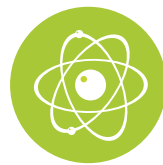


PROFESSIONAL TRAINING PROGRAMS



Bio
Informatics



i3L

cepd

CENTER FOR EXECUTIVE & PROFESSIONAL DEVELOPMENT

CEPD PROFESSIONAL TRAINING

i3L' Professional Training Programs (PTP) are designed to increase knowledge and skills of professionals who aspire to be among top performers in their organizations. PTP involves a various approach to learn, integrating small or large group discussion, case study, role playing, project and strategy simulation to provide new insights and give you opportunities to apply the concepts, theories or models that you learn.

A team of faculty and experts, from diverse life sciences disciplines, provide in-depth knowledge in core life sciences areas including Biotechnology, Bioinformatics, Biomedicine, Food Science, Food Technology, Bioentrepreneurship and Pharmacy. Class sessions are designed to capture the years of experience in the fields. Meanwhile, learning groups provide opportunities for exploring critical issues and collaboration promote spirited friendship that leads to deep and lasting relationship.



**Bio
Entrepreneurship**



**Bio
Informatics**



**Bio
Medicine**



**Bio
Technology**



**Food
Science**



**Food
Technology**



TESTIMONIAL

“

My first impression of i3L is that I feel as if I were studying abroad. i3L has highly competent faculty and staff who are helpful and open to questions and ideas as well as equipped laboratory facilities. I have been enjoying my experience so far as a participant of the biomanufacturing training program [BTP]. The BTP has a well designed curriculum as the program is sectioned to simulate the conditions in the work place which is very helpful. As I have a background in chemical engineering, I am excited to be a part of a in the biomedical industry as I feel that this is a fast growing industry worldwide. My goal is to make a positive impact locally and globally from the knowledge and experience I have gained to help create better lives.

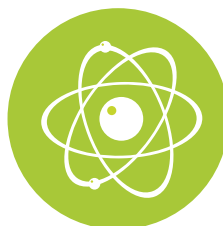
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*Caesario Nugroho Sutyoso
Biomanufacturing Training Program
Master of Science in Chemical Engineering, Arizona State University*

SHORT COURSES

BioInformatics

- › First mover in Indonesia.
- › Incubator of scientific acceleration.
- › Personalized learning experience.



Bio
Informatics



Proteomics

Fee: IDR 7.000.000

| Duration: 28 hours

| Course start: Jan - Aug 2017

Course Description

This course will give a fundamental understanding of both “bottom-up” as well as “top-down” proteomics. Discussing different methods of protein isolation, purification and identification to novel drug development based on 3D modeling of proteins and protein-protein interactions. Simple programming will be used to access online databases and how to import and implement .pdb files within Python. Furthermore the students will be exposed to protein array analysis to identify potential drug targets based on comparison of healthy and disease profiles.

DELIVERY METHOD



- 30% Lecture
- 20% Discussion / Group Activity
- 50% Hands-on *In-silico* analysis

COURSE CONTENT



- 40% Fundamentals and Concepts
- 50% Industry Application
- 10% Emerging Technologies



Genomics

Fee: IDR 7.000.000

| Duration: 28 hours

| Course start: Jan - Aug 2017

Course Description

Genomics has been and still is a very active application in Bioinformatics. The central role of computer science comes from the enormous amount of data generated on a daily basis. Students will be exposed to sequencing and assembling DNA sequences and will analyze genomes in order to locate genes. Sequence alignments to find conserved region, novel genes, regulatory elements, implementation of multiple alignment algorithms, basics of heuristics and hidden Markov models, will expand the knowledge on the strengths and weaknesses of genomics by using the wide array of online databases and tools.

DELIVERY METHOD



- 30% Lecture
- 10% Discussion / Group Activity
- 60% Hands-on *In-silico* analysis

COURSE CONTENT



- 50% Fundamentals and Concepts
- 40% Industry Application
- 10% Emerging Technologies



Molecular Evolution

Fee: IDR 11.000.000

| Duration: 42 hours

| Course start: Jan - Aug 2017

Course Description

The course of Molecular Evolution is defined as the study of evolutionary processes acting at molecular level. During the course the student will gain insight towards the molecular mechanisms and mathematical modeling in the process of evolution. The course consists of three main parts which are the fundamentals of molecular evolution in which the basics of evolution will be compared to molecular evolution, the process and pattern of evolutionary changes in molecular sequences and evolutionary genetics. Furthermore the students will be exposed to experimental ways of tracing and detecting these changes.

DELIVERY METHOD



- 50% Lecture
- 30% Discussion / Group Activity
- 20% Hands-on *In-silico* analysis

COURSE CONTENT



- 60% Fundamentals and Concepts
- 40% Industry Application



Metagenomics

Fee: IDR 7.000.000

| Duration: 28 hours

| Course start: Sept 2017 - Jan 2018

Course Description

Metagenomics covers genomes that have been directly recovered from environmental samples which is especially important in understanding the genetic composition and metabolism of complex microbial communities. This course will train the students how to effectively use publicly available resources to manage, analyze, interpret and share metagenomics data. It will further their knowledge on descriptive phylogenetics and how metagenomics will reveal differences previously not found by normal culture methods. Approaches such as marker gene, high throughput screening and whole gene shotgun will be discussed and strengthened by hand-on exercises.

