

Student Science Training Program 2022

11–22 July 2022

Day 1 (Monday, 11 July 2022)

- 08:30 – 09:00 Welcome and introduction Prof. Dr. Duncan R. Smith
- 09:00 – 10:30 Lecture on
“Overview: Polymerase Chain Reaction (PCR) & Fluorescent Protein Technology”
Dr. Chalongrat Noree
- 10:30–11:30 Laboratory session on “Basic Pipetting Technique and PCR”
Dr. Chalongrat Noree, Dr. Supajit Sraphet, Dr. Nattaya Srisawad, Dr. Phattarunda Jaree, Ms. Naraporn Sirinonthanawech Mr. Htut Htoo and team
- 11:30–12:30 Lunch
- 12:30–13:30 Lecture and demonstration on
“How lab safety is a friend in need during-the COVID-19 pandemic”
Dr. Sirirat Kumarn
- 13:30–15:30 Laboratory session on “Agarose Gel Electrophoresis”
Dr. Chalongrat Noree and team
Laboratory session on “PCR Purification”
Dr. Chalongrat Noree and team
Laboratory session on “Preparation of O/N Yeast Culture”
Dr. Chalongrat Noree and team
- 15:30–16:30 Computer Lecture and Laboratory on “Computational Primer Design”
Dr. Chalongrat Noree and team

Day 2 (Tuesday, 12 July 2022)

- 09:00–09:30 Laboratory session on “Preparation of Log-Phase Yeast Culture”
Dr. Chalongrat Noree and team
- 09:30–11:30 Discussion “PCR-Based Engineering of Yeast Genome”
Dr. Chalongrat Noree and team
- 11:30–12:30 Lunch
- 12:30–15:30 Laboratory session on “Preparation of Yeast Competent Cells”
Laboratory session on “Yeast Transformation”
Dr. Chalongrat Noree and team

Day 3 (Wednesday, 13 July 2022) **Asarnha Bucha Day**

- 09:00–09:30 Laboratory session on “Replica Plating”
Dr. Chalongrat Noree and team
- 09:30–12:00 Laboratory session on “Screening Transformants using Fluorescence Microscope”
Dr. Chalongrat Noree and team
- 12:00–13:00 Lunch
- 13:00–15:00 Recap
Dr. Chalongrat Noree and team
- 15:00 – 16:00 Lecture on “COVID-19 and Animal: What we need to know?”

Day 4 (Thursday, 14 July 2022) Buddhist Lent Day

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

Day 5 (Friday, 15 July 2022)

- 09:00 – 10:00 Lecture on “Protein Expression and Purification”
Assoc. Prof. Dr. Chartchai Krittanai
- 10:00 – 12:00 Laboratory session on “Protein Expression and Purification”
(Bacterial culture, protein expression, protein preparation)
*Dr. Chonticha Saisawang, Dr. Phattara-orn Havanapan,
Dr. Duangnapa Kovanich and Dr. Arpaporn Sutipatanasomboon*
- 12:00 – 13:00 Lunch
- 13:00 – 16:00 Laboratory session on “Protein Expression and Purification” (cont.)
*Dr. Chonticha Saisawang, Dr. Phattara-orn Havanapan,
Dr. Duangnapa Kovanich and Dr. Arpaporn Sutipatanasomboon*

Day 6 (Monday, 18 July 2022)

- 09:00 – 12:00 Laboratory session on “Protein Expression and Purification” (cont.)
*Dr. Chonticha Saisawang, Dr. Phattara-orn Havanapan,
Dr. Duangnapa Kovanich and Dr. Arpaporn Sutipatanasomboon*
- 12:00 – 13:00 Lunch
- 13:00 – 14:00 Lecture on “Animal Cell culture”
Dr. Chutima Thepparit
- 14:00 – 16:00 Laboratory session on “Animal Cell culture”
Dr. Chutima Thepparit and team

Day 7 (Tuesday, 19 July 2022)

- 09:00 – 10:00 Laboratory session on “Animal Cell culture”
Dr. Chutima Thepparit and team
- 10:00 – 11:00 Lecture on “Genome editing”
Asst. Prof. Dr. Alisa Tubsuwan
- 11:00 – 12:00 Laboratory session on “Genome editing using CRISPR/Cas9”
Asst. Prof. Dr. Alisa Tubsuwan and team
- 12:00 – 13:00 Lunch
- 13:00 – 16:00 Laboratory session on “Genome editing using CRISPR/Cas9”
Asst. Prof. Dr. Alisa Tubsuwan and team

