2026 年暑期国际课程项目

International Summer Course Program

中国药科大学教务处

2026 年暑期国际课程

序号	开课单位	任课教师	任课教师所属院校	职称	课程名（英文）	课程名（中文）	教学模式
1	中药学院	YUJIAN YOU	中药学院	高级工程师	The R&D Process of Innovative Drugs	创新药研发历程	线下
2	生命科学与技术学院	Nicholas Ktistakis	剑桥大学、巴布拉哈姆研究所	课题组组长	Autophagy in Health and Disease	健康与疾病中的自噬	线上
3	国际医药商学院	1)Ali FARNUDI; 2)Ju-young SHIN	1)国际癌症研究中心； 2）成均馆大学	1）博士后研究员； 2）教授	Global Pharmaceutical Management in the Era of Big Data and Digital-Intelligent integration	数智融合与大数据背景下的国际化药事管理	线下
4	工学院	林亮廷	香港理工大学	副教授	The Perspective of Molecular Imaging: Innovations in Nuclear Medicine and Global Health	分子影像的视角：核医学创新与全球健康	线下

5	基础医学与临床药学学院	Xin Wang	英国曼彻斯特大学 Faculty of Biology, Medicine and Health, The University of Manchester	教授	Cutting-edge Technology in Cardiovascular Pharmacology	心血管药理学前沿技术	线下
6	国际处	Shozeb Haider	伦敦大学学院 University College London	Professor of Computational Biophysics	Computational Methods in Drug Discovery	药物发现中的计算方法	线下
7	国际处	Randa Zoqlam	伦敦大学学院 University College London	Associate Lecturer	Applied Pharmaceutical Dosage Forms: Design, Manufacturing & Performance	药物制剂：设计、制备与性能	线下

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The R&D Process of Innovative Drugs
创新药研发历程

开课单位：中药学院

<table>
<tr><td rowspan="5">任课教师
Instructor's
Information</td><td>姓　　名
Name</td><td colspan="2">YUJIAN YOU</td><td rowspan="2">  </td></tr>
<tr><td>性　　别
Gender</td><td colspan="2">Male</td></tr>
<tr><td>国　　籍
Nationality</td><td colspan="2">USA</td><td></td></tr>
<tr><td>职称/职务
Title</td><td>Principle</td><td>邮箱地址
Email</td><td>theiaconsultingllc@outlook.com</td></tr>
<tr><td>最终学位
Degree</td><td>PhD</td><td>任职单位
Work Place</td><td>Theia Consulting LLC</td></tr>
<tr><td rowspan="2">课程信息
Course
Information</td><td>授课对象
Open to</td><td>undergraduate 1-3 years</td><td>学 时
Class Hour</td><td>16 hours</td></tr>
<tr><td>授课时间
Lecture Schedule</td><td>每日 3 小时，7 月 13-17 日</td><td>考核方式
Assessment Method</td><td>Class attendance (50%), and Exams (50%)</td></tr>
</table>

Resume of Instructor

尤博士是一位经验丰富的战略家，拥有在美国和亚洲管理复杂工业及技术项目的广泛经验。他专注于高科技创新的全流程整合，致力于弥合实验室研发与大规模商业化生产之间的鸿沟。凭借从全球行业领导者及龙沙（Lonza）等合同开发与生产组织（CDMO）中汲取的洞见，尤博士为药物全生命周期提供了均衡的高管视角。其专业领域聚焦于科学发现、先进制造与监管策略如何协同作用，以打造可上市的解决方案。通过将投资分析与工业运营相结合，他教导学生将药物研发流程视为一个统一的商业生态系统—— 优先考虑质量优化、预算

可预测性以及全球执行。

Dr. You is a seasoned strategist with extensive experience managing complex industrial and technical projects across the United States and Asia. He specializes in the end-to-end integration of high-tech innovation, bridging the gap between laboratory R&D and large-scale commercial production. Drawing on insights from global industry leaders and CDMO companies like Lonza, Dr. You brings a balanced, executive perspective to the pharmaceutical lifecycle. His expertise focuses on how scientific discovery, advanced manufacturing, and regulatory strategy converge to create market-ready solutions. By integrating investment analysis with industrial operations, he teaches students to navigate the drug development process as a unified business ecosystem—prioritizing quality optimization, budget predictability, and global execution.

