirts  
designed  
by Claire!





## BIRTHDAYS YOU DON'T WANT TO MISS!

HAPPY  
*Birthday*



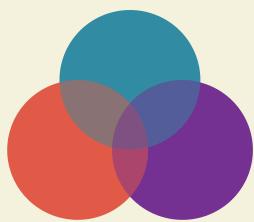
**Ying Liu**  
**April 3rd**



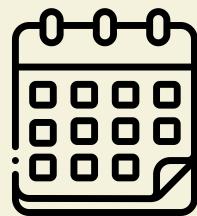
**Elise Askelsen**  
**April 21st**



*Mark Your Calendars!*



# UPCOMING EVENTS



## Nitesh Mathur's Thesis Defense!

April 11th, 9-11 am

SH 74

Zoom Link:



<https://uiowa.zoom.us/j/97051496041?pwd=NORlWDJmd09LSjlYVjRSSUdEa05TQT09>

## Praneel Samanta's Thesis Defense!

April 12th, 10:30 am

SH 30



## Cody Gilbert's Thesis Defense!

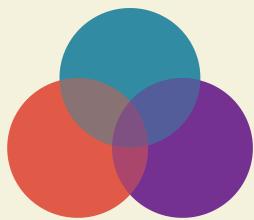
April 20th, 5-6:30 pm



Keep your eye out for news about the MGB Spring Picnic, which will be happening on Saturday, April 29th.



*Be there or be square!*



# RECOMMENDATIONS



A dish that Nikita Kapur recommends is marar kulcha.  
Below is the recipe. Enjoy!



#### For jaljeera chutney:

handful pudina/mint  
small piece tamarind/imli  
1 pod black cardamon  
1/2 tsp pepper  
1/2 tsp cumin/jeera  
1 tsp saunf/fennel  
1/2 tsp chaat masala  
1/2 tsp aamchur/ dry mango powder  
2 tbsp water  
1/4 tsp salt

#### For garnish:

2 tbsp onion finely chopped  
2 tbsp tomato finely chopped  
few coriander leaves finely chopped  
1 in ginger julliene  
1 green chili slit  
1/4 lemon wedge  
pinch of chaat masala

#### Additional ingredients:

2 cup water  
1/2 tsp salt  
3 tsp oil  
1/4 tsp turmeric/haldi  
pinch of hing/asafoetida  
1/4 tsp cumin powder/jeera powder  
1/2 tsp coriander powder  
1 in ginger finely chopped  
1/4 tsp garam masala  
1/2 tsp chaat masala  
1/2 tsp kashmiri red chili powder/lal mirch powder  
1 cup white peas/ safed matar soaked overnight

**Instructions:**

1. Pressure cook peas and 2 cups of water
2. In a kadai, heat oil and saute ginger.
3. Saute spices
4. Add in the pressure cooked peas and mix well
5. Mash lightly
6. Add in prepared chutney
7. Mix well
8. Boil for 5 minutes
9. Garnish with list of ingredients for garnishing
10. Serve with plain kulcha or naan.



Kitrick has shared some podcast recommendations.

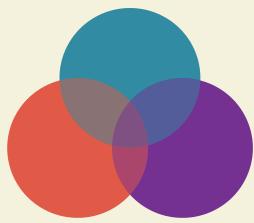
Make sure to give them a listen!



1. **The Numberphile Podcast.** If you haven't already heard of Numberphile, it started as a YouTube channel about recreational mathematics. It is hugely popular and is basically the reason I wanted to become a mathematician. It has grown into a huge community of mathematicians from all walks of life working together on problems and sharing interesting facts. The podcast is full of great interviews, perspectives on math, and cool problems/puzzles.

2. **Oh No Ross and Carrie.** In this show, Carrie and Ross investigate "extraordinary claims" and check them out so you don't have to. Then they report back on the podcast. They've investigated different types of crystal healing, alien abductions, ghosts, shapeshifters, get-rich-quick schemes, and smoked just about every plant out there. It is a fascinating look into pseudo-science and anti-science. Ross and Carrie are very scientifically minded, but they always approach their investigations with an open mind. Despite this, they almost always debunk what they're investigating.





