

Student Science Training Program 2026 Batch 4

3–14 August 2026

Day 1 (Monday, August 3, 2026)

- 08.30–09.00 Welcome & Introduction
Prof. Dr. Banthit Chetsawang
- 09.00–10.00 Lecture and Demonstration: Laboratory Safety Practices
Asst. Prof. Dr. Sirirat Kumarn
- 10.00–10.30 Laboratory session on “Pipetting practice”
Dr. Chonticha Saisawang, Dr. Phattarunda Jaree, Dr. Sukanya Pengpanich, Dr. Nattaya Srisawad, Dr. Supajit Sraphet, Dr. Piengtawan Tappiban, Dr. Phattara-orn Havanapan, Dr. Thiraphong Ho, Ms. Naraporn Sirinonthanaweche and Mr. Pannaphan Makarathut
- 10.30–11.30 Lecture on “Polymerase Chain Reaction (PCR)”
Dr. Chonticha Saisawang
- 11.30–12.00 Laboratory session on “DNA amplification by PCR”
Dr. Chonticha Saisawang and team
- 12.00–13.00 Lunch
- 13.00–16.00 Laboratory session on “Agarose gel electrophoresis”
“Agarose gel setting”
“Practicing agarose gel loading”
Dr. Chonticha Saisawang and team

Day 2 (Tuesday, August 4, 2026)

- 09.00–10.00 Lecture on “Molecular cloning”
Dr. Chonticha Saisawang
- 10.00–11.00 Laboratory session on “PCR purification and DNA concentration measurement by nanodrop”
Dr. Chonticha Saisawang and team
- 11.00–11.30 Lecture on “Ligation”
Dr. Chonticha Saisawang
- 11.30–12.00 Laboratory session on “Ligation”
Dr. Chonticha Saisawang and team
- 12.00–13.00 Lunch
- 13.00–14.00 Laboratory session on “Bacterial transformation”
Dr. Chonticha Saisawang and team
- 14.00–15.00 Lecture on “Blue-white screening”
Dr. Chonticha Saisawang
- 15.00–16.00 Laboratory session on “Bacterial spreading and Culture inoculation (LB broth)”
Dr. Chonticha Saisawang and team

Day 3 (Wednesday, August 5, 2026)

- 09.00–09.30 Lecture on “Analysis of recombinant plasmid”
Dr. Chonticha Saisawang
- 09.30–12.00 Laboratory session on “Plasmid extraction”
Dr. Chonticha Saisawang and team
- 12.00–13.00 Lunch
- 13.00–13.30 Wrap-up and discussion
Dr. Chonticha Saisawang and team
- 13.30–14.30 Lecture on “Application of recombinant DNA technology”
Dr. Chonticha Saisawang
- 14.30–16.00 Campus Tour
*Ms. Panutchanat Khamtonwong, Ms. Pinjutha Ratchatamethawin and
Mr. Yarnyong Kongmahaphuk*

Day 4 (Thursday, August 6, 2026)

- 09:00 – 10:00 Lecture on “Thalassemia”
Dr. Kittiphong Paiboonsukwong
- 10:00 – 12:00 Laboratory session on “DNA Analysis for Alpha-Thalassemia”
*Dr. Thongperm Munkongdee, Dr. Kittiphong Paiboonsukwong,
Asst. Prof. Dr. Natee Jearawiriyapaisarn, Asst. Prof. Dr. Phatchariya Phannasil,
Dr. Benjaporn Kiatpakdee, Ms. Nattrika Buasuwan, Ms. Usa Nuttapolwat and team*
- 12:00 – 13:00 Lunch
- 13:00 – 16:00 Laboratory session on “DNA Analysis for Alpha-Thalassemia” (cont.)
Dr. Thongperm Munkongdee and team

Day 5 (Friday, August 7, 2026)

- 09:00 – 10:30 Lecture on “Plant Tissue Culture and Application”
Dr. Panitch Boonsnongcheep
- 10:30 – 12:00 Laboratory session on “Plant Tissue Culture”
*Dr. Panitch Boonsnongcheep, Assoc. Prof. Dr. Kanokporn Triwitayakorn,
Dr. Supajit Sraphet, Dr. Nattaya Srisawad, Dr. Piengtawan Tappiban,
Ms. Nuanwan Pongtanom, Ms. Somsri Sakdee, and Ms. Nawarat Suksee*
- 12:00 – 13:00 Lunch
- 13:00 – 16:00 Laboratory session on “Plant Tissue Culture”
Dr. Panitch Boonsnongcheep, and team