Day 8 (Wednesday, 20 July 2022)

- 09:00 – 10:30 Lecture on “Plant Tissue Culture and Application”
Dr. Panitch Boonsnongcheep
- 10:30 – 12:00 Laboratory session on “Plant Tissue Culture”
*Assoc. Prof. Dr. Kanokporn Triwitayakorn, Dr. Supajit Sraphet
Dr. Panitch Boonsnongcheep Dr. Arpaporn Sutipatanasomboon
Dr. Nattaya Srisawad Ms. Vadee Rumruay and team*
- 12:00 – 13:00 Lunch
- 13:00 – 16:00 Laboratory session on “Plant Tissue Culture”
*Assoc. Prof. Dr. Kanokporn Triwitayakorn, Dr. Supajit Sraphet
Dr. Panitch Boonsnongcheep Dr. Arpaporn Sutipatanasomboon
Dr. Nattaya Srisawad Ms. Vadee Rumruay and team*

Day 9 (Thursday, 21 July 2022)

- 09:00 – 10:00 Lecture on “How does COVID-19 affect the brain?”
Dr. Jiraporn Panmanee
- 10:00 – 12:00 Laboratory session on “Brain anatomy and function”
*Asst. Prof. Dr. Sujira Mukda, Dr. Chutikorn Nopparat and
Dr. Jiraporn Panmanee*
- 12:00 – 13:00 Lunch
- 13:00 – 14:00 Lecture on “Animal behavior studies in vaccines development-related to covid-19 vaccines”
Asst. Prof. Dr. Sukonthar Ngampramuan
- 14:00 – 16:00 Laboratory session on “The demonstration of animal behaviour study”
Asst. Prof. Dr. Sukonthar Ngampramuan

Day 10 (Friday, 22 July 2022)

- 09:00 – 10:00 Lecture on “What you need to know about COVID-19 vaccines”
Dr. Alita Kongchanagul
- 10:00 – 11:00 Lecture on “Real-world applications of molecular biosciences”
Dr. Poochit Nonejuie
- 11:00 – 12:00 Campus Tour
*Ms. Kaewkhawn Banjong ,Ms. Yada Uasmith, Mr. Ritkakrit Poonsri
and Mr. Yarnyong Kongmahaphuk*
- 12:00 – 13:00 Lunch
- 13:00 – 15:00 Lecture on “Structural Exploration of Coronavirus Drug Targets”
Asst. Prof. Dr. Duangrudee Tanramluk
- 15:00 – 15:30 Closing ceremony
Dr. Alita Kongchanagul

Student Science Training Program 2022 25 July –5 August 2022

Day 1 (Monday, 25 July 2022)

- 08:30 – 09:00 Welcome and introduction Prof. Dr. Duncan R. Smith
- 09:00 – 10:30 Lecture on
 “Overview: Polymerase Chain Reaction (PCR) & Fluorescent Protein Technology”
Dr. Chalongrat Noree
- 10:30–11:30 Laboratory session on “Basic Pipetting Technique and PCR”
Dr. Chalongrat Noree, Dr. Supajit Sraphet, Dr. Nattaya Srisawad, Dr. Phattarunda Jaree, Ms. Naraporn Sirinonthanawech Mr. Htut Htoo and team
- 11:30–12:30 Lunch
- 12:30–13:30 Lecture and demonstration on
 “How lab safety is a friend in need during-the COVID-19 pandemic”
Dr. Sirirat Kumarn
- 13:30–15:30 Laboratory session on “Agarose Gel Electrophoresis”
Dr. Chalongrat Noree and team
 Laboratory session on “PCR Purification”
Dr. Chalongrat Noree and team
 Laboratory session on “Preparation of O/N Yeast Culture”
Dr. Chalongrat Noree and team
- 15:30–16:30 Computer Lecture and Laboratory on “Computational Primer Design”
Dr. Chalongrat Noree and team

Day 2 (Tuesday, 26 July 2022)

- 09:00–09:30 Laboratory session on “Preparation of Log-Phase Yeast Culture”
Dr. Chalongrat Noree and team
- 09:30–11:30 Discussion “PCR-Based Engineering of Yeast Genome”
Dr. Chalongrat Noree and team
- 11:30–12:30 Lunch
- 12:30–15:30 Laboratory session on “Preparation of Yeast Competent Cells”
 Laboratory session on “Yeast Transformation”
Dr. Chalongrat Noree and team

Day 3 (Wednesday, 27 July 2022)

