TIGP Bio 2021 Spring Syllabus
Basic Molecular Biology II (B2)

Place: Room 107, New Building of the Institute of Information Science, Academia Sinica.
Time: Tuesday 09:00-12:00
Chair: Dr. Chuan-Hsiung Chang (cchang@ym.edu.tw), Dr. Sen-Lin Tang (sltang@gate.sinica.edu.tw)
Aim: introduce key concepts and methods to manage, integrate and analyze bio big data in the era of post-genomics life sciences
Outline: Big Data in Bioinformatics - From Data-Driven Analysis to Knowledge
Textbook: (Reference books, not required)
1. Scalable Big Data Analytics for Protein Bioinformatics [Publisher: Springer; 1st ed. 2018 edition (September 26, 2018)]
2. Computational Intelligence and Big Data Analytics: Applications in Bioinformatics [Publisher: Springer; 1st ed. 2019 edition (September 9, 2018)]
3. Big Data in Omics and Imaging [Publisher: Chapman and Hall/CRC; 1 edition (June 19, 2018)]
4. Big Data Analytics in Genomics [Publisher: Springer; Softcover reprint of the original 1st ed. 2016 edition (April 25, 2018)]
TA: N/A (Please refer to the lectures respectively shall you have any questions for each class)
Grades: Midterm exam 50%. Final exam 50%.

Note: For **Non-BP student** to register/sit-in any BP course, it is required to gain course chair's permission and follow the steps:

(1) Submit the hard copy or PDF file of the completed TIGP Bioinformatics Course Registration Consent Form to the TIGP BP office

(2) Provide the information via the google form at BP Class Enrollment Information.

The deadline for above requirement is the 4th week of each semester. Signature of corresponding BP Course Chair should be collected and incomplete form will not be accepted.

※Course grade will **NOT** be given (even class enrollment is completed at school) if fail to follow the above procedures.

For the most up-to-date syllabus, please visit https://tigpbp.iis.sinica.edu.tw/tigpbio/index.html

Week	Date	Topics/Brief Description	Lecturers
1	2021/02/23	Genomics and Genome Analysis (I)	Dr. Chuan-Hsiung Chang Changed to Dr. Ueng-Cheng Yang
2	2021/03/02	NGS Analytics - Comparative and Evolutionary Genomics	Dr. I-Sheng Tsai
3	2021/03/09	Microbiome and Metagenomics	Dr. Sen-Lin Tang
4	2021/03/16 ->Moved to 2021/04/06	--	--
5	2021/03/23	Genome Assemblies and Annotations	Dr. I-Sheng Tsai
6	2021/03/30	Transcriptome Informatics	Dr. Ho-Ming Chen
7	2021/04/06 (Moved from 2021/03/16)	Proteomics Informatic	Dr. Victor Ng
8	2021/04/13	Midterm Exam	
9	2021/04/20 ->Moved to 2021/04/27	--	--
10	2021/04/27	Population Genomics	Dr. John Wang
10	2021/04/27 @14:00-17:00 (Moved from 2021/04/20)	Genomics and Genome Analysis (II)	Dr. Chuan-Hsiung Chang Changed to Dr. Ueng-Cheng Yang
11	2021/05/04	Medical Genomics	Dr. Ling-Hui Li
12	2021/05/11	Structural Bioinformatics in Pharmacogenomics	Dr. Jung-Hsin Lin
13	2021/05/18 (Moved to 2021/05/25)	--	--
14	2021/05/25 @Webex	Precision medicine and clinical informatics	Dr. Ueng-Cheng Yang
14	2021/05/25 @14:00-17:00 @Webex (Moved from 2021/05/18)	From Data-Driven Analysis to Knowledge	Dr. Yu-Chao Wang Changed to Dr. Ueng-Cheng Yang
15	2021/06/01	Review Week	

| 16 | 2021/06/08 | Final Exam | |