Day 6 (Monday, August 10, 2026)

- 09:00 – 10:00 Lecture on “Immunoassay”
Asst. Prof. Dr. Alita Kongchanagul
- 10:00 – 12:00 Laboratory session on Antibody diagnosis
Asst. Prof. Dr. Alita Kongchanagul, Ms. Kunjimas Ketsuwan, Mr. Iyacoob khunsri, Dr. Ekkarat Rodpai, Ms. Phissinee Jakaew and Ms. Surat Punyahathaikul
- 12:00 – 13:00 Lunch
- 13:00 – 14:30 Lecture on Machine Learning in Molecular Biology Applications”
Dr. Ittipat Meewan
- 14:30 – 16:00 Laboratory session “Tutorial on Machine Learning for Disease Prediction”
Dr. Ittipat Meewan and team

Day 7 (Tuesday, August 11, 2026)

- 09:00 – 10:00 Lecture on “Animal Cell culture”
Dr. Chutima Thepparit
- 10:00 – 12:00 Laboratory session on “Animal Cell culture”
Dr. Chutima Thepparit, Ms. Sanjira Juntarapornchai, Ms. Sasiporn Ruangdechsuwan, Ms. Surat Punyahathaikul, Mr. Ekkarat Rodpai and team
- 12:00 – 13:00 Lunch
- 13:00 – 16:00 Laboratory session on “Animal Cell culture”
Dr. Chutima Thepparit and team

Day 8 (Wednesday, August 12, 2026) (H.M. Queen Sirikit’s Birthday)

- 09:00 – 10:00 Lecture on “Microbial Forensics”
Assoc. Prof. Dr.Soraya Chaturongakul
- 10:00 – 12:00 Laboratory session on “bacterial isolation and identification”
Assoc. Prof. Dr.Soraya Chaturongakul and team
(i.e., conventional method-biochem media, Gram-stain)
- 12:00 – 13:00 Lunch
- 13:00 – 13:30 Lecture on “Current methods in Microbial Forensics and Epidemiology”
Assoc. Prof. Dr.Soraya Chaturongakul
- 13:30 – 16:30 Laboratory session on “bacterial isolation and identification”
Assoc. Prof. Dr.Soraya Chaturongakul and team
(i.e., molecular method-DNA extraction, qPCR)”
Wrap-up lecture/discussion on future direction of Microbial Forensics

Day 9 (Thursday, August 13, 2026)

- 09:00 – 10:00 Lecture on “Protein Expression and Purification”
Assoc. Prof. Dr. Chartchai Krittanaei
- 10:00 – 12:00 Laboratory session on “Protein World: protein isolation and visualization”
(Bacterial culture, protein expression, protein preparation)
*Dr. Phattara-orn Havanapan, Assoc. Prof. Dr. Chartchai Krittanaei, Dr. Duangnapa Kovanich,
Dr. Phattarunda Jaree, Dr. Ittipat Meewan, Mr. Pannaphan Makarathut, Ms. Nuanwan Pongtanom
and Ms. Somsri Sakdee*
- 12:00 – 13:00 Lunch
- 13:00 – 16:00 Laboratory session on “Protein World: protein isolation and visualization” (cont.)
Dr. Phattara-orn Havanapan and team

Day 10 (Friday, August 14, 2026)

- 09.00–10.00 Lecture on “Antibiotics and susceptibility testing methods”
Assoc. Prof. Dr. Poochit Nonejuie
- 10.00–12.00 Laboratory session on “Antibiotics and susceptibility testing”
Assoc. Prof. Dr. Poochit Nonejuie and team
- 12.00–13.00 Lunch
- 13.00–13.30 Lecture on “Bacterial cytological profiling (BCP)”
Assoc. Prof. Dr. Poochit Nonejuie and team
- 13.30–15.30 Laboratory session on “Antibiotics and susceptibility testing (cont.)”
Assoc. Prof. Dr. Poochit Nonejuie and team
- 15.30–16.30 Lecture on “Real-world applications of molecular biosciences”
Closing ceremony