- 09:00–09:30 Laboratory session on “Replica Plating”
Dr. Chalongrat Noree and team
- 09:30–12:00 Laboratory session on “Screening Transformants using Fluorescence Microscope”
Dr. Chalongrat Noree and team
- 12:00–13:00 Lunch
- 13:00–15:00 Recap
Dr. Chalongrat Noree and team
- 15:00 – 16:00 Lecture on “COVID-19 and Animal: What we need to know?”
Assoc. Prof. Dr. Panat Anuracpreeda

Day 4 (Thursday, 28 July 2022) H.M.King Maha Vajiralongkorn's Birthday

- 09:00 – 10:00 Lecture on “Thalassemia”
Dr. Kittiphong Paiboonsukwong
- 10:00 – 12:00 Laboratory session on “DNA Analysis for Alpha-Thalassemia”

*Dr. Kittiphong Paiboonsukwong, Dr. Natee Jearawiriyapaisarn,
Dr. Phatchariya Phannasil Ms. Thongperm Munkongdee and team*
12:00 – 13:00 Lunch
13:00 – 16:00 Laboratory session on “DNA Analysis for Alpha-Thalassemia” (cont.)
*Dr. Kittiphong Paiboonsukwong, Dr. Natee Jearawiriyapaisarn,
Dr. Phatchariya Phannasil Ms. Thongperm Munkongdee and team*

Day 5 (Friday, 29 July 2022)

09:00 – 10:00 Lecture on “Protein Expression and Purification”
Assoc. Prof. Dr. Chartchai Krittanai
10:00 – 12:00 Laboratory session on “Protein Expression and Purification”
(Bacterial culture, protein expression, protein preparation)
*Dr. Chonticha Saisawang, Dr. Phattara-orn Havanapan,
Dr. Duangnapa Kovanich and Dr. Arpaporn Sutipatanasomboon*
12:00 – 13:00 Lunch
13:00 – 16:00 Laboratory session on “Protein Expression and Purification” (cont.)
*Dr. Chonticha Saisawang, Dr. Phattara-orn Havanapan,
Dr. Duangnapa Kovanich and Dr. Arpaporn Sutipatanasomboon*

Day 6 (Monday, 1 August 2022)

09:00 – 12:00 Laboratory session on “Protein Expression and Purification” (cont.)
*Dr. Chonticha Saisawang, Dr. Phattara-orn Havanapan,
Dr. Duangnapa Kovanich and Dr. Arpaporn Sutipatanasomboon*
12:00 – 13:00 Lunch
13:00 – 14:00 Lecture on “Animal Cell culture”
Dr. Chutima Thepparit
14:00 – 16:00 Laboratory session on “Animal Cell culture”
Dr. Chutima Thepparit and team

Day 7 (Tuesday, 2 August 2022)

09:00 – 10:00 Laboratory session on “Animal Cell culture”
Dr. Chutima Thepparit and team
10:00 – 11:00 Lecture on “Genome editing”
Asst. Prof. Dr. Alisa Tubsuwan
11:00 – 12:00 Laboratory session on “Genome editing using CRISPR/Cas9”
Asst. Prof. Dr. Alisa Tubsuwan and team
12:00 – 13:00 Lunch
13:00 – 16:00 Laboratory session on “Genome editing using CRISPR/Cas9”
Asst. Prof. Dr. Alisa Tubsuwan and team

Day 8 (Wednesday, 3 August 2022)

09:00 – 10:30 Lecture on “Plant Tissue Culture and Application”
Dr. Panitch Boonsnongcheep
10:30 – 12:00 Laboratory session on “Plant Tissue Culture”
Assoc. Prof. Dr. Kanokporn Triwitayakorn, Dr. Supajit Sraphet

*Dr. Panitch Boonsnongcheep Dr. Arpaporn Sutipatanasomboon
Dr. Nattaya Srisawad Ms. Vadee Rumruay and team*
12:00 – 13:00 Lunch
13:00 – 16:00 Laboratory session on “Plant Tissue Culture”
*Assoc. Prof. Dr. Kanokporn Triwitayakorn, Dr. Supajit Sraphet
Dr. Panitch Boonsnongcheep Dr. Arpaporn Sutipatanasomboon
Dr. Nattaya Srisawad Ms. Vadee Rumruay and team*

Day 9 (Thursday, 4 August 2022)

