

Student Science Training Program 2020

13–24 July 2020

Day 1 (Monday, 13 July 2020)

- 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 and Team
- 11:30–12:30 **Lunch**
- 12:30–13:30 Lecture and demonstration on “Laboratory Safety”
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 Laboratory on “Computational Primer Design”
Dr. Chalongrat Noree and team

Day 2 (Tuesday, 14 July 2020)

- 09:00–09:30 Laboratory session on “Preparation of Log-Phase Yeast Culture”
Dr. Chalongrat Noree and team
- 09:30–11:30 Discussion 1
- 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, 15 July 2020)

- 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

Day 4 (Thursday, 16 July 2020)

- 09:00 – 10:00 Lecture on “Brain, mind and behavior”
Asst. Prof. Dr. Kittikun Viwatpinyo
- 10:00 – 12:00 Laboratory session on “Brain anatomy and function”
Asst. Prof. Dr. Kittikun Viwatpinyo and Team
- 12:00 – 13:00 **Lunch**
- 13:00 – 14:30 Lecture on “Neurological tests in the animal”
Asst. Prof. Dr. Sukonthar Ngampramuan

- 14:30 – 15: 30 Laboratory session on “Novel Object Recognition Test and Pole Test”
 Asst. Prof. Dr. Sukonthar Ngampramuan and Team
- 15:30 – 16:00 Closing ceremony
 Dr. Alita Kongchanagul

Day 5 (Friday, 17 July 2020)

- 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, 20 July 2020)

- 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, 21 July 2020)

- 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, 22 July 2020)

- 09:00 – 10:30 Lecture on “Alzheimer’s Disease the Current Trends in Research”
 Dr. Subhamita Maitra
- 10:30 – 12:00 Laboratory session on “Understanding molecular mechanism of Alzheimer’s
 Disease techniques Protein Estimation & Western Blot”
 Dr. Subhamita Maitra, Dr. Arpita Dey, and Tea
- 12:00 – 13:00 **Lunch**
- 13:00 – 16:00 Laboratory session on “Western Blot continued”
 Dr. Subhamita Maitra, Dr. Arpita Dey, Mr.Ekkarat Rodpai and Team

Day 9 (Thursday, 23 July 2020)

- 09:00 – 12:00 Laboratory session on “Western Blot continued”

Dr. Subhamita Maitra, Dr. Arpita Dey, Mr. Ekkarat Rodpai and Team

12:00 – 13:00 **Lunch**

13:00 – 15:00 Lecture on “Molecular Visualization”

Asst. Prof. Dr. Duangrudee Tanramluk

15:00 – 16:00 Lecture on “Application of Molecular Biology Techniques”

Dr. Poochit Nonejuie

Day 10 (Friday, 24 July 2020)

09:00 – 10:00 Lecture on “Thalassemia”

Dr. Kittipong Paiboonsukwong

10:00 – 12:00 Laboratory session on “DNA Analysis for Alpha-Thalassemia”

Dr. Kittipong Paiboonsukwong, Dr. Natee Jearawiriyapaisarn,

Ms Thongperm Munkongdee and team

12:00 – 13:00 **Lunch**

13:00 – 16:00 Laboratory session on “DNA Analysis for Alpha-Thalassemia” (cont.)

Dr. Kittipong Paiboonsukwong, Dr. Natee Jearawiriyapaisarn,

Ms Thongperm Munkongdee and team

Student Science Training Program 2020
27 July –7 August 2020

Day 1 (Monday, 27 July 2020)

- 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 and Team
- 11:30–12:30 **Lunch**
- 12:30–13:30 Lecture and demonstration on “Laboratory Safety”
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 Laboratory on “Computational Primer Design”
Dr. Chalongrat Noree and team

Day 2 (Tuesday, 28 July 2020)

- 09:00–09:30 Laboratory session on “Preparation of Log-Phase Yeast Culture”
Dr. Chalongrat Noree and team
- 09:30–11:30 Discussion 1
- 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, 29 July 2020)

- 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

Day 4 (Thursday, 30 July 2020)

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

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

Day 5 (Friday, 31 July 2020)

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, 3 August 2020)

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, 4 August 2020)

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, 5 August 2020)

09:00 – 10:30 Lecture on “Alzheimer’s Disease the Current Trends in Research”
Dr. Subhamita Maitra

10:30 – 12:00 Laboratory session on “Understanding molecular mechanism of Alzheimer’s
Disease techniques Protein Estimation & Western Blot”
Dr. Subhamita Maitra, Dr. Arpita Dey, Mr. Ekkarat Rodpai and Team

12:00 – 13:00 **Lunch**

13:00 – 16:00 Laboratory session on “Western Blot continued”
Dr. Subhamita Maitra, Dr. Arpita Dey, Mr. Ekkarat Rodpai and Team

Day 9 (Thursday, 6 August 2020)

09:00 – 12:00 Laboratory session on “Western Blot continued”

Dr. Subhamita Maitra, Dr. Arpita Dey, Mr.Ekkarat Rodpai and Team

12:00 – 13:00 **Lunch**

13:00 – 15:00 Lecture on “Molecular Visualization”

Asst. Prof. Dr. Duangrudee Tanramluk

15:00 – 16:00 Lecture on “Application of Molecular Biology Techniques”

Dr. Poochit Nonejuie

Day 10 (Friday, 7 August 2020)

09:00 – 10:00 Lecture on “Brain, mind and behavior”

Asst. Prof. Dr. Kittikun Viwatpinyo

10:00 – 12:00 Laboratory session on “Brain anatomy and function”

Asst. Prof. Dr. Kittikun Viwatpinyo and Team

12:00 – 13:00 **Lunch**

13:00 – 14:30 Lecture on “Neurological tests in the animal”

Asst. Prof. Dr. Sukonthar Ngampramuan

14:30 – 15: 30 Laboratory session on “Novel Object Recognition Test and Pole Test”

Asst. Prof. Dr. Sukonthar Ngampramuan and Team

15:30 – 16:00 Closing ceremony

Dr. Alita Kongchanagul

