

Microbial Biotechnology and Drug Discovery

Pre-internship course (online)

陽明交大
NYCU

Institute of Microbiology & Immunology and Office of International Affairs
National Yang Ming Chiao Tung University (NYCU)
No. 155, Sec. 2, Linong Street, Taipei, 112 Taiwan



At this pandemic time, online course is the most efficient platform for cross-country and cross-university education. This 50-hour course is designed as a pre-internship training. The student oral presentation will be organized by mixing students from different universities and countries. It is a great opportunity for the students to learn not just from NYCU, but also from other universities. After the pandemic, we sincerely welcome the participated students to visit Taiwan and conduct lab internship at NYCU. Welcome you to join and have a fruitfully international interaction via this course.

This pre-internship course is designed as a pre-internship lectures. For the students pass the course evaluation, they will be considered to join our future industrial internship programs in Taiwan with a higher priority. It is also applied to the students who are interested in joining lab internship on NYCU campus.

Microbial Biotechnology and Drug Discovery (微生物科技與新藥研發)

Course coordinator: Prof. **Shir-Ly Huang** (黃雪莉)

Professor, Institute of Microbiology and Immunology, NYCU, Taiwan
Vice President, Office of International Affairs, NYCU, Taiwan

Credits: **50 hours**

| | |
|----------------------|---|
| Prospective students | Students who are interested in basic microbiology, strategies for innovative and microbiota-based therapy. |
| Objective | This course is designed to highlight areas of microbial biotechnology and medical microbiology research currently capturing the interest of pharmaceutical and biotech industries, and poised to grow in importance over the next few years. Students will have basic knowledge in bacteria, virus and fungi. The concepts on microbial drug discovery for probiotics and innovative therapeutic biological drugs will also be covered. |
| Grading | Written Exam I (27%), Written Exam II (23%), Oral presentation (25%), Mini-symposium participation (25%) |
| Certificate | A 50-hour certificate will be issued by the National Yang Ming Chiao Tung University. |

Registration fee: USD 250

(The exemption of course registration fee can be applied in your registration form. We will inform the applicants after your course registration followed by an evaluation from course committee.)

Registration: October 1 ~ November 15

Contact person: **Ms. Penny Lin**

Secretary,
Office of International Affairs, NYCU

Tel: +886-2-2826-7000 ext. 62109; E-mail: penny718@nycu.edu.tw

Microbial Biotechnology and Drug Discovery (2021 Syllabus)

Institute of Microbiology & Immunology and Office of International Affairs
National Yang Ming Chiao Tung University, Taipei, Taiwan

Pre-internship lectures



*S: Synchronous, A: Asynchronous

*Grading: Written Exam I (27%), Written Exam II (23%)

| Date | Time (GMT+8) | Content | Instructor | S/A* |
|---------------|--------------|---|------------------------|------|
| Dec. 27 (Mon) | 18:30-20:30 | Opening ceremony Course design and evaluation | Shir-Ly Huang (黃雪莉) | S |
| Dec. 28 (Tue) | 18:30-21:30 | Basic introduction of bacteria | Shir-Ly Huang | S |
| Dec. 29 (Wed) | 18:30-21:30 | Bacterial diversity and ecology | Suh-Der Tsen (程樹德) | S |
| Dec. 30 (Thu) | 09:30-11:30 | Analysis for microbial growth (prerecorded video) | Shir-Ly Huang | A |
| | 14:00-17:00 | Analysis for microbial metabolism and physiology (prerecorded video) | Shir-Ly Huang | A |
| Jan. 3 (Mon) | 09:30-12:30 | Basic immunology | Ming-Han Tsai (蔡明翰) | S |
| Jan. 3 (Mon) | 14:00-16:00 | Antimicrobial agents and development of new antibiotics | Cheng-Yen Kao (高正彥) | S |
| Jan. 4 (Tue) | 09:30-12:30 | Virus, anti-viral drugs and vaccines | Ming-Han Tsai | S |
| | 14:00-16:00 | Basic introduction of fungi and applications | R. Kirschner (羅南德) | S |
| Jan. 5 (Wed) | 09:30-12:30 | Disease animal models and drug discovery | Wei-Hsin Sun (孫維欣) | S |
| Jan. 10 (Mon) | 18:30-21:30 | Written exam I (Lectures in blue color) | Shir-Ly Huang | S |
| Jan. 11 (Tue) | 18:30-21:30 | Written exam II (Lectures in yellow color) | Shir-Ly Huang | S |



