

Hoi and Namaste!

As we all get back into that ol' university grind, with exams and assignments, corona regulations have perhaps made it harder than before.

However, vaccinations have begun in full force, and so we need to sit tight for just a few more weeks — 2021 has just begun.

Don't forget to exercise and stay hydrated!

Until next time
GISA Board 2020



Announcements

GISA is looking for volunteers! We'd like you to join us, helping us organise regular events, be part of the decision making, and hear your opinions on how we can do better. There are many ways you can help us, so you'll be able to hone your particular skill set: organising movie and game nights, figuring out the logistics of online events, helping out with the website and socials, and when life gets more normal, helping with in-person events, and much, much more. You'll also have plenty of opportunity to meet new people from other international student organisations, since we have a number of collaborations lined up this year. Overall, you'll get experience working with a team, all of whom share a common goal of celebrating our culture and identity. We hope you'll join us on this path! You can sign up by filling out [this form](#).

Noteworthy News

With all the global buzz created by the arrival of the different kinds of vaccine, we thought it important to briefly describe three prominent types of vaccines that are currently being circulated and used throughout the world. For a comprehensive reading on the roll out of vaccinations in different countries, head to ourworldindata.org. Despite the sophisticated technology involved in these three (and more) techniques, most vaccine types have not yet been confirmed for those under the age of 18, pregnant, those with severe allergies or immunodeficiency.

Inactivated/weakened Vaccine- Covaxin and Sinovac

Since our immune system attacks anything foreign to our body, it attacks proteins, viruses, and bacteria that it does not recognize. When exposed to a new virus, our body takes a few days to fight it off, but the memory cells in our immune system typically remember the virus if it re-enters the body. One way to make a vaccine is to take the disease-carrying COVID virus and inactivate or kill it using chemicals, heat or radiation. This approach utilizes a method which has been used to make flu and polio vaccines. In case of inactivated vaccines, however, we would likely need booster shots in the future to ensure efficacy.



Recipe of the Month

Chhola chaat

Ingredients:

- 2 cup chana/ chickpea, soaked & boiled
- ½ tsp red chilli powder
- ¼ tsp cumin powder
- 1 tsp coriander paste
- ½ tsp chaat masala
- 2 tbsp tamarind paste (lime will do as well)
- ¼ tsp salt
- 2 tbsp onion, finely chopped
- 2 tbsp tomato, finely chopped
- 3 tbsp potato / aloo, boiled & cubed
- 1 green chilli, finely chopped
- 2 tbsp sev, (optional)
- 1 tbsp coriander for garnishing

Method:

1. Take 2 cups of soaked and boiled chickpeas, and strain off excess water.
2. Add chilli powder, cumin powder, chaat masala, green chutney, tamarind chutney and ¼ tsp salt.
3. Mix thoroughly, adding in the onion, tomato, potato, and chilli. Finely diced cucumber may also be added.
4. Combine well and transfer to a serving bowl, topping with sev and coriander leaves for garnish.

Post your dish pictures on social media using #cookwithgisa to be featured!



mRNA vaccines: Moderna and Pfizer-Biontech

For Covid-19, a protein on the outside of the virus helps it to get into our cells, making the virus more infectious. Since 'RNA' essentially implies the instructions that tell a cell what to make, scientists examined the 'blueprints' of that infectious 'spike protein' on the COVID virus and made the mRNA vaccine. Therefore, the mRNA vaccine which Pfizer and Moderna use, is simply a set of instructions to make the infectious protein. Our immune system attacks the protein once we start making it, and eventually destroys it. All that is left are the memory cells in the immune system, which then recognise that infernal protein it combated before, starting an attack on the COVID virus. However, unlike getting sick with COVID, the immune system fights off the virus immediately and efficiently. The question that remains unanswered is how long our system can remember the protein, which is why we have a second 'booster' shot of the vaccine.

Viral Vector Vaccine- Covishield and Oxford-AstraZeneca

Viral vector vaccines work a little differently from the mRNA type, and inactivated vaccines. Unlike the mRNA vaccine, the viral vector vaccine makes use of a harmless, modified virus, known as the vector. Then, the vaccine sends genetic code to our cells to simulate an infection. Since the virus is not infectious, it simply tells our cells to make the viral 'spike protein', to which our immune system then duly responds. Like the mRNA vaccine, 'instructions' are sent to our cells to produce the spike protein. A second point of difference to the mRNA vaccine is its age: unlike the relatively new mRNA technology, viral vector vaccines have been used to combat Ebola in Africa in the past.

Science Corner

The nonlinear dynamics of depression

By Sandip Varkey George, Post Doctoral Researcher, UMCG

Bob had been feeling restless for a few weeks now, after reducing his antidepressant medication. His feelings of sadness didn't peak yet, which was how he remembered his last depressive episode. He'd signed up for a study with the local hospital as part of which he filled out weekly questionnaires. The psychiatrist didn't notice anything out of the ordinary in the last interview. And yet, today Bob could feel an intense feeling of hopelessness, and couldn't muster the energy to get out of bed.

Bob experienced a sudden transition towards depression, something that is not uncommon in major depressive disorder. The problem with these transitions is that there is no warning prior to the actual episode, making it difficult to make decisions that could possibly prevent the episode from happening. A leading cause of disability worldwide, affecting over 200 million people, predicting depressive episodes like Bob's is an important research question in psychiatry.



Worn Out by Vincent van Gogh (1853 - 1890),
The Hague, November 1882

These kinds of transitions where the response of the system suddenly shifts with little warning are not uncommon in nature. They seem to appear in a number of fields, including during blowout in combustion engines, crashes of financial markets and eutrophication of lakes. In the late 2000-s scientists started exploring the common features underlying these “critical transitions”, and pointed out that many of them show an increase in memory and variability in system response (i.e. the response of the system ‘lingered’ for longer, while simultaneously varying more).

Could Bob’s sudden transition towards depression be a “critical” transition that could be predicted? Promising research in the last decade, albeit on small datasets, suggests it could be. The TRANS-ID project at the UMCG was started to gather conclusive evidence on whether this is true. Individuals with a history of depression were monitored for four months and asked to report their mood multiple times a day. Further, their physical activity and heart rate was also measured throughout the study period. The first results from this exciting study are expected this year.

Keep your eyes on transid.nl for updates on whether a branch of mathematics developed to explain the motion of celestial objects and mechanical oscillators could help predict your emotional state a few weeks from now.

Short Read of the Month

Happy New year, everyone! If you’re a little like me, you’re probably a bit confused about the exact nature of the Dutch government’s recent press conference announcement.

For a concise, but detailed description of the current state of affairs, you can check out this [link](#). Travel information, curfew, and quarantine requirements are listed.

Stay safe,
Your loyal board.

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A woman in labour suddenly shouted, “Shouldn’t! Wouldn’t! Couldn’t! Didn’t! Can’t!”

“Don’t worry,” said the doctor.

“Those are just contractions.”

Your feedback on the newsletter would help us improve its quality immeasurably! You can send us your thoughts [here](#)!