09:00 – 10:00 Lecture on “How does COVID-19 affect the brain?”
Dr. Jiraporn Panmanee
10:00 – 12:00 Laboratory session on “Brain anatomy and function”
*Asst.Prof. Dr. Sujira Mukda, Dr. Chutikorn Nopparat and
Dr. Jiraporn Panmanee*
12:00 – 13:00 Lunch
13:00 – 14:00 Lecture on “Animal behavior studies in vaccines development-related to
covid-19 vaccines”
Asst. Prof. Dr. Sukonthar Ngampramuan
14:00 – 16:00 Laboratory session on “The demonstration of animal behaviour study”
Asst. Prof. Dr. Sukonthar Ngampramuan

Day 10 (Friday, 5 August 2022)

09:00 – 10:00 Lecture on “What you need to know about COVID-19 vaccines”
Dr. Alita Kongchanagul
10:00 – 11:00 Lecture on “Real-world applications of molecular biosciences”
Dr. Poochit Nonejuie
11:00 – 12:00 Campus Tour
*Ms. Kaewkhawn Banjong ,Ms. Yada Uasmith, Mr. Ritkakrit Poonsri
and Mr. Yarnyong Kongmahaphuk*
12:00 – 13:00 Lunch
13:00 – 15:00 Lecture on “Structural Exploration of Coronavirus Drug Targets”
Asst. Prof. Dr. Duangrudee Tanramluk
15:00 – 15:30 Closing ceremony
Dr. Alita Kongchanagul

Student Science Training Program 2022 8–19 August 2022

Day 1 (Monday, 8 August 2022)

08:30 – 09:00 Welcome and introduction Prof. Dr. Duncan R. Smith

- 09:00 – 10:30 Lecture on
“Overview: Polymerase Chain Reaction (PCR) & Fluorescent Protein Technology”
Dr. Chalongrat Noree
- 10:30–11:30 Laboratory session on “Basic Pipetting Technique and PCR”
Dr. Chalongrat Noree, Dr. Supajit Sraphet, Dr. Nattaya Srisawad, Dr. Phattarunda Jaree, Ms. Naraporn Sirinonthanawech Mr. Htut Htoo and team
- 11:30–12:30 Lunch
- 12:30–13:30 Lecture and demonstration on
“How lab safety is a friend in need during-the COVID-19 pandemic”
Dr. Sirirat Kumarn
- 13:30–15:30 Laboratory session on “Agarose Gel Electrophoresis”
Dr. Chalongrat Noree and team
Laboratory session on “PCR Purification”
Dr. Chalongrat Noree and team
Laboratory session on “Preparation of O/N Yeast Culture”
Dr. Chalongrat Noree and team
- 15:30–16:30 Computer Lecture and Laboratory on “Computational Primer Design”
Dr. Chalongrat Noree and team

Day 2 (Tuesday, 9 August 2022)

- 09:00–09:30 Laboratory session on “Preparation of Log-Phase Yeast Culture”
Dr. Chalongrat Noree and team
- 09:30–11:30 Discussion “PCR-Based Engineering of Yeast Genome”
Dr. Chalongrat Noree and team
- 11:30–12:30 Lunch
- 12:30–15:30 Laboratory session on “Preparation of Yeast Competent Cells”
Laboratory session on “Yeast Transformation”
Dr. Chalongrat Noree and team

Day 3 (Wednesday, 10 August 2022)

- 09:00–09:30 Laboratory session on “Replica Plating”
Dr. Chalongrat Noree and team
- 09:30–12:00 Laboratory session on “Screening Transformants using Fluorescence Microscope”
Dr. Chalongrat Noree and team
- 12:00–13:00 Lunch
- 13:00–15:00 Recap
Dr. Chalongrat Noree and team
- 15:00 – 16:00 Lecture on “COVID-19 and Animal: What we need to know?”
Assoc. Prof. Dr. Panat Anuracpreeda

Day 4 (Thursday, 11 August 2022)

- 09:00 – 10:00 Lecture on “Thalassemia”
Dr. Kittiphong Paiboonsukwong
- 10:00 – 12:00 Laboratory session on “DNA Analysis for Alpha-Thalassemia”
Dr. Kittiphong Paiboonsukwong, Dr. Natee Jearawiriyapaisarn, Dr. Phatchariya Phannasil Ms. Thongperm Munkongdee and team

12:00 – 13:00 Lunch
13:00 – 16:00 Laboratory session on “DNA Analysis for Alpha-Thalassemia” (cont.)
*Dr. Kittiphong Paiboonsukwong, Dr. Natee Jearawiriyapaisarn,
Dr. Phatchariya Phannasil Ms. Thongperm Munkongdee and team*