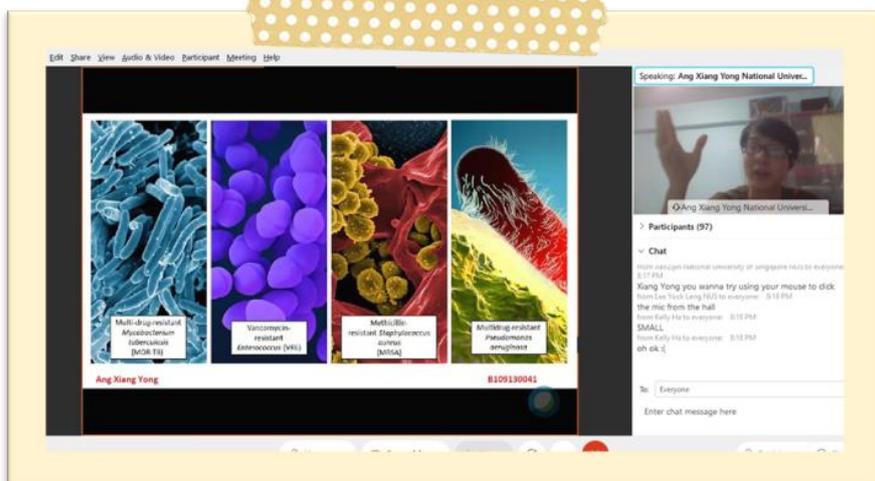
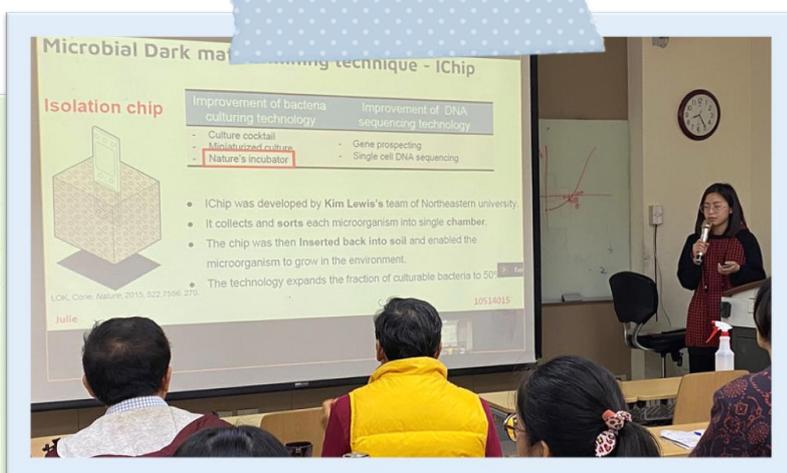
Student oral presentation



*S: Synchronous, A: Asynchronous

*Grading: 25%

| Date | Time (GMT+8) | Content | Instructor | S/A* |
|---------------|--------------|--|--|------|
| Jan. 15 (Sat) | 09:00-12:00 | Oral presentation | Shiau-Ting Hu (胡小婷) Suh-Der Tsen (程樹德) Shir-Ly Huang (黃雪莉) | S |
| | 13:00-17:00 | | | S |
| Jan. 15 (Sat) | 17:00-18:00 | Oral presentation comments Closing ceremony | Shiau-Ting Hu Suh-Der Tsen Shir-Ly Huang | S |



國立陽明交通大學
NATIONAL YANG MING CHIAO TUNG UNIVERSITY

DEC 27, 2021
↓
JAN 15, 2022

MICROBIAL BIOTECHNOLOGY & DRUG DISCOVERY

PRE-INTERNSHIP COURSE (ONLINE)

Institute of Microbiology & Immunology

WHY ENROLL IN THIS COURSE?

You will ...

- Gain basic knowledge in bacteria, virus and fungi
- Learn microbial biotechnology and innovative therapeutic biological drugs

QUESTIONS?

