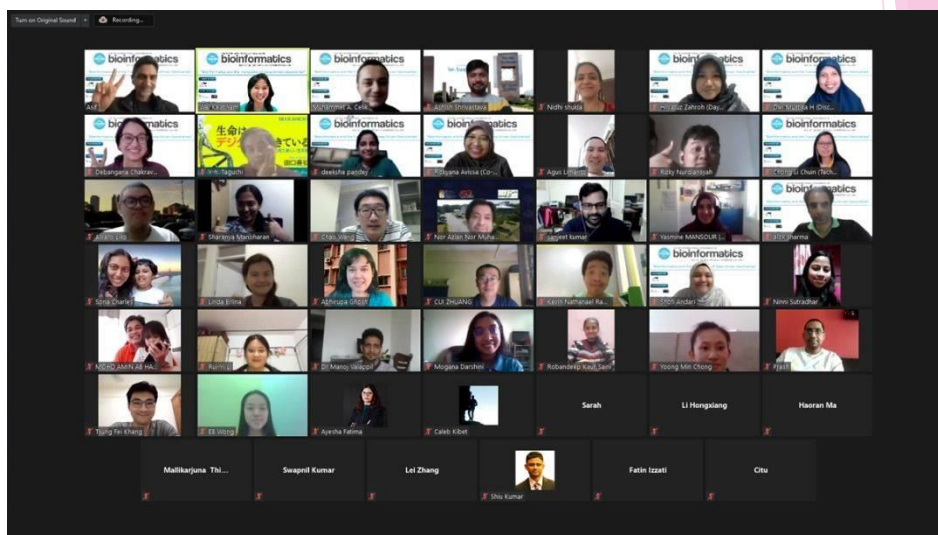


APBIONET NEWSLETTER



>> 19th International Conference on Bioinformatics (InCoB 2020) and 4th International Symposium on Bioinformatics (InSyB 2020)

By: Mohammad Asif Khan & Prashanth Suravajhala



We marked the end of 2020 with the successful conclusion of our two flagship events, the 19th International Conference on Bioinformatics (InCoB 2020) and the 4th International Symposium on Bioinformatics (InSyB 2020).

InSyB 2020 was held over two days from Monday, 21 December to Tuesday, 22 December 2020 and was organised by VIGNAN's Foundation for Science, Technology and Research, Andhra Pradesh, India. The theme of the event was "Disease Therapeutics" and was attended by more than 200 participants. InSyB, a sister event of InCoB, focuses on thematic discussions targeting younger researchers. The two-day event comprised a mix of invited keynotes, short talks, discussions, and "meet the expert" opportunities.

Preceding InSyB, InCoB 2020 was held for over five days from Wednesday, 25 November to Sunday, 29 November 2020, with the theme of "Bioinformatics and the translation of data-driven discoveries". We had a total of 181 registrants from Asia-Pacific and beyond, with as many as 134 presentation submissions. A total of 71 were research manuscripts submitted for publication consideration in as many as 10 partner journals (highest ever): BMC Genomics, BMC Medical Genomics, BMC Bioinformatics, BMC Molecular and Cell Biology, PeerJ, Computational Biology and Chemistry (CBAC), MDPI Genes, Journal of Bioinformatics and Computational Biology (JBCB), Quantitative Biology, Frontiers Journals Research Topic Collection. The conference comprised of keynote talks, oral presentations, posters, lightning talks, highlights, demos and workshops. A video showcasing the highlight moments from the conference is available here:

<https://www.youtube.com/watch?v=IYZKkoThB60>

A gallery of the screenshots taken during the conference is available here:

<https://drive.google.com/drive/folders/1VrW726WKJ28TvvSOLceDrzBZAYFlweqV?usp=sharing>

The InCoB 2020 conference proceeding (e-abstract book) is now available online on our InCoB 2020 website (<https://incob.apbionet.org/incob20/>). This is also available at:

<https://f1000research.com/documents/10-405>

By: Mohammad Asif Khan, Chong Li Chuin, Shalini A/P Kumar

Bioinformatics Workshop Fiesta (BWF) 2020/21 is a joint effort that aims to grow bioinformatics skills and competencies in the community. The series offers a plethora of 15 workshops of choice, with a proposed pathway. It is organized by the Association for Medical and Bio-Informatics, Singapore (AMBIS), Asia-Pacific Bioinformatics Network (APBioNET) and Perdana University (PU), Malaysia, and supported by National Supercomputing Centre (NSCC), Singapore and Alterquo, Malaysia.