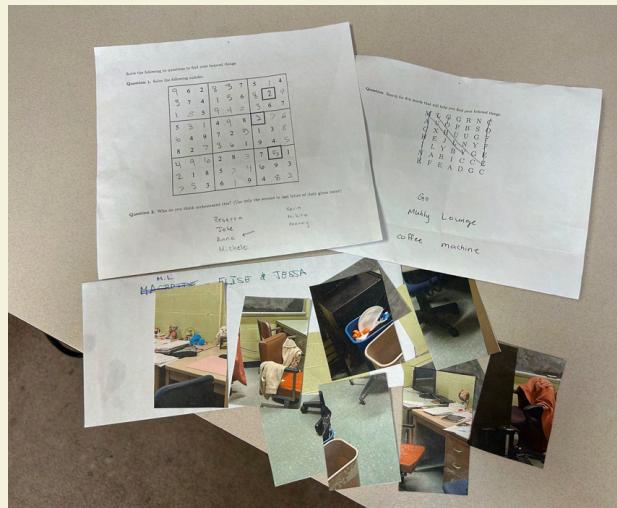
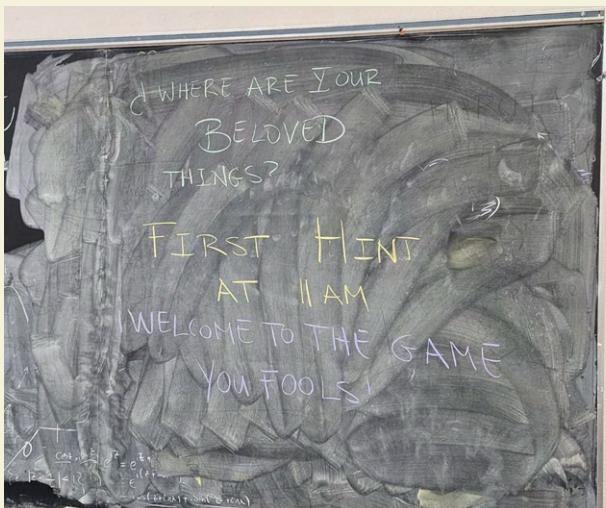
# APRIL FOOLS, YOU FOOLS!



Adriana and Cody put together one of the greatest April Fools jokes in Math Department history for their officemates! Watch the story unfold below!



Prepping the night before... yes that is the mini fridge!



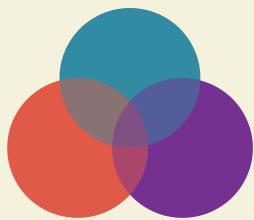
Heed the writing on the wall...

The clues!



Success!

We had to carry the mini fridge back up ourselves, but we got our office decor back!



# SEMINARS GALORE!



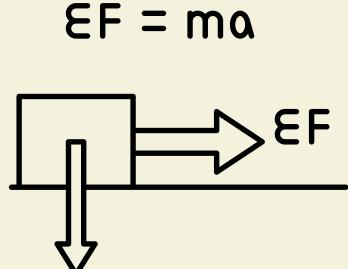
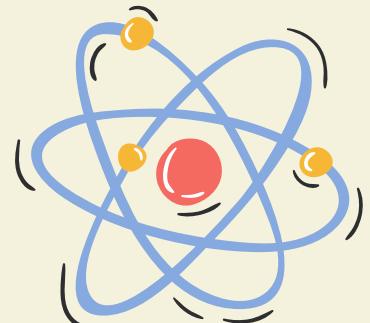
## Mathematical Biology

