

# WIGS-4

FROM MOLECULES TO INFINITY

GUEST FACULTY  
COL. KARUNA DUTTA  
HOD, DEPT. SPORTS MEDICINE

ORGANISED BY: M/CDT ASHVIN VARADHARAJAN  
E3 BATCH



# Radiogenomics

M/cdt Gaurav Jalal  
G3 batch

22 September, FDA approved 'Selpercatinib', the only RET inhibitor for adults. With the advancements in precision medicine and its promising therapeutic results, we surely have therapeutically intervened the molecular world. But, how feasible is it still remains a question!

Genomic study of cancers, though fruitful is not economically feasible for all. What if I suggest you a way, wherein you walk in for a MRI or CT and get to know what specific molecules are responsible for your cancer?

Radiogenomics, an extension of radiomics through combination of genetic and radiomic data by using complex computational modelling to create a network which allows you to associate an MRI or a CT with a specific gene. To expect this technique to revolutionize cancer treatment and making it economically feasible for all would not be a mere fantasy but indeed a great possibility.

## References

<https://insightsimaging.springeropen.com/articles/10.1186/s13244-019-0795-6#:~:text=Radiogenomics%20entails%20the%20correlation%20between,a%20substitute%20for%20genetic%20testing>

<https://www.nature.com/articles/s41431-017-0081-3>

<https://case.edu/med/neurology/NR/MRI%20Basics.htm>



# Small insights into Mechanisms of B-cell activation

M/cdt Hetvi

G3 batch

Small insights into mechanisms of b-cell activation"

The basis of the highly specific acquired immunity is formed by the ways in which resting naive b cells are stimulated to produce antibodies, tailor them in a billion ways and finally select the ones having the highest affinity towards the antigen and their own fate of aggressive antibody secretion or a state of prolonged dormancy in situ or at distant sites; further the anatomic and chemical basis of antigen presentation; the different kinds of antigens, involvement of CD 4+ T cells and memory of the insult...

To get into the depths of our understanding of immunology, and understand the basis of infection or other disease progression as well as engineer means of active vaccination, this seems to me a quite insightful area of study.

## References

[William Hoffmann, Fadi G. Lakkis and Geetha Chalasani: B cells, antibodies and more](#)

[Nancy Ruddle and Eitan Akirav : The organisation and physiological interplay of SLOs](#)

[The Hapten-carrier Conjugate theory](#)



# Lucid Dreams

M/cdt Harshit Kumar Prabhakar  
G3 batch

Lucid dreaming, state of mind where we're aware of the dream that we're dreaming.

It happens because of our inert longing to have control over our life. Lucid dreams also help in potentially reducing nightmares, relieve anxiety, and creativity, many ideas are born out of this inducible dreams.

The possible ways to stop overthinking/ procrastinating/ maladaptive daydreaming, is by potentially avoiding triggers, practicing meditation and most importantly, having reality checks.

## References

[https://youtu.be/qH-MGqokk\\_Y](https://youtu.be/qH-MGqokk_Y)



# Is Teleportation actually Time travel

M/cdt Roopika Peela  
H3 batch

In 1943, the destroyer escort USS Elridge disappeared suddenly from the coasts of Philadelphia and appeared in Norfolk, Virginia, around 500km from Philadelphia.

Within minutes the ship was returned back only to find that the time on the ship was 10 minutes behind the Philadelphia time.

What's more astounding and even more horrific is to find the passengers of the ship fused to metal walls, a few missing and some frozen and nobody had an answer to the happenings.

The Philadelphia Experiment was conducted to make the USS Elridge disappear from the enemy radar. The apparent teleportation and time travel were ruled out as side effects of the experiment and not aimed at.

Teleportation i.e. actually when an object tends to move through the defined three spatial dimensions of universe.

Time travel on the other hand, is a belief to be existing and could be defined by the fourth dimension.

Philadelphia Experiment is not the only strange occurrence in the aspect of science. Many such phenomenon has put curious minds on edge for centuries with no established answers. Science has seamless possibilities and time travel and teleportation is just one of them that human racing is chasing for time unknown.



# Do Aliens exist?

M/cdt Chaitanya  
H3 batch

Aliens, the most fascinating topic since a decade. With the advancement in technologies and science, astrobiologists are trying to solve the mystery of extra-terrestrial biology (popularly termed as ALIEN).

Several space agencies are trying their best to find the evidence for their existence. NASA even can't deny the existence of extra-terrestrial life and added that soon with more findings and technologies it would be possible to know about them.

## References

<https://www.nasa.gov/feature/episode-5-we-asked-a-nasa-scientist-do-aliens-exist>



# THANK YOU



## WIGS-5 Coming Soon...