

<한국파스퇴르연구소 시그니처 교육과정> 신약개발 초고속·대용량 스크리닝 교육 참여자 모집

한국파스퇴르연구소는 화학 및 생물학 분야 전문가들이 신약개발 연구에 자동화 현미경을 활용한 세포 기반 분석법을 구축·활용할 수 있도록 지원하는 교육프로그램을 운영합니다. **"High Content Screening(HCS) for Therapeutics Discovery"** 과정은 세포 기반 어세이 개발, 자동화 현미경 활용, 소규모/대규모 약물 스크리닝 및 결과 분석 등에 초점을 두고 있습니다. 한국파스퇴르연구소의 시그니처 교육인 본 과정을 통해 세계적인 감염병 연구소인 프랑스 파스퇴르연구소 및 신약개발 스크리닝의 선두주자인 한국파스퇴르연구소의 전문가들이 한 자리에 모여 HCS 전반에 대한 학습 기회와 현장 중심의 노하우를 제공하고 참석자들의 글로벌 교류를 촉진하는 자리를 제공할 예정입니다. 관심 있는 분들의 많은 참여 바랍니다.

1. 프로그램 개요

- 일시: **2024.8.26(월) ~ 2024.8.30.(금) (5일간, 오프라인 과정)**
- 장소: 한국파스퇴르연구소 (경기도 성남시 판교테크노밸리 내 위치)
- 주관: 한국파스퇴르연구소, 파스퇴르 네트워크

* 모든 교육과정은 영어로 진행됩니다.

**본 교육과정은 2023년 하반기 ‘파스퇴르 국제 강좌 인증(Pasteur International Courses, PIC)’을 취득하였으며 파스퇴르 네트워크와 공동 개최합니다.

- 대상: HCS 기술 활용계획이 있으신 분, 소속기관에 스크리닝 기술을 도입하고자 하시는 분, 표현형(Phenotypic) 어세이 최적화기술 및 다중 매개변수(Multi Parametric) 데이터 분석기술 교육이 필요하신 분
- 비용: 교육비 무료 (중식 제공)
- 정원: 국내외 20명 이내 (파스퇴르네트워크 소속 최소 6명 지원)
- 참가신청: **첨부의 ‘Application Form’을 이메일(ipk-course@ip-korea.org)로 송부**
- 신청기한: **일반 지원자* 2024.6.21.까지, 파스퇴르네트워크 소속 지원자 2024.5.31까지**
- * 일반지원자: 국내외 지원자
- 합격자발표: **일반 지원자 2024.07.3, 파스퇴르네트워크 지원자 2024.06.17**
- 문의: ipk-course@ip-korea.org

2. 주요 프로그램

주제	연자
- Designing & establishing cell-based assays for screening	Dr. Regis Grailhe, 한국파스퇴르연구소 기술개발플랫폼팀장
- High Content Assay: instrumentation and assay development	Dr. David Shum, 한국파스퇴르연구소 신약스크리닝팀장 Dr. Haengran Seo, 한국파스퇴르연구소, 첨담바이오효학연구팀장 Dr. Inhee Choi, 한국파스퇴르연구소 의약화학팀장
- Designing & setting up complex phenotypic assays	Dr. Euiho Kim, 한국파스퇴르연구소 바이러스면역연구팀장
- Automated microscopy image processing and analysis	Dr. Timothy Wai, (프)파스퇴르연구소(파리) 미토콘드리아 생물연구팀장 TBD
- High content screening data analysis	남호정 교수, 광주과학기술원 생물정보학 및 인공지능

3. 프로그램 포스터

High Content Screening For therapeutics Discovery

2024 IPK Training course

August 26 ~ 30, 2024
@Institut Pasteur Korea



Overview

- The course provides a learning platform for those interested or working in chemical biology to interact and learn the best practices in setting up cell-based assays using automated microscopy, leading to the discovery of novel drugs.
- This course is open to a broader audience, from newcomers to seasoned research scientists familiar with the technology and those seeking unbiased approaches to HCS and its application, from small focused to large scale drug screens.