For further information:



Summer Schools at NYCU Taiwan

Enroll Immediately



REGISTRATION: OCT. 1 ~ NOV. 15, 2021

Contact person:
Ms. Penny Lin, Secretary,
Office of International Affairs, NYCU
Tel: +886-2-2826-7000 ext. 62109
E-mail: penny718@nycu.edu.tw

Mini-symposium on Global Pharma Industry and Innovative Drugs



Organizer: Shir-Ly Huang (黃雪莉)

*S: Synchronous, A: Asynchronous

*Grading: 25%

Part I (Jan. 6, Thursday)

| Time (GMT+8) | Speaker | Topic | S/A* |
|--------------|---------------------------------|---------------------------------|------|
| 13:00-15:00 | Chih-Ping Yang (楊志平) | Global pharma industry overview | S |
| 15:00-15:30 | Chih-Ping Yang Shir-Ly Huang | Discussion | S |
| 15:30-17:30 | Chi-Ying Huang (黃奇英) | Drug repurposing | S |
| 17:30-18:00 | Chi-Ying Huang Shir-Ly Huang | Discussion | S |

Part II (Jan. 7, Friday)

| Time (GMT+8) | Speaker | Topic | S/A* |
|--------------|----------------------------------|---|------|
| 13:00-15:00 | Wen-Cherng Tsai (蔡文城) | The development of the third party testing services in Taiwan | S |
| 15:00-15:30 | Wen-Cherng Tsai Shir-Ly Huang | Discussion | S |
| 15:30-17:30 | Shir-Ly Huang | Microbiota and microbiota-based therapies | S |
| 17:30-18:00 | Shir-Ly Huang | Discussion | S |



Course organizer**Shir-Ly Huang (黃雪莉), Ph.D.**

Vice President, Office of International Affairs, NYCU, Taiwan

Teaching team**Wen-Cherng Tsai (蔡文城), Ph.D.**

Chairman, Super Laboratory Co., Ltd., Taiwan

Adjunct Professor, Institute of Microbiology and Immunology (IMI), NYCU, Taiwan

Chih-Ping Yang (楊志平), Ph.D.

CEO, Formosa Laboratories, Inc., Taiwan

Adjunct Professor, Department of Pharmacy, NYCU, Taiwan

<https://www.formosalab.com/index.php>**Shir-Ly Huang (黃雪莉), Ph.D.**

Professor, IMI, NYCU, Taiwan

Professor, Institute of Food Safety and Health Risk Assessment, NYCU, Taiwan

Email: sl.huang@nycu.edu.tw<https://imi-e.ym.edu.tw//files/13-1259-30482.php>**Shiau-Ting Hu (胡小婷), Ph.D.**

Adjunct Professor, IMI, NYCU, Taiwan

Former Director, IMI, National Yang-Ming University (NYMU), Taiwan

Email: tingnahu@gmail.com,**Suh-Der Tsen (程樹德), Ph.D.**

Retired Teacher, IMI, NYMU, Taiwan

Popular science writer

Email: nymutsen@ym.edu.tw, sdtsen6@gmail.com**Chi-Ying Huang (黃奇英), Ph.D.**

Distinguished Professor/Director, Institute of Biopharmaceutical Sciences, NYCU, Taiwan

Email: cyhuang5@nycu.edu.tw<https://secureservercdn.net/198.71.233.72/b62.505.myftpupload.com/wp-content/uploads/2021/02/%E9%BB%83%E5%A5%87%E8%8B%B12021-02-03-CV-.pdf?time=1623392616>**Wei-Hsin Sun (孫維欣), Ph.D.**

Professor, Department of Life Sciences and Institute of Genome Sciences, NYCU, Taiwan

Associate Dean, Office of International Affairs, NYCU, Taiwan

Email: weihsin@nycu.edu.tw<https://dls.nycu.edu.tw/faculty/faculty-member/weihsin.html>**Ming-Han Tsai (蔡明翰), Ph.D.**

Assistant Professor, IMI, NYCU

The Winner of MOST Young Scholar Fellowship, Taiwan. (The Columbus Program)

Email: m.tsai@ym.edu.tw<https://imi.ym.edu.tw//files/13-1255-32723.php>**Cheng-Yen Kao (高正彥), Ph.D.**

Assistant Professor, IMI, NYCU, Taiwan

ASM Young Ambassador

Email: kaocy@ym.edu.tw<https://imi.ym.edu.tw/files/13-1255-39520.php>**Roland Kirschner (羅南德), Ph.D.**

Professor, School of Forestry & Resource Conservation, National Taiwan University, Taiwan

Email: kirschner@ntu.edu.tw<https://www.fo.ntu.edu.tw/en/faculty/member/Roland-Kirschner-24915117>