

THE JOURNEY...



DECEMBER 2019

THE JOURNEY...



AMERICAN
SOCIETY FOR
MICROBIOLOGY



IUSSTF
Indo-US Science and Technology Forum

MARCH 2020

ASM-IUSSTF INDO-US PROFESSORSHIP IN MICROBIOLOGY

THE JOURNEY...



COVID-19 Dashboard by the Center for Systems Science and Engineering (CSSE) at Johns Hopkins University (JHU)



Last Updated at (M/D/YYYY)
11/23/2021, 10:22 AM

Total Cases

258,480,885

Total Deaths

5,163,782

Total Vaccine Doses Administered

7,445,796,745

28-Day Cases

13,734,464

28-Day Deaths

202,864

28-Day Vaccine Doses Administered

805,752,299

Cases | Deaths by

Country/Region/Sovereignty

US

28-Day: **2,284,442** | **33,068**
Totals: **47,899,417** | **772,570**

United Kingdom

28-Day: **1,091,755** | **4,424**
Totals: **9,942,911** | **144,414**

Russia

28-Day: **1,055,485** | **32,813**
Totals: **9,238,330** | **261,526**

Germany

28-Day: **963,137** | **4,289**
Totals: **5,444,629** | **99,514**

Turkey

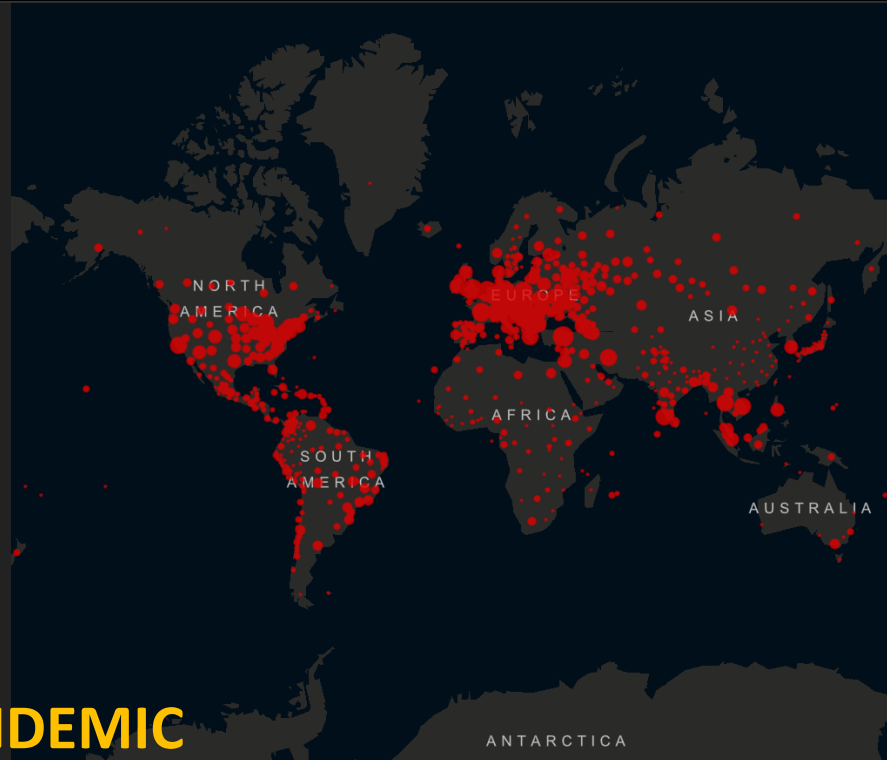
28-Day: **718,942** | **5,891**
Totals: **8,598,380** | **75,235**