The first BWF took place in 2018, in collaboration between APBioNET partner, Perdana University, Malaysia and Universitas YARSI, Indonesia, which saw the organisation of 9 back-to-back workshops, starting from April to December. BWF2018 attracted more than 190 participants from different parts of Indonesia. The first BWF was an in-person activity where participants congregated at a location in Jakarta. Given the pandemic, this was not possible for BWF2020/21, which was originally planned to be organised in Singapore. However, we turned this to an opportunity and now offer the programme across Asia-Pacific through online/remote learning.



Asif Khan



Bioinformatics

Workshop Fiesta (BWF)
2020/21

Organized by:



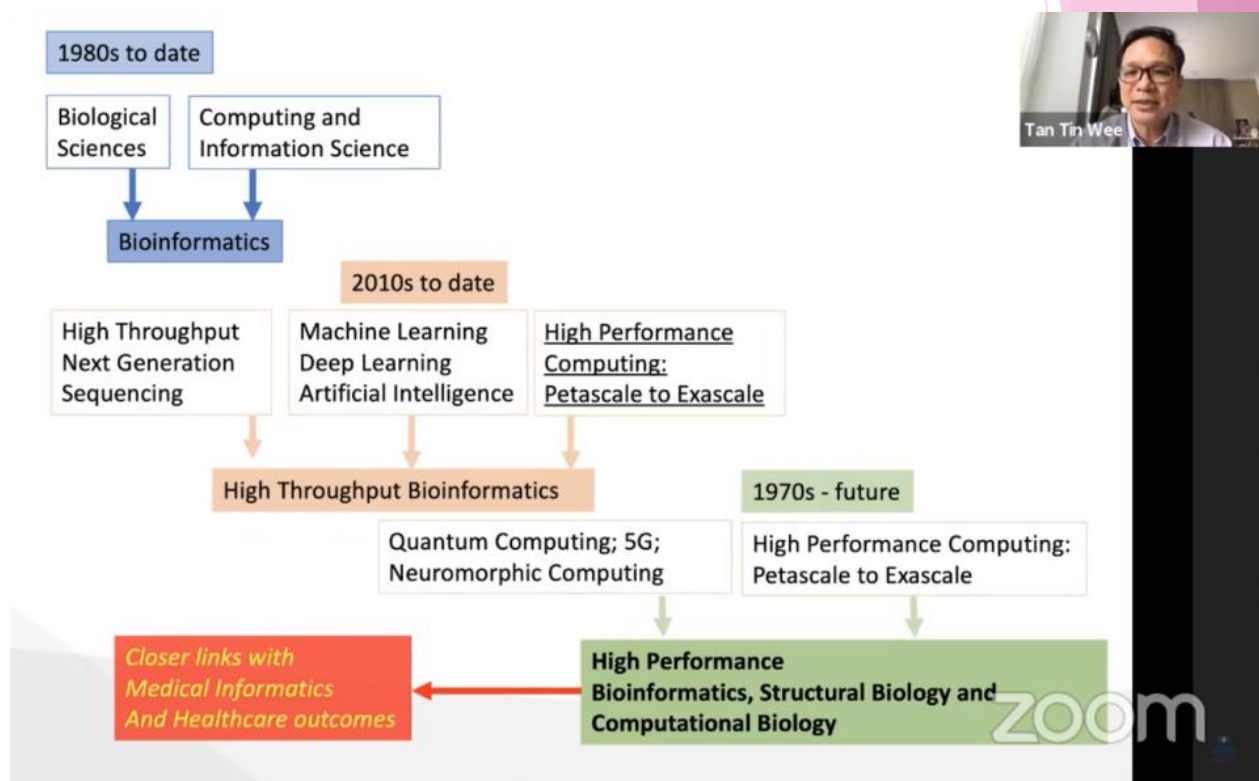
Supported by:



National
Supercomputing
Centre



BWF2020/21 colloquium (<https://www.youtube.com/watch?v=nPpF1oEJcd0>), successfully held virtually on 25th July 2020, was an inauguration event for the launch of BWF2020/21. It was a co-located event with the Malaysian Youth Bioinformatics Symposium 2.0 (MYBS2.0). MYBS2.0 was organized by Perdana University (PU), in partnership with Multimedia University, Malaysia (MMU), with the aim of connecting undergraduate and postgraduate students in Malaysia involved in the field of bioinformatics. The event began with two workshops that were conducted in parallel: 'Biomolecular Visualization' by Associate Professor Dr. Choi Sy Bing from PU Perdana University, Malaysia 'Finding Meaning in High-throughput Healthcare Data: A Beginner's Introduction to Disease Variant Detection' by Dr. Kenneth Ban Hon Kim from National University Singapore (NUS).



Professor KC Lun gave the second keynote talk. He retired after a rewarding career in academia that spanned over 31 years and having held notable positions at various organisations, including NUS, Nanyang Technological University (NTU) and NUS-DUKE Graduate Medical School, Singapore; he is currently the CEO of Gateway Consulting. Prof KC Lun shared on the importance of data-driven culture in the healthcare sector.

A separate student engagement activity was held virtually after the event, specifically for MYBS participants. The objective was to bring to identify ways to better improve the engagement amongst the bioinformatics student community in Malaysia. The activity was conducted by APBioNET President Dr. M. Asif Khan and Vice President Dr. Yam Wai Keat. They provided insights into the most common issues faced by young bioinformaticians. The participants shared their concerns and queries regarding the future of bioinformatics.

A total of 103 participants from various countries, with nearly half from Malaysia, attended the online event. We thank all the participants for their enthusiastic involvement and hope for the continued support to future events.

BWF2020/21 Workshops are now open for registration. To register, please visit:
<http://www.ambis.org.sg/bwf-202022.html>

>> Bioinformatics Workshop Fiesta 2020/21, Introduction to Python – Reflection by the Instructor

By: Aakib Nesar

I sincerely offer my gratitude to the Asia-Pacific Bioinformatics Network (APBioNET), Perdana University School of Data Sciences, and the Association for Medical and Bio-Informatics, Singapore (AMBIS) for selecting me as an instructor for the inaugural workshop, “Introduction to Python” of the Bioinformatics Workshop Fiesta 2020/21 series. I want to thank the organisers for entrusting me with this responsibility. Special thanks goes to Dr Asif M. Khan and the BWF working committee members, namely Justin Koay Tze Ji, Li Chuin Chong and Lim Caishan Lorraine, who were a big part of each of my workshop sessions. This was my first time conducting a workshop at such a scale, delivered online using the Zoom platform. This opportunity was a big turning point in my life, having had achieved the title of being #1 Rosalind Bioinformatics programmer in Bangladesh prior to that. Before embarking my journey as a bioinformatics programmer, I worked as a lecturer for one year at the Computer Science and Engineering Department at World University of Bangladesh, which provided ample training as an instructor. However, teaching online was a whole different experience. The workshop officially started on 31st of October 2020 and continued once every week till 19th of December 2020.