Day 5 (Friday, 12 August 2022) Mother's Day

09:00 – 10:00 Lecture on “Protein Expression and Purification”
Assoc. Prof. Dr. Chartchai Krittanai
10:00 – 12:00 Laboratory session on “Protein Expression and Purification”
(Bacterial culture, protein expression, protein preparation)
*Dr. Chonticha Saisawang, Dr. Phattara-orn Havanapan,
Dr. Duangnapa Kovanich and Dr. Arpaporn Sutipatanasomboon*
12:00 – 13:00 Lunch
13:00 – 16:00 Laboratory session on “Protein Expression and Purification” (cont.)
*Dr. Chonticha Saisawang, Dr. Phattara-orn Havanapan,
Dr. Duangnapa Kovanich and Dr. Arpaporn Sutipatanasomboon*

Day 6 (Monday, 15 August 2022)

09:00 – 12:00 Laboratory session on “Protein Expression and Purification” (cont.)
*Dr. Chonticha Saisawang, Dr. Phattara-orn Havanapan,
Dr. Duangnapa Kovanich and Dr. Arpaporn Sutipatanasomboon*
12:00 – 13:00 Lunch
13:00 – 14:00 Lecture on “Animal Cell culture”
Dr. Chutima Thepparit
14:00 – 16:00 Laboratory session on “Animal Cell culture”
Dr. Chutima Thepparit and team

Day 7 (Tuesday, 16 August 2022)

09:00 – 10:00 Laboratory session on “Animal Cell culture”
Dr. Chutima Thepparit and team
10:00 – 11:00 Lecture on “Genome editing”
Asst. Prof. Dr. Alisa Tubsuwan
11:00 – 12:00 Laboratory session on “Genome editing using CRISPR/Cas9”
Asst. Prof. Dr. Alisa Tubsuwan and team
12:00 – 13:00 Lunch
13:00 – 16:00 Laboratory session on “Genome editing using CRISPR/Cas9”
Asst. Prof. Dr. Alisa Tubsuwan and team

Day 8 (Wednesday, 17 August 2022)

09:00 – 10:30 Lecture on “Plant Tissue Culture and Application”
Dr. Panitch Boonsnongcheep
10:30 – 12:00 Laboratory session on “Plant Tissue Culture”
*Assoc. Prof. Dr. Kanokporn Triwitayakorn, Dr. Supajit Sraphet
Dr. Panitch Boonsnongcheep Dr. Arpaporn Sutipatanasomboon*

Dr. Nattaya Srisawad Ms. Vadee Rumruay and team
12:00 – 13:00 Lunch
13:00 – 16:00 Laboratory session on “Plant Tissue Culture”
Assoc. Prof. Dr. Kanokporn Triwitayakorn, Dr. Supajit Sraphet
Dr. Panitch Boonsongcheep Dr. Arpaporn Sutipatanasomboon
Dr. Nattaya Srisawad Ms. Vadee Rumruay and team

Day 9 (Thursday, 18 August 2022)

09:00 – 10:00 Lecture on “How does COVID-19 affect the brain?”
Dr. Jiraporn Panmanee
10:00 – 12:00 Laboratory session on “Brain anatomy and function”
Asst.Prof. Dr. Sujira Mukda, Dr. Chutikorn Nopparat and
Dr. Jiraporn Panmanee
12:00 – 13:00 Lunch
13:00 – 14:00 Lecture on “Animal behavior studies in vaccines development-related to covid-19 vaccines”
Asst. Prof. Dr. Sukonthar Ngampramuan
14:00 – 16:00 Laboratory session on “The demonstration of animal behaviour study”
Asst. Prof. Dr. Sukonthar Ngampramuan

Day 10 (Friday, 19 August 2022)

09:00 – 10:00 Lecture on “What you need to know about COVID-19 vaccines”
Dr. Alita Kongchanagul
10:00 – 11:00 Lecture on “Real-world applications of molecular biosciences”
Dr. Poochit Nonejuie
11:00 – 12:00 Campus Tour
Ms. Kaewkhawn Banjong ,Ms. Yada Uasmith, Mr. Ritkakrit Poonsri
and Mr. Yarnyong Kongmahaphuk
12:00 – 13:00 Lunch
13:00 – 15:00 Lecture on “Structural Exploration of Coronavirus Drug Targets”
Asst. Prof. Dr. Duangrudee Tanramluk
15:00 – 15:30 Closing ceremony
Dr. Alita Kongchanagul