Ukraine

28-Day: **588,149** | **18,250**
Totals: **3,515,641** | **87,371**

France

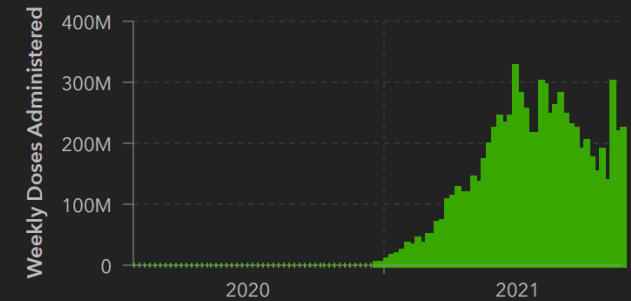
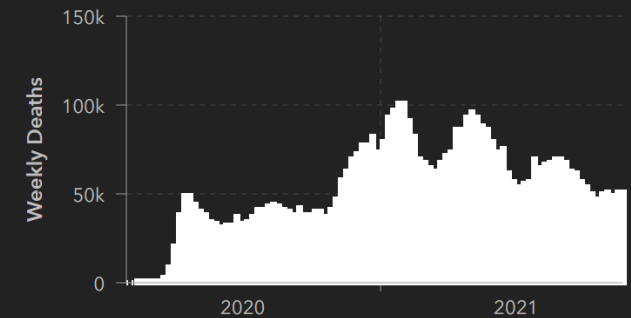
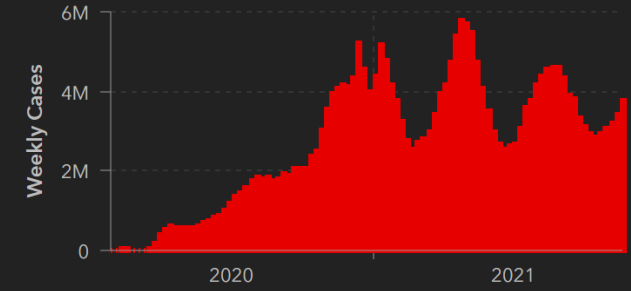
28-Day: **383,035** | **2,401**
Totals: **7,444,444** | **100,050**