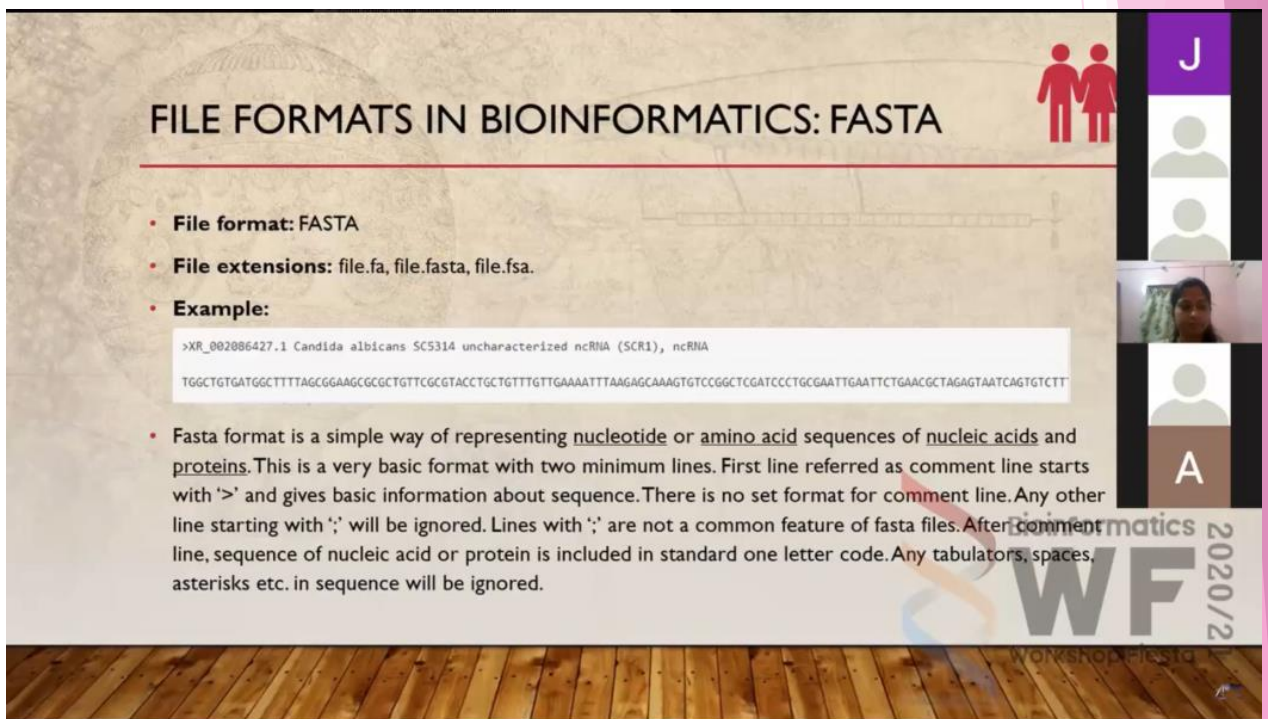
First few lectures were spent on getting to know the participants, and I was positively surprised to learn that the participants were more eager to get started with the hands-on rather than taking things slowly at the beginning. This probably could be due to the fact that all of them were either doing or had completed their postgraduate studies (MSc or PhD). The eight week long workshop went-on smoothly, besides few minor hiccups, such as background noise, sound distortions, and video disruption, among others, which were resolved immediately by the able team of the BWF working committee. Since each session was four hours long, we split this into two-hour parts. The first part consisted of going through lecture slides with code snippets explained thoroughly. The next part was hands-on, which was a challenge as the participants requested for live coding demonstration, which required that not only did I teach them Python programming but also showed how Python was actually applied to solve biological problems. I relied heavily on Rosalind for this second part, as it has an excellent array of bioinformatics practice problems for teaching purposes.



Participants of Introduction to Python Workshop, BWF2020/2021

Having myself learnt a lot about bioinformatics from Rosalind, it was good to see that the participants had also positively adapted to Rosalind, where most of them had explored to solve problems by themselves, even after the workshop. The participants, being from different background, adjusted to the sessions differently. Some were fast and were hungry for more, while some needed more time. Balancing this diversity of background was a challenge. There was also the case of a slight language issue, with the participants coming from different parts of the world, we all had our own accents, which required that we spoke slowly at times for clarity and this was appreciated by the participants. At times, it was necessary that we were able to explain concepts clearly; these were all possible by the use of the pen and board option provided by the Zoom platform. Participants were also encouraged to engage through various Q&A sessions, such as finding the output of the code snippet given in the lecture slide.

Assessment was not a mandatory part of the workshop, however, it was a crucial reflection of the topics covered. Majority of the participants scored above the average, with some achieving distinctions in the weekly quizzes on concepts and theories. Coding assessment was done through Rosalind. Each week they were given coding tasks to complete before the next lecture and by the end of the workshop all of the participants were able to solve at least 30 problems by themselves. The workshop ended up with feedback from the participants, which are critical for future improvements for the organisers and myself.