Mondays 3:30-4:30 pm



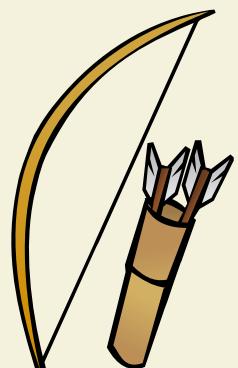
## Operator Theory

Tuesdays 1:30-2:30 pm



## Mathematical Physics

Tuesdays 2:30-3:30 pm



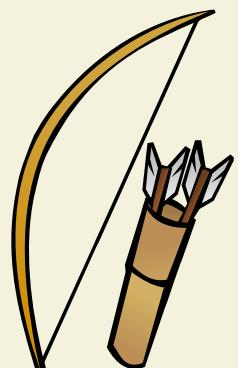
## Algebra

Wednesdays 3:30-4:30 pm

$$\begin{aligned} \frac{\partial x}{\partial t} &= \frac{\partial y}{\partial t} = 0 \\ \vec{v} &= (F_x, F_y, F_z) = \frac{\partial}{\partial x} \left( \frac{x^2 + y^2 + z^2 - 1}{x^2 + y^2 + z^2} \right) = \frac{(2x, 2y, 2z)}{x^2 + y^2 + z^2} = \frac{(x, y, z)}{r} = \frac{r \vec{u}}{r} = r \vec{u} \\ g \text{ and } f &= \left( \frac{\partial^2}{\partial x^2}, \frac{\partial^2}{\partial y^2}, \frac{\partial^2}{\partial z^2} \right), \quad \vec{u} = \frac{1}{r} \vec{v} = \frac{1}{r} (x, y, z) = \frac{1}{r} (r \cos \theta, r \sin \theta \cos \phi, r \sin \theta \sin \phi) = \frac{1}{r} (r \vec{u}) = \vec{u} \\ \nabla \cdot \vec{v} &= \frac{\partial v_x}{\partial x} + \frac{\partial v_y}{\partial y} + \frac{\partial v_z}{\partial z} = \frac{\partial}{\partial x} \left( \frac{x}{r} \right) + \frac{\partial}{\partial y} \left( \frac{y}{r} \right) + \frac{\partial}{\partial z} \left( \frac{z}{r} \right) = \frac{1}{r} + \frac{1}{r} + \frac{1}{r} = \frac{3}{r} \\ \nabla \times \vec{v} &= \left( \frac{\partial v_z}{\partial y} - \frac{\partial v_y}{\partial z} \right) \hat{i} + \left( \frac{\partial v_x}{\partial z} - \frac{\partial v_z}{\partial x} \right) \hat{j} + \left( \frac{\partial v_y}{\partial x} - \frac{\partial v_x}{\partial y} \right) \hat{k} = \left( \frac{\partial}{\partial y} \left( \frac{z}{r} \right) - \frac{\partial}{\partial z} \left( \frac{y}{r} \right) \right) \hat{i} + \left( \frac{\partial}{\partial z} \left( \frac{x}{r} \right) - \frac{\partial}{\partial x} \left( \frac{z}{r} \right) \right) \hat{j} + \left( \frac{\partial}{\partial x} \left( \frac{y}{r} \right) - \frac{\partial}{\partial y} \left( \frac{x}{r} \right) \right) \hat{k} = \left( \frac{-y}{r^2} - \frac{-x}{r^2} \right) \hat{i} + \left( \frac{-z}{r^2} - \frac{-x}{r^2} \right) \hat{j} + \left( \frac{-x}{r^2} - \frac{-y}{r^2} \right) \hat{k} = \frac{1}{r^2} (x, y, z) = \frac{1}{r^2} \vec{v} \end{aligned}$$

## Partial Differential Equations

Wednesdays 3:30-4:20 pm



## AMCS

Fridays 3:30-4:20 pm

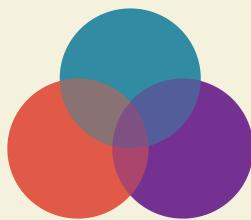
010	01	01001
010	11	11101
101	01	01010
0100	1001	01001
1110	1011	11101
0100	1001	01001

## GAUSS

Wednesdays 4:30-5:30 pm



# A CHESS CHALLENGE



**Try out your strategic skills on this puzzle!**

Right now we are in the middle of a game of chess. There have been made some moves by the standard chess rules, but neither a capture nor a castling appeared yet.

Also, every piece has been moved at most once.

Every piece carries a digit from 1 to 8, which wants to be written in the current cell of the figure. It is even possible to fill the whole grid with digits from 1 to 8, such that

every digit appears in every row, column and box exactly once!

Can you discover the current chess position and solve the sudoku?

5 R	5 N	6 B	3 C	3 K	7 P	1 N	3 R
1 P	4 P	6 P	3 P	7 P	6 P	1 P	5 P
2	1						
5 P	8 P	7 P	5 P	2 P	5 P	7 P	7 P
6 R	8 N	5 B	3 C	3 K	4 P	8 N	6 R