THE PANDEMIC

Esri, FAO, NOAA

Powered by Esri

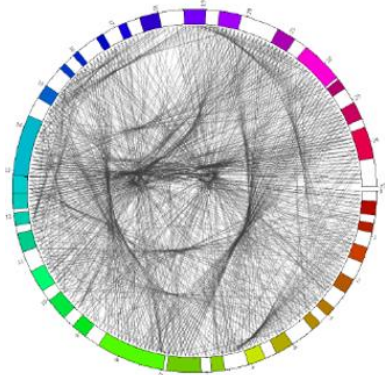


THE JOURNEY... GTN Smörgåsbord

FEBRUARY 2021

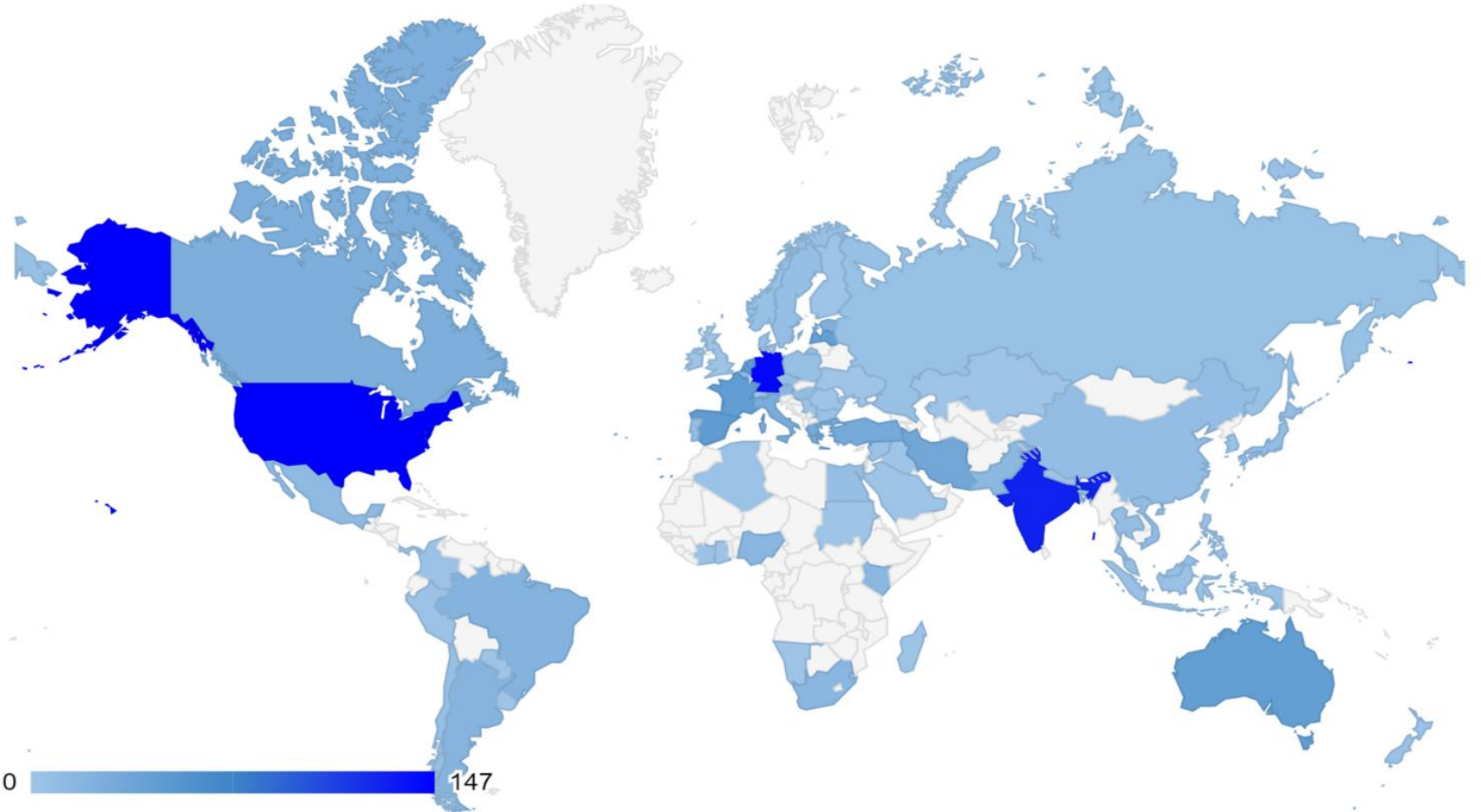


SASKIA HILTEMANN

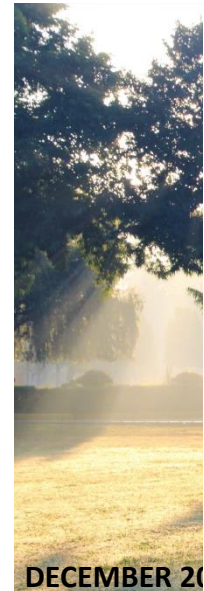


HELENA RASCHE

Over 1100 Participants and counting!



<https://galaxyproject.org/events/2021-02-smorgasbord/>



THE JOURNEY...



SEPTEMBER 2021

- Reached out to students and researchers in India via twitter, emails, etc.
- Selected researchers based on their CV and statement on why they were interested in the workshop.
- 24 registered students from all across India along with 13 students from IMTech attended the workshop.