FILE FORMATS IN BIOINFORMATICS: FASTA

- **File format:** FASTA
- **File extensions:** file.fa, file.fasta, file.fsa.
- **Example:**

```
>XR_002086427.1 Candida albicans SC5314 uncharacterized ncRNA (SCR1), ncRNA
TGGCTGTGATGGCTTTTAGCGGAAGCGCGCTGTCGCGTACCTGCTGTTGTTGAAATTTAAGAGCAAAGTGTCGGCTCGATCCCTGCGAATTGAATCTGAACGCTAGAGTAATCAGTGTCTT
```
- Fasta format is a simple way of representing nucleotide or amino acid sequences of nucleic acids and proteins. This is a very basic format with two minimum lines. First line referred as comment line starts with '>' and gives basic information about sequence. There is no set format for comment line. Any other line starting with ';' will be ignored. Lines with ';' are not a common feature of fasta files. After comment line, sequence of nucleic acid or protein is included in standard one letter code. Any tabulators, spaces, asterisks etc. in sequence will be ignored.

BIOINFORMATICS 2020/2
WF
WORKSHOP

To sum up, the experience was surreal for me. I got to engage and build relationships with a lot of people from different cultures and backgrounds. I learned a lot in return as well, since I believe teaching is a two way journey: you express knowledge and in return you gain more knowledge. Overall, I was really happy and proud of the journey I had partook along with the participants of the workshop for 8 long weeks. Their response to learning, trying things themselves and exceeding my expectations was a tremendous overjoy. A teacher can only call himself accomplished when his/her students have exceeded the boundaries set by the teacher, and I believe each and every participant of the workshop will do just that. I thank the BWF organisers for giving me this experience and recognition, and I look forward to future opportunities. Thank you.



International Conference on Bioinformatics (InCoB)

Interested in bidding to host InCoB?

Here is why.



InCoB was first organised in 2002 and will be organised for the 20th time in 2021

Prominent History

InCoB has been organised in 18 locations in the Asia - Pacific region



Region-wide Location



APBioNET has supported over 100 students to attend InCoB from its Travel Fellowship program

Student Travel Support

Network Outreach

InCoB has hosted over 2000++ participation regionwide since inception



visit

www.incob.apbionet.org

to learn more

STUDENT
* from S\$10

GENERAL
* from S\$20

MEMBERSHIP



		BENEFITS
✓	✓	Exclusive APBionET affiliated email
✓	✓	Early invitations and notifications to APBionET and affiliate events
✓	✓	Discounted registration fee for InCoB, InSyB and other APBionET endorsed events
✓	✓	Financial support to attend InCoB and InSyB
	✓	Represent APBionET at key events as official delegates
✓		Recruitment into APBionET Student Chapter
✓	✓	Discounts on APBionET merchandise and publication

www.apbionet.org/membership

Upcoming events

APBioNETTalks

Discover and Share Bioinformatics

Why Social Media Matters for Research now more than ever



June 17, 2021, 9 am GMT



Michelle Mendonca

EMBL-EBI

Register Now!

<https://apbtalks.apbionet.org/> or
bit.ly/APBioNETTalks4



APBioNetorg



APBioNET



To register: <https://apbtalks.apbionet.org/event/why-social-media-matters-for-research-now-more-than-ever/>

2021 Galaxy Community Conference



About GCC2021

The 2021 Galaxy Community Conference will take place in a virtual format from 28 June through 10 July and bring together clinicians, researchers and students working in data science. The event features:

- 5 days of online training (28 June - 2 July)
- a 3 day meeting (6-8 July)
- a 2 day CollaborationFest (9-10 July)

The combination of very low registration, plus content in multiple time zones (see below) make this event the most affordable and accessible GCC ever. If you are working in data intensive science (life sciences and beyond), GCC2021 is an ideal conference to share your work, learn from others, and find new collaborators.

More info: <https://www.vibconferences.be/events/gcc2021-virtual-edition>

2021 APAC HPC - AI COMPETITION

Co-organized By HPC-AI Advisory Council and NSCC Singapore



Overview

The 4th APAC HPC-AI Competition, organized by the HPC-AI Advisory Council and National Supercomputing Centre (NSCC) Singapore, will be announced on March 2nd, 2021 during SCAsia21.

