



Technical Hands-on Workshop on Data Science and Computational Precision Medicine, 23-25 July 2019, International Medical University (IMU), Malaysia

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Our DNAs (deoxyribonucleic acid) hold important genomic information which determines the physiological processes of our body, predisposition and causes of diseases, our personality traits, and ultimately our health. Personalised medicine is the application of genomic and molecular data in delivering healthcare based on individualised medical diagnostics and interventions to achieve optimum illness and wellness management. Precision medicine, a subset of personalised medicine, is an emerging medical discipline referring to drug selection based on individualised genetic determinants that regulate drug pharmacokinetics and pharmacodynamics.

23-25 July, 2019 – The Institute for Research, Development, and Innovation (IRDI) from the International Medical University (IMU), in collaboration with Malaysian Genomics Resource Centre (MGRC) and Perdana University had successfully organised a Technical Hands-on Workshop on Data Science and Computational Precision Medicine at IMU's main campus in Bukit Jalil. The workshop was endorsed by Asia-Pacific Bioinformatics Network (APBioNet). The main purpose of this workshop was to present current efforts towards computational precision medicine. At this workshop, the participants had opportunities to have hands-on learning by conducting data analyses using computational databases.

There were three distinguished speakers in this workshop:

- Dr Pawel Suwinski, a molecular geneticist from Malaysian Genomics Research Center
- Dr Adaikalavan Ramasamy, a principal investigator from Singapore Institute for Clinical Sciences, A-STAR
- Prof Dr Leong Chee Onn, Deputy Director of Research from IMU's IRDI.

The topics covered in this 3-days workshop were:

- Algorithms and advanced informatics for genome analysis
- Benchmarks, tools and applications in genomic and transcriptomic analyses
- Genome mutation interpretation
- Systems biology of signalling pathways; from data to mechanisms and targets
- Personalising therapies using DNA sequencing

The workshop was well attended by faculty members and students from IMU as well as other institutions, such as Universiti Kebangsaan Malaysia (UKM), Universiti Teknologi Malaysia (UTM), AIMST University, and MYGENOME.

Truly, this workshop provided insights on how integrations of genomic data and utilisation of computational precision medicine result in better understanding of the impact of genetic variants on the pathogenesis of chronic and lifestyle induced diseases. No doubt the information generated can help to tailor effective prevention interventions and treatments for existing medical conditions.

See published article on IMU website: <http://imunews.imu.edu.my/research/imus-irdi-successfully-organised-workshop-on-data-science-and-computational-precision-medicine/>

The International Conference on Bioinformatics (InCoB), one of the oldest bioinformatics conferences in Asia Pacific, finally landed in Indonesia for the first time in its course of 18-year history. The 18th InCoB was co-organised by Universitas YARSI and APBioNet. The conference was co-located with three major events: The Global Organisation for Bioinformatics Learning, Education and Training (GOBLET) Annual General Meeting (AGM), The 8th Southeast Asia Pharmacogenomics Research Network (SEAPharm) Meeting and the 2nd Genomic Medicine Conference (GMC). The range of events took place from September 9-12, 2019 at Universitas YARSI, Jakarta, Indonesia.

InCoB 2019 took the theme of “Bioinformatics for Precision Medicine” and listed at least 31 topics from “Big data in biology: analytics, machine learning methods and data sets” to “Translational bioinformatics”. The conference was enriched with keynote talks from seven luminaries in their fields, namely Prof. Sir Munir Pirmohamed (Liverpool University, UK), Dr. Eija Korpelainen (CSC-IT, Finland; GOBLET), Prof. Jae Gook Shin (Inje University, Korea), Prof. Christine Orengo (University College London, UK; ISCB President), Dr. Denis Bauer (CSIRO, Australia), Prof. Heru Suhartanto (Universitas Indonesia, Indonesia), and Prof. Adrian Hill (University of Oxford and Jenner Institute, UK) who covered areas as diverse as: pharmacogenomics, translational bioinformatics, bioinformatics education, personalised medicine, structural bioinformatics, cloud computing and artificial intelligence, high-performance computing, and genetics of infectious diseases. Furthermore, plenary talks were also delivered by Prof. Shandar Ahmad (Jawaharlal Nehru University, India) and Prof. Akihiro Fujimoto (The University of Tokyo, Japan) who featured biological machine learning and population genetics.

The conference also encompassed oral parallel tracks, poster tracks, software demos, workshops, special industry sessions with talks by our gold sponsors (Novocraft Technologies and Illumina), breakout session (by Galaxy), and highlights. This year, we added a thematic special session: bioinformatics in Indonesia and flash oral presentation tracks which highlighted bioinformatics-related research activities in Indonesia.

We teamed up with GOBLET, Galaxy Project and SciWhyLab to provide complimentary workshops for InCoB 2019 and GOBLET AGM 2019 delegates. The conference also hosted two regional society meetings: APBioNet General Meeting and Masyarakat Bioinformatika dan Biodiversitas Indonesia (MABBI) meeting. Overall, the activities attracted nearly 200 people from various parts of the world, making the conference a great hub for students and experts across different fields to meet, share knowledge and make connections. InCoB 2019 also marked the 20th anniversary of APBioNet, which was commemorated during the welcome reception on the evening of September 10, 2019.