SPEAKERS/INSTRUCTORS

- Robert Hettich (Oak Ridge National Laboratory, Oak Ridge, TN)
- Dave Clements (Galaxy Project, Johns Hopkins University)
- Pratik Jagtap (Galaxy-P Team, University of Minnesota, MN)
- Saskia Hiltemann (Erasmus University Medical Center, Hague)
- Yogesh Shouche (National Centre for Cell Science, Pune)
- Dr. Gareth Price (QCIF Facility for Advanced Bioinformatics, St. Lucia)
- Berenice Batut (University of Freiburg, Freiburg)
- Manoj Kumar (CSIR-IMTECH, India)
- Subina Mehta (Galaxy-P Team, University of Minnesota, MN)
- Brook Nunn (University of Washington, Seattle, WA)
- Anshu Bhardwaj (CSIR-IMTECH, India)
- Paul Wilmes (University of Luxembourg, Luxembourg)
- Timothy Griffin (University of Minnesota, MN)

AGENDA: <https://galaxyproject.org/events/2021-11-microbiomes/home/>

THE JOURNEY...



MARCH 2020

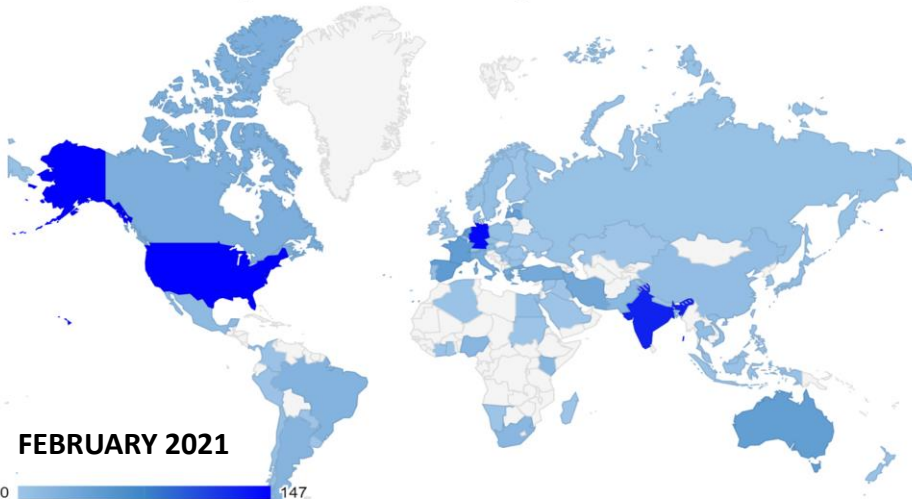
ASM-IUSSTF INDO-US PROFESSORSHIP IN MICROBIOLOGY



DECEMBER 2019

GTN Smörgåsbord

Over 1100 Participants and counting!



FEBRUARY 2021

SEPTEMBER 2021



ANALYSIS OF FUNCTIONS EXPRESSED BY MICROBIOMES

Online Workshop
15-24 November 2021

Funded by American Society of Microbiology (ASM) and Indo-United States Science and Technology Forum (IUSSTF).

Hosted by CSIR-IMTech, Chandigarh and Galaxy-P Team, Minneapolis.