High-performance computing and artificial intelligence are the most essential tools fueling the advancement of science. In order to handle the ever-growing demands for higher computation performance and the increase in the complexity of research problems, the world of scientific computing continues to re-innovate itself in a fast pace.

Continuing the competition's active participation in the global fight against COVID-19, GROMACS (GROningen MACHine for Chemical Simulations), a popular molecular dynamics simulation tool designed for biochemical molecules like proteins and nucleic acids, will be chosen as the HPC task for the HPC-AI competition.

DLRM (Deep Learning Recommendation Model) is a neural network-based recommendation tool. It is a state-of-the-art deep learning recommendation model which Facebook developed in both PyTorch and Caffe2 frameworks. It will be used for the AI task of the competition to utilize the model parallelism while exploiting data parallelism to scale-out compute from the fully-connected layers.

The competition encourages university and technical institute teams in the APAC region to showcase their HPC and AI expertise in a friendly yet spirited competition that builds critical skills, professional relationships, competitive spirits and lifelong comradeships.

The winning teams will receive the following awards*:

- **First Place (One team):** The First prize letter, a reserved spot representing APAC at the 2022 International ISC Student Cluster Competition, RDMA Programming lecture, HPC and AI foundation lecture.
- **Second Place (one team):** The second prize letter, a reserved spot representing APAC at the 2022 International ISC Student Cluster Competition, RDMA Programming lecture, HPC and AI foundation lecture.
- **Third Place (one team):** The third prize letter, a reserved spot representing APAC at the 2022 International ISC Student Cluster Competition, RDMA Programming lecture, HPC and AI foundation lecture.
- **Merit Prize (up to three teams):** The merit prize letter, RDMA Programming lecture, HPC and AI foundation lecture.
- **HPC Special Prize:** : The HPC prize letter.
- **AI Special Prize:** : The AI Special prize letter
- Each team member who finish the competition tasks will receive a certificate.

More info: <http://www.hpcadvisorycouncil.com/events/2021/APAC-AI-HPC/>

REGISTRATION open for the Education Summit 2021, 24-26 May 2021

As you may know, the EDUCATION SUMMIT will be held from the 24th-26th May, 2021 (3 days), and we need to know URGENTLY who will be participating. Please note that this is not a Research or Scientific Conference or Congress, but rather a Working Meeting where we expect the participants to contribute with their experience and through active participation. The participation is free and open to all individuals working in the area of Bioinformatics teaching and education or have a clear interest in contributing to the Summit.

Therefore, we are writing on behalf of the Organising Committee (CABANA, GOBLET, ELIXIR, H3ABioNet, APBioNET, and ISCB) to invite you to formally REGISTER for this event via this Google form: <https://forms.gle/xiHwetkPhrtpxgZ76>

In the REGISTRATION FORM, you can indicate the topics you would like to contribute or participate. The themes for the three days are as follows:

Day 1, May 24, 2021 - Competency framework extension to Data Science in Biomedical Sciences & developing and delivering health data science training

Day 2, May 25, 2021 - Virtual education and training - How will this past year influence our delivery going forward & ensuring our training is FAIR?

Day 3, May 26, 2021 - Effective and efficient building of infrastructure and activities in low- and middle-income countries (LMICS)

We also need to know your TIME ZONE because the meeting will try to cover 3 main TIME ZONEs to allow for as many people from different countries to participate. There will be a joint session for all 3 Time Zones on each day. In each Time Zones, the meeting last 4 hours each day with a 30-min break:

Time Zone 1 - ASIA/AUSTRALIA = 17:30-22:00 AEST (Sydney) = (CET + 8h)

Time Zone 2 - EUROPA/AFRICA = 12:00-16:30 CET (Paris)

Time Zone 3 - AMERICA = 6:00-10:30 CDT (Mexico/USA) = (CET - 7h)

The deadline for REGISTRATION: 20th May 2021

Best wishes,

The Organising Committee

Javier De Las Rivas, Celia van Gelder (GOBLET)

Sarah Morgan, Patricia Carvajal, Maria Bernardi, Gabriela Merino (CABANA)

Wai Keat Yam (APBioNET), Nicky Mulder (H3ABioNet)