Course Description

本课程面向希望弥合基础科研与全球市场之间鸿沟的学生，重点关注现代生物技术领域中高风险、跨学科的特性。本课程探讨药物发现与开发这一复杂且历时多年的全过程。学生将分析将一种“重磅药物”（blockbuster drug）推向市场所需的科学、监管及经济框架。从识别生物学靶点，到经历III期临床试验的严格考验并获得美国食品药品监督管理局（FDA）的批准，本课程系统呈现了一个分子概念如何逐步演化为拯救生命药物的完整路径。

This course explores the complex, multi-year journey of drug discovery

and development. Students will analyze the scientific, regulatory, and economic frameworks required to bring a "blockbuster" drug to market. From identifying a biological target to navigating the rigors of Phase III clinical trials and FDA approval, this course provides an end-to-end blueprint of how a molecular concept evolves into a life-saving medication. It’s designed for students looking to bridge the gap between bench science and the global marketplace, focusing on the high-stakes, multidisciplinary nature of modern biotechnology.

Syllabus

Each 3-hour block will follow a Lecture → Case Study → Simulation flow:

1: The Molecular Blueprint & Target Discovery（7.12）

2: From Computer Screens to the Wet Lab（7.13）

3: The IND and Phase I/II Clinical Trials（7.14）

4: Phase III, Statistics, and Regulatory Approval（7.15）

5: The Business of Science & Post-Market Reality（7.16）

Autophagy in Health and Disease
健康与疾病中的自噬

开课单位：生命科学与技术学院

<table>
<tr><td rowspan="4">任课教师
Instructor’s
Information</td><td>姓　　名
Name</td><td colspan="2">Nicholas Ktistakis</td><td rowspan="3"></td></tr>
<tr><td>性　　别
Gender</td><td colspan="2">男</td></tr>
<tr><td>国　　籍
Nationality</td><td colspan="2">希腊</td></tr>
<tr><td>职称/职务
Title</td><td>课题组组长</td><td>邮箱地址
Email</td><td>nicholas.ktistakis@babraham.ac.uk</td></tr>
<tr><td></td><td>最终学位
Degree</td><td>博士</td><td>任职单位
Work Place</td><td>Babraham Institute</td></tr>
<tr><td rowspan="2">课程信息
Course
Information</td><td>授课对象
Open to</td><td>具有一定细胞生物学基础知识的本科生或研究生</td><td>学　时
Class Hour</td><td>14 课时</td></tr>
<tr><td>授课时间
Lecture Schedule</td><td>2026 年 7 月 11 日 - 7 月 17 日</td><td>考核方式
Assessment Method</td><td>四次讲座后设有一次考试（2-3 道论述题）；两次研讨课根据课堂参与和讨论表现评定。</td></tr>
</table>

Resume of Instructor

Nicholas Ktistakis 博士自 1996 年起担任巴布拉汉姆研究所（Babraham Institute）信号传导项目的课题组组长。他主要研究脂质信号传导与自噬作用，特别关注由磷脂酸和磷脂酰肌醇-3-磷酸调控的信号通路。在移居英国之前，Ktistakis 博士曾在美国达拉斯德克萨斯大学西南医学中心（UT Southwestern Medical Center）生物化学系（Biochemistry Department）跟随 Michael Roth 博士从事博士后研究并担任讲师，主要研究引导蛋白质定向运输至不同细胞 compartments 的信号机制。

Course Description

自噬通路在从酵母到果蝇、线虫乃至人类的所有真核生物中都是保守的。它在细胞生理学中发挥着两个核心功能：在营养匮乏时期提供养分，以及作为质量控制机制清除病原体或多余的细胞成分。在讲座中，将涉及一系列广泛但并非详尽无遗的自噬相关主题，主要依据综述文章以及描绘该通路引人入胜的形态学面貌的原始研究资料。

The pathway of autophagy is conserved in all eukaryotic organisms from yeast to flies, worms and humans. It fulfils two essential functions in cell physiology: provision of nutrients at times of starvation, and elimination of pathogens or superfluous cellular material as a quality control response. In my lecture I will include a broad but not exhaustive list of topics in autophagy relying mostly on review articles and on primary material depicting the spectacular visual aspect of the pathway.