NOVEMBER 2021

ANALYSIS OF FUNCTIONS EXPRESSED BY MICROBIOMES

Online Workshop

15-24 November 2021

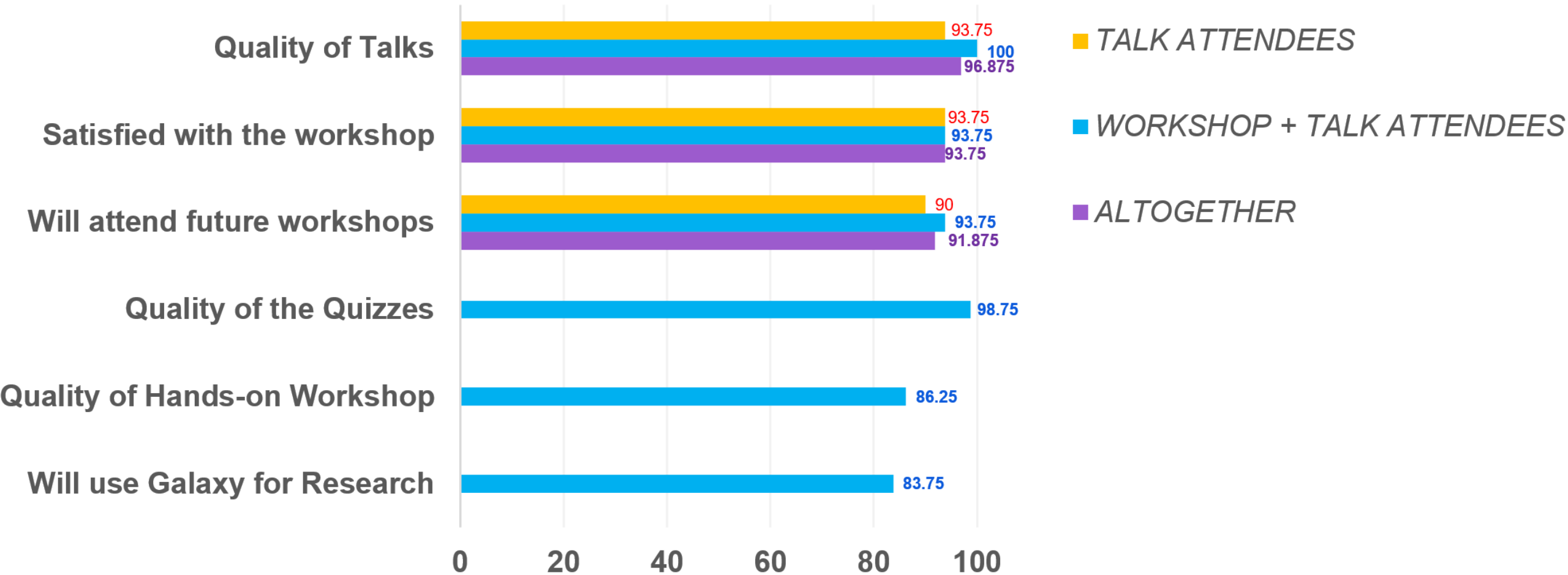
Funded by [American Society of Microbiology \(ASM\)](#) and [Indo-United States Science and Technology Forum \(IUSSTF\)](#).

Hosted by [CSIR-IMTech](#), Chandigarh and [Galaxy-P Team](#), Minneapolis.



<https://galaxyproject.org/events/2021-11-microbiomes/home/>

THE FEEDBACK...



THE FEEDBACK...

- **BACKGROUND**
- **WHAT DID YOU LEARN?**
- **HOW WILL YOU USE THIS IN YOUR RESEARCH/CAREER?**
- **FEEDBACK ON THE WORKSHOP**
- **FOLLOW UP**

THE FEEDBACK...

❖ *Positives:*

- Registered attendees learnt about Galaxy platform, metagenomics, metatranscriptomics and metaproteomics.
- GTN as a Resource for learning about tools and workflows.
- Great opportunity to listen to eminent scientists ('learning from artisans').
- Quiz sessions were great and educational!

❖ *Room for Improvement:*

- The workshop levels can be BASIC, INTERMEDIATE AND ADVANCED – with opportunity to analyze your own data.
- Follow up workshops with 'hackathon', 'Meet the Speakers' as themes.
- Running and completing workflows was challenging for some (However, could complete it later).

THE FEEDBACK...