Content

- Designing & establishing cell-based assays for screening
 - High Content Assay: instrumentation and assay development
 - Designing & setting up complex phenotypic assays
 - Automated microscopy image processing and analysis
 - High content screening data analysis
- ※ Courses Content, Lectures & Discussion will be in English

Teaching Team

The course will be taught by an expert panel composed of:

- Faculty members from Institut Pasteur Korea
Regis Grailhe (Head of Technology Development Platform),
David Shum (Head of Screening Discovery Platform), Inhee
Choi (Head of Medicinal Chemistry), Haengran Seo (Head of
Advanced BioMedical Lab), Euiho Kim (Viral Immunology Lab)
- Invited speakers from the Pasteur Network
- Application scientists from global companies

Who?

Researchers or students who plan to use High Content Screening (HCS) technology, implement screening capacity in their research center, optimize phenotypic assays, perform image mining and multi-parametric data analysis. *Minimum Requirement: Bachelor Degree*

Number of Participants

20 students from Korea and abroad (minimum of 6 spots reserved for Pasteur network members)

Costs & Support

- 1) Free Registration (Lunch offered)
- 2) Travel expenses and accommodation fees will be supported for Pasteur Network members who are selected through the Pasteur Network Application Call

Application Deadline



Pasteur Network Applicants: **May 31, 2024**
General Applicants: **June 21, 2024**

Results Announcement



Pasteur Network Applicants: **June 17, 2024**
General Applicants: **July 3, 2024**

Candidates are invited to download the application form from the Course Call page(QR Code) and send it by email to ipk-course@ipk-korea.org

Inquires: ipk-course@ipk-korea.org | 031-8018-8049



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2023
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4. 일일 프로그램

High Content Screening For therapeutics Discovery

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PROGRAM: course details

DAY 1

Monday
August 26th

Designing and establishing cell-based assays for screening

8:00-9:00	Meeting with the participants	
9:00-10:00	Welcome, Safety Training, Round table	
10:00- 10:40	Introduction to high content analysis and screening	Regis Grailhe
10:40-12:00	Production of reproducible cell material and quality assessment Assay development and optimization for cell based assay	David Shum
12:00-13:00	Lunch	
13:00-14:00	Deciphering the underlying mechanism of liver diseases through 3D-phenotypic screening	Haengran Seo
14:00-16:00	Hepatocellular carcinoma 3D tumor model culture	Haengran Seo
16:20-17:20	Pasteur Seminar	TBD

DAY 2

Tuesday
August 27th

Advanced cell-based assays and ex-vivo models for screening

9:00-10:00	Exploring immunomodulation: in vitro & ex vivo models	Euiho Kim
10:00-11:30	Assay development and functional genomics	David Shum
11:30- 12:30	Lunch	
13:30-15:30	Practical training: Assay development and screening	
16:50-16:50	Pasteur Seminar(Paris)	Timothy Wai
16:50-17:30	Group presentation preparation	

DAY 3

Wednesday
August 28th

HCS instrumentation and automation systems

9:00-9:45	Adapting your assay to your instrumentation	Regis Grailhe
9:45-10:30	Sample management and automation	Hong-gun Lee
10:30-11:30	Overview on available HCS instrumentation	Jonathan Cechetto
11:30-12:30	Lunch	
12:30-14:00	Practical training: HCS instrumentation technologies	
14:20-16:20	Practical training: Liquid handling and automation	
16:20-17:20	Group presentation preparation [II]	

DAY 4

Thursday
August 29th

Image processing and screening data analysis

9:00-10:00	Overview of HCS analysis software	Revvity
10:00-11:30	Practical training: HCS analysis software	Revvity
11:30-12:30	Lunch	
12:30-14:30	Data analysis and storage of screening hits & Data curation for integrated database and visualization	Inhee Choi
14:30-15:30	Special Seminar(Korea, GIST): AI based approaches to data analysis	Hojung Nam
15:50-17:20	Group presentation preparation [III]	

DAY 5

Friday
August 30th

Closing and discussion

9:00-10:00	Analyze results and make presentation	
10:00-12:00	Group presentation (20 min/ group * 5 groups)	
12:00- 13:00	Lunch	
13:00-13:30	Course Evaluation	
13:30-14:30	Closing Ceremony	

Follow-up

Thursday
September 22nd

Online Workshop

Depending on Time Zone	Q&A with course instructors: Application of Course Content to Research
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