Syllabus

第一讲: 自噬的作用机制 (7 月 11 日 16:30-17:30)

第二讲: (a)从内体和自噬体到溶酶体的细胞运输过程；(b)膜接触位点 (7 月 12 日 16:30-17:30)

第三讲: 自噬反应的可塑性：自噬体大小的调控 (7 月 13 日 16:30-17:30)

第四讲: 自噬与衰老 (7 月 14 日 16:30-17:30)

研讨课 1: 讨论关于自噬调节剂小分子发现的论文 (7 月 15 日 16:30-18:30)

研讨课 2: 讨论关于利用全基因组 siRNA 和 CRISPR 筛选鉴定自噬调节因子的论文 (7 月 16 日 16:30-18:30)

考试: 关于讲座主题的 2-3 道论述题 (7 月 17 日 16:30-18:30)

Lecture 1. The mechanism of autophagy (July 11, 2026 16:30-17:30)

Lecture 2. (a) Cell trafficking from endosomes and autophagosomes to

lysosomes and (b) membrane contact sites (July 12, 2026 16:30-17:30)

Lecture 3. The plasticity of the autophagic response: making autophagosomes big and small (July 13, 2026 16:30-17:30)

Lecture 4. Autophagy and ageing (July 14, 2026 16:30-17:30)

Seminar/discussion 1. Discuss 2 papers and one review on small molecule discovery of autophagy modulators. Are activators or inhibitors better. (July 15, 2026 16:30-18:30)

Seminar/discussion 2. Discuss 2 papers and one review on whole genome siRNA and CRISPR screen to identify autophagy modulators. (July 16, 2026 16:30-18:30)

Final Exam: 2-3 essay questions on topics covered during the lectures.

Global Pharmaceutical Management in the Era of Big Data and Digital-Intelligent integration

数智融合与大数据背景下的国际化药事管理

开课单位：商学院

<table>
<tr><td rowspan="5">任课教师 Instructor’s Information</td><td>姓　　名 Name</td><td colspan="2">Ali FARNUDI</td><td rowspan="3">  </td></tr>
<tr><td>性　　别 Gender</td><td colspan="2">Male</td></tr>
<tr><td>国　　籍 Nationality</td><td colspan="2">Iranian</td></tr>
<tr><td>职称/职务 Title</td><td>Postdoctoral scientist</td><td>邮箱地址 Email</td><td>farnudia@iarc.who.int</td></tr>
<tr><td>最终学位 Degree</td><td>PhD</td><td>任职单位 Work Place</td><td>International Agency for Research on Cancer 世界卫生组织国际癌症研究中心</td></tr>
<tr><td rowspan="5">任课教师 Instructor’s Information</td><td>姓　　名 Name</td><td colspan="2">Ju-young SHIN</td><td rowspan="3">  </td></tr>
<tr><td>性　　别 Gender</td><td colspan="2">Female</td></tr>
<tr><td>国　　籍 Nationality</td><td colspan="2">Korean</td></tr>
<tr><td>职称/职务 Title</td><td>Professor</td><td>邮箱地址 Email</td><td>shin.jy@skku.edu</td></tr>
<tr><td>最终学位 Degree</td><td>PhD</td><td>任职单位 Work Place</td><td>成均馆大学 SungKyunKwan University</td></tr>
</table>

课程信息 Course Information	授课对象 Open to	Undergraduate students	学 时 Class Hour	24 class hour (18h)
	授课时间 Lecture Schedule	7.11 – 7.16	考核方式 Assessment Method	Group project

Resume of Instructor

Ju-young SHIN(博士，教授，系主任)：

教育背景：

博士 (Ph.D.)：2012 年 8 月，韩国首尔大学医学院。

公共卫生硕士 (MPH)：2008 年 2 月，韩国首尔大学公共卫生学院。

药学学士 (B.Pharm)：2005 年 2 月，韩国首尔大学药学院。

工作经历：

2019.3 至今：成均馆大学（SKKU）药学院生物健康监管科学系及临床与社会药学系系主任。

2016.9 至今：成均馆大学药学院历任助理教授、副教授及正教授。

2015 - 2016：加拿大麦吉尔大学流行病学、生物统计学与职业健康系博士后研究员。

2015：澳大利亚南澳大学药学与医学科学学院访问学者。

2012-2015：韩国药品安全与风险管理研究所担任经理及首席研究员。

学术与社会职务：

国际药物流行病学会亚洲网络（AsPEN）主席，韩国药物流行病学与风险管理学会、韩国流行病学会、韩国疫苗学会等多家学会理事。韩国食品药品安全部（MFDS）中央药事委员会委员及药物不良反应审议委员会委员，韩国保健福利部（MOHW）新技术评估委员会委员。《Pharmacoepidemiology and Risk Management》主编，《Pharmacoepidemiology and Drug Safety》、《Epidemiology and Health》及《Drug Targets and Therapeutics》副主编。