My experience of using galaxy

Command line interphase

Galaxy

Learning



Difficult

Execution



Easy

Learning



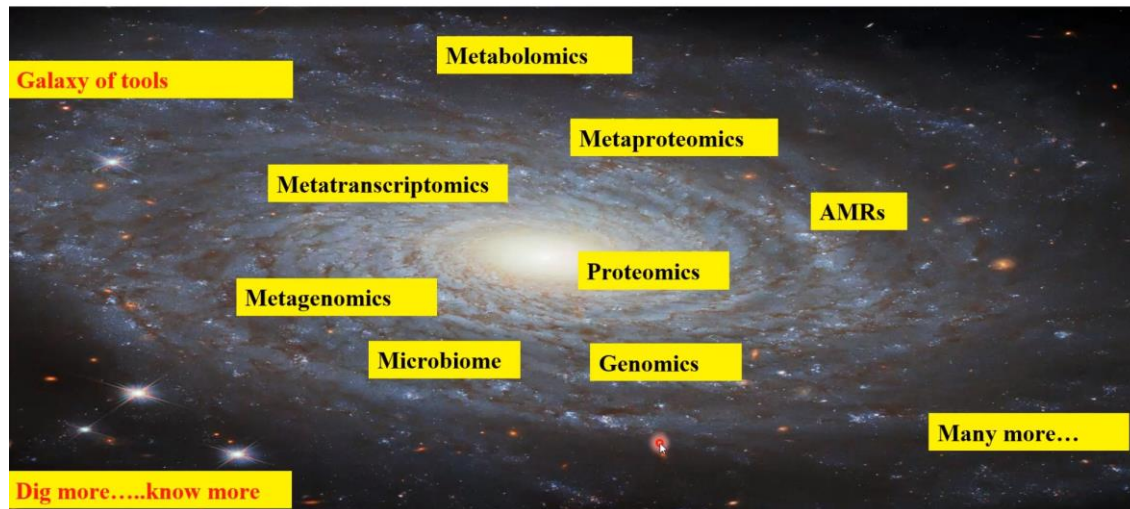
Easy

Execution



Easy

THE GALAXY



IF YOU ASK, YOU WILL NEVER KNOW.
BUT,
IF YOU KNOW, YOU NEED ONLY ASK...

THE FEEDBACK...

DESCRIBE GALAXY IN ONE WORD...

Reproducible accessibility helpful!

Wet and dry research Easy to use

starting-point **User-friendly**

Awesome Marvellous Reproducibility Saviour

metagenomics easy data analyzer Smooth

DESCRIBE METAGENOMICS IN ONE WORD...

unknown_world Communities Interesting

comprehensive Microbiome Delineate

SISPA and NGS Techni **diversity** Virome

Unravel genes collection eDNA all-in-one

Pool of information Abundance

DESCRIBE METATRANSCRIPTOMICS IN ONE WORD...

Master of Dry Lab

RNA pool RNAiome Collective analysis

Global RNA half way metaRNA community expressions

Functional expression

activity yet-to-learn RNA Moist researcher...

expressional profiling

Microbes action plan Expression

DESCRIBE METAPROTEOMICS IN ONE WORD...

Microbes at work

Intriguing! **Functional** The Future

action of microbes proteomes

large scale **annotation** mass-spec

many proteins expression

Processes **Functions Function**

complex data

Application of metagenomi

THE FEEDBACK...

10days cowabunga journey!

Box in a box information

Exploration

Galaxomics

Illuminating



functional micro-omics

Microbiome

interactive

Enriching

Outstanding

Educational

Happy to be a part

functional meta-omics

satisfied

Interdisciplinary

Eminently Excellent

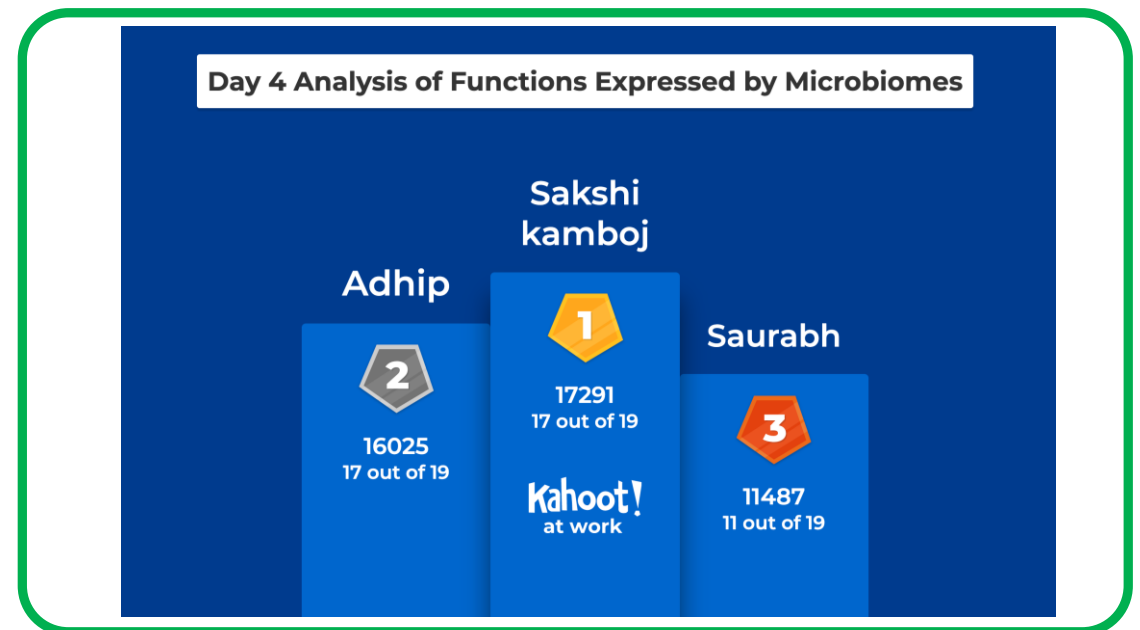
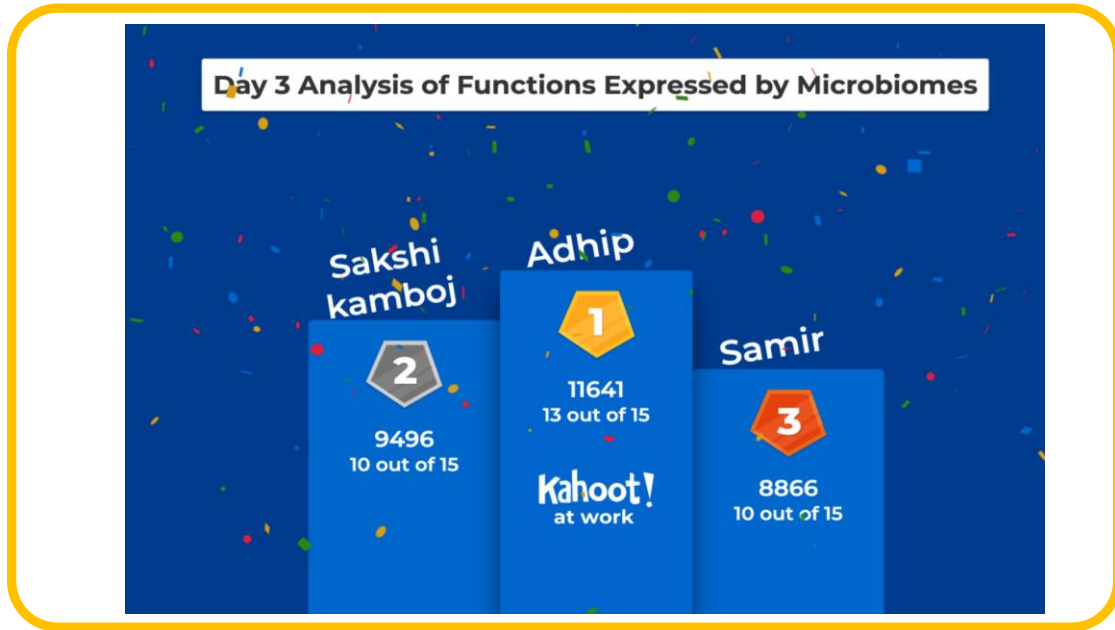
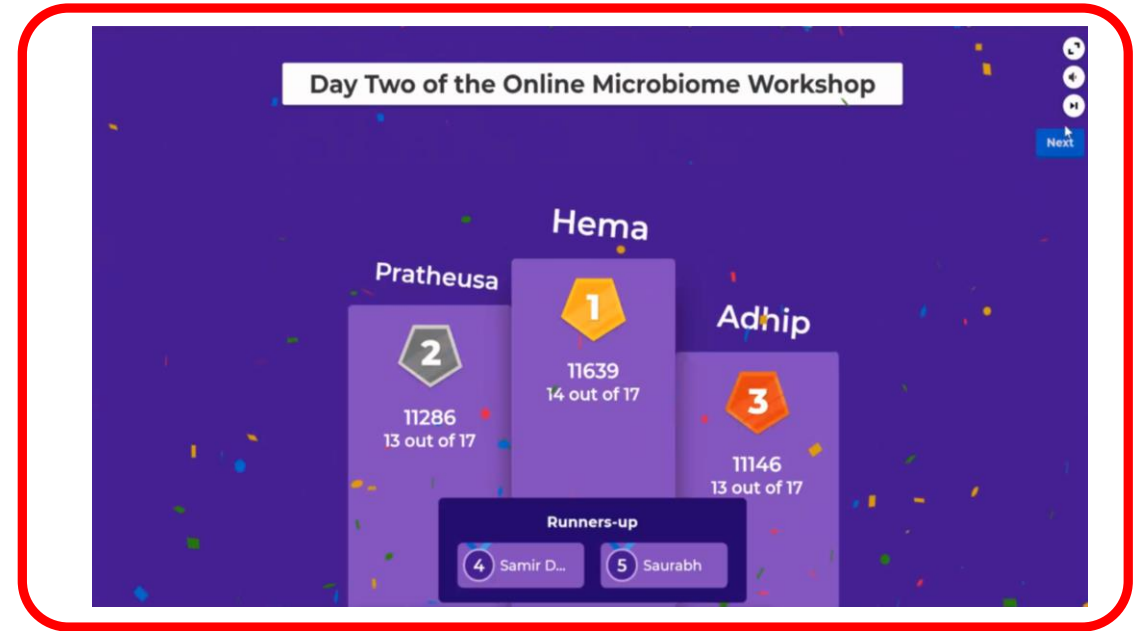
Helpful

Exciting

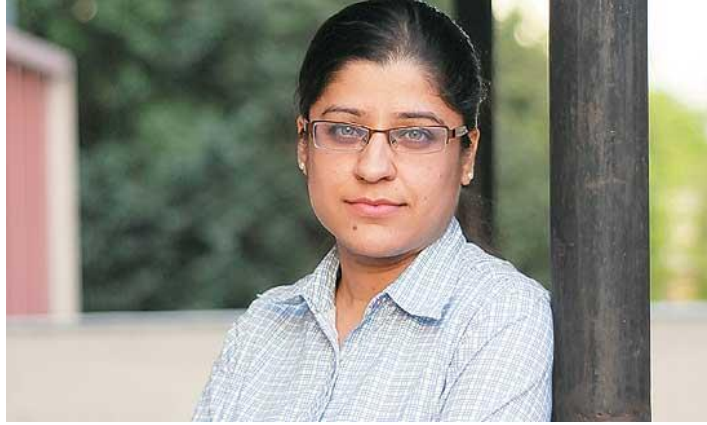
FUTURE PLANS

- **Continued access to the training material and Slack channel.**
- **Follow up with research groups for some data-intensive projects.**
- **Follow-up workshop after 3 to 6 months or a year.**
- **Project-driven hackathon?**
- **Basic workshop for college students?**
- **Workshop in other parts of the world?**

QUIZ WINNERS!



THANK YOU!



RESEARCHERS WHO ATTENDED TALKS & WORKSHOP



**INSTRUCTORS
&
SPEAKERS**