The conference received 133 submissions which were rigorously peer-reviewed by InCoB program committee chairs and members to ensure the high scientific standard of the 50 oral presentations, 15 flash oral presentations, and 34 posters accepted. Accepted full papers will be published in BMC journals (35) and Computational Biology and Chemistry (4 papers). We thank the community for their interest and engagement in the conference.





## **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 19<sup>th</sup> time in 2019

### **Prominent History**

InCoB has been organised in 14 locations in the Asia – Pacific region



### **Region-wide Location**



APBioNet/ISCB 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



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[www.incob.apbionet.org](http://www.incob.apbionet.org)

to learn more





APBioNet Annual General Meeting 2019

APBioNet AGM 2019 was held for the first time in Jakarta as an InCoB co-located events. This year, we were privileged to receive attendance from the former president, Dr. Shoba Ranganathan. The meeting was chaired by Dr. Mohammad Asif Khan and several other ExCo members such as the VP Conference, Dr. Christian Schönbach, VP Education, Dr. Yam Wai Keat, Dr Bruno Gaeta and Dr. Shandar Ahmad.

Several matters were discussed, and ideas were exchanged among the ExCo members and the meeting attendees. Dr. Asif Khan then made the announcement of special celebration in commemoration of APBioNet's 20<sup>th</sup> anniversary (<https://www.youtube.com/watch?v=IYhNCmzcWTU>). To encourage more people to take advantage of APBioNet's membership benefit, all membership categories are now at 20% off, from the date of AGM, until December 31, 2019.

Dr. Yam then took on to explain on the success of bringing GOBLET AGM to Asia for the first time. Prior to the conference, GOBLET members have sat down to discuss all the matters arising, in particular a possible symposium for AP-wide Bioinformatics Educators in 2020 in partnership with GOBLET. She later on mentioned on Bioinformatics Professional Registry (<http://bit.ly/bioinformaregistry>), a registry that aims to gather information on educators, researchers and enthusiast in the field of bioinformatics in the Asia Pacific region. This is not restricted to APBioNet members and thus open to any bioinformatics practitioner/enthusiast in the region. The database would serve as a gateway to connect bioinformatics educators, researchers, and enthusiasts to each other and also with the scientific community at large, addressing the needs of the field from the perspective of research, education and/or services. This registry is now available on the APBioNet website for public access: <https://perdana.apbionet.org/membership/bioinformatics-professional-registry/>.

Dr. Asif then continued to emphasise on the direction of APBioNet for the coming years. APBioNet aims to be KPI-driven and their activities will prioritise all the community in the region to increase inclusivity. In addition, APBioNet will work closely with their partner, GOBLET, for education based activities. He then moved on to present the budget approved for 2019. He highlighted on the funding opportunities from APBioNet for regional event for outreach programmes and InCoB/InSyB travel fellowships. APBioNet has additional allocation from specific trust funds to support their members to attend any bioinformatics event in the region.

The meeting later on moved to the planning of InCoB and InSyB for 2020. The ExCo members had received an expression of interest (EOI) from University of Hong Kong to host InCoB2020, and are awaiting for more bidding before formal announcement can be made. Dr. Bruno then inquired to the AGM attendees on the aspects of the conference that they enjoyed the most. This discussion lead to the conference feedback survey form, which was distributed amongst the participant during the closing ceremony. The president also highlighted that the ExCo have established a conference planning committee: dedicated to come up with a three year plan for upcoming InCoB and InSyB.

Lastly, the president mentioned on appointment of possible co-opted members as observers.

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Dear Colleague,

We are happy to share with you that in commemoration of APBioNet's 20th anniversary, membership fee for all categories are now at **20% off!**

#### Annual Membership Fee (1 Year)

Type of Membership	Fee, SGD
Student/Post Doctorate Membership (20% off from now until Dec 31, 2019)	<del>60</del> 48
General Membership (20% off from now until Dec 31, 2019)	<del>80</del> 64

#### Discounted Membership Fee (4 Year) – 25% Discount

Type of Membership	Fee, SGD
Student/Post Doctorate Membership (additional 20% off from now until Dec 31, 2019)	<del>180</del> 144
General Membership (additional 20% off from now until Dec 31, 2019)	<del>240</del> 192

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#### Eligibility to apply for APBioNet Travel Fellowships and ISCB Travel Fellowships to attend:

- InCoB and InSyB
- Discounts at APBioNet events/workshops
- Eligibility to represent APBioNet at key meetings, AGM, and events as official delegates subject to ExCo approval:
  - e.g. Goblet, AASBi, ISCB, other regional meetings as negotiated by APBioNet Secretariat
- APBioNet Book Publication Discounts

This offers end by **December 31, 2019.**

For more information, you can contact our secretariat at : [sec@apbionet.org](mailto:sec@apbionet.org)

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### **CONTACT EMAIL:**

Search\_SystemsBiology@hms.harvard.edu

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