DELIVERY METHOD



- 50% Lecture
- 30% Discussion / Group Activity
- 20% Hands-on *In-silico* analysis

COURSE CONTENT



- 50% fundamental and concepts
- 40% industry application
- 10% emerging technologies



Transcriptomics

Fee: IDR 7.000.000

| Duration: 28 hours

| Course start: Sept 2017 - Jan 2018

Course Description

By using programs such as R Bioconductor, genevestigator and Oncomine, students will interactively explore the power of transcriptomics. By using available microarray-derived gene expression profiles [GEO databases] student will search for tissue and stage-of-development-specific patterns of expression and coexpression of genes. This will provide the introduction to microarrays. Structuring, normalization and visualization of these large data sets will be an integral part of the course.

DELIVERY METHOD



- 50% Lecture
- 30% Discussion / Group Activity
- 20% Hands-on laboratory experience
- 30% Hands-on *In-silico* analysis

COURSE CONTENT



- 70% fundamental and concepts
- 20% industry application
- 10% emerging technologies



Epigenetics

Fee: IDR 7.000.000

| Duration: 28 hours

| Course start: Feb - Aug 2018

Course Description

This course will provide the students with a deeper understanding of gene regulation and epigenetic modification in the chromosome structure such as methylation, histone modifications, chromatin structure in relation to the nuclear organization and non-coding RNAs. With this basic knowledge we will progress into computational epigenetics, what algorithms are used to find epigenetic changes and how to build relational networks. The combination of molecular biology and Bioinformatics will enable students to extract valuable data and extrapolate this to the whole genome.

DELIVERY METHOD



- 50% Lecture
- 40% Discussion / Group Activity
- 10% Hands-on *In-silico* analysis

COURSE CONTENT



- 50% fundamental and concepts
- 40% industry application
- 10% emerging technologies



Structural Bioinformatics

Fee: IDR 7.000.000

| Duration: 28 hours

| Course start: Feb - Aug 2018

Course Description

This course gives a deeper understanding of the function of biological macromolecules [DNA, RNA, protein] based on their sequence, secondary and tertiary structures in a 3D environment. By means of several Bioinformatics tools, students will use macromolecular visualization to gain insight in structure determination and alignment, protein structure prediction, interactions, and function. The main program the students will be using is YASARA. YASARA is a molecular-graphics, -modeling and simulation interface based on a portable vector language which is highly interactive.

DELIVERY METHOD



- 30% Lecture
- 20% Discussion / Group Activity
- 50% Hands-on *In-silico* analysis

COURSE CONTENT



- 40% Fundamentals and Concepts
- 50% Industry Application
- 10% Emerging Technologies

OUR RESEARCH & INDUSTRY ENGAGEMENTS

USAID PEER Project with UC DAVIS.

Conversion of waste to biofuels or liquid chemicals using microbes



Mapping of Marine Biodiversity with Kalbe

Establishing a national reference database of Indonesia marine biodiversity

Waste to Value-added Product with BMJ

Conversion of pulp waste to viscose, biobricks, fertilizer, biopellet, etc.



Biomanufacturing Training Program

BTP is a tailored program designed to cultivate advanced skills and knowledge related to the biotechnology, biomanufacturing and pharmaceutical industries. Among our customers are institutions and enterprises of different sizes from these industries that are looking to enter the area of bio-based manufacturing.

Management Development Program

Management Development Program [MDP] is designed to meet the needs of industry for continuous talent development.

Power Talk

We invite leaders from industry, government, academia, and community every month to share their expertise and wisdom to our students and stakeholders.

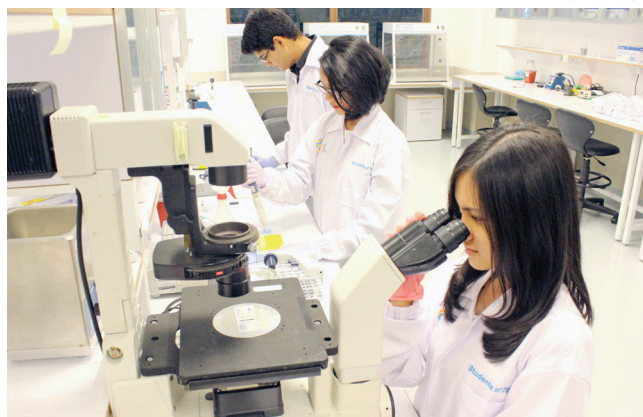


Business Family Forum

OUR FACILITIES



THEATRE CLASSROOM



i3L SCIENCE CAMP FOR ELEMENTARY, JUNIOR HIGH, & SENIOR HIGH SCHOOL



LABORATORY



i3L-ALS: PORCINE DNA DETECTION



LEARNING RESOURCE CENTER



OUR PARTNERS

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UNIVERSITY OF CALIFORNIA

SLU
Swedish University of
Agricultural Sciences

BMJ
Eureka Everyday!

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UNIVERSITY of OULU

KALBE

DEAKIN
UNIVERSITY AUSTRALIA
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**UNIVERSITY
OF BORÅS**

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愛媛大学
EHIME UNIVERSITY

More!

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Sheffield.**

MERCK

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