代表性学术成果：

Shin, JY; Park, MJ; Lee, SH; Choi, SH; Kim, MH; Choi, NK; Lee, J; Park, BJ. Risk of intracranial haemorrhage in antidepressant users with concurrent use of non-steroidal anti-inflammatory drugs: nationwide propensity score matched study. BMJ 2015; 351:h3517. (IF=43.0, Top 1.4%) (1st author)

Shin, JY; Roughead, EE; Park, BJ; Pratt, NL. Cardiovascular safety of methylphenidate among children and young people with attention-deficit/hyperactivity disorder (ADHD): nationwide self controlled case series study. BMJ 2016; 353: j2550. (IF=43.0, Top 1.4%) (1st author)

Yoon, D; Lee, JH; Lee, H; Shin, JY. Association between human papillomavirus vaccination and serious adverse events in South Korean adolescent girls: nationwide cohort study. BMJ 2021;372:m4931. (IF=43.0, Top 1.4%) (Corresponding author)

Choi, EY; Cho, Y; Oh, J; Choi, A; Kim, H; Shin, JY. Oral Corticosteroid Use During Pregncy and the Risk of Gestational Diabetes. JAMA Intern Med. 2025. (IF=23.3, Top 2%) (Corresponding author)

Hong, B; Lee, H; Jung, K; Rhee, SY; Yon, DK; Shin, JY. Sodium-glucose cotransporter-2 inhibitors and risk of autoimmune rheumatic diseases: population based cohort study. BMJ 2025;391:e085196. (IF=43.0, Top 1.4%) (Corresponding author)

Bea, S; Jeong, HE; Park, S; Yu, OHY; Chang, Y; Cho, J; Sinn, DH; Cho, YM; Shin, JY. Hepatic events associated with sodium-glucose cotransporter-2 inhibitors in patients with type 2 diabetes: a nationwide cohort study. Gut 2023;72(5):1020-1022. (IF=26.2, Top 2.4%) (Corresponding author)

Bea, S; Ko, HY; Bae, JH; Cho, YM; Chang, Y; Ryu, S; Byrne, CD; Shin, JY. Risk of hepatic events associated with use of sodium-glucose cotransporter-2 inhibitors versus glucagon-like peptide-1 receptor agonists, and thiazolidinediones among patients with metabolic dysfunction-associated steatotic liver disease. Gut 2025;74(2):284-294. (IF=26.2, Top 2.4%) (Corresponding author)

Ali FARNUDI:

Professional experience:

January 2024 - present：Postdoc researcher, Nutrition and Metabolism Branch (NME), International Agency for Research on Cancer, World Heath Organisation, Lyon, France.

September 2024 - present：Invited lecturer, Statistical Learning undergraduate course, emLyon buisness school, Lyon, France

September 2022 - December 2023： Postdoc researcher, Laboratoire Reproduction et Développement des Plantes (RDP), École normale supérieure (ENS) de Lyon, Lyon, France

September 2022 - December 2023：Lead Developer of the 'Virtual Cell Model' open source software package (written in C++). https://github.com/afarnudi/VirtualCellModel

Febuary 2020 – August 2022：Visiting reseracher and lecturer, Laboratoire de physique, École normale supérieure (ENS) de Lyon, Lyon, France.

Febuary 2013 – August 2018： Television presenter, various national and international TV channels in Iran.

Education:

2016–2023 PhD in Physics, Department of Physics, Sharif University of Technology (SUT), Tehran, Iran

2011–2014 MSc in Physics, Department of Physics, Institute for Advanced Studies in Basic Sciences, Zanjan, Iran.

2007–2011 BSc in Physics , Department of Physics, Zanjan University, Iran

Relevant Teaching Experience

2024 – Present IARC – International Agency for Research on Cancer (WHO):
Lecturer and team lead (3 editions) for the "Code and Conquer" training series. I designed and delivered a structured programme of six half-day modules (lectures and supervised hands-on sessions) that focused on reproducible research practices and open-access scientific software development for PhD

students, postdoctoral fellows, and researchers. We trained 100 IARC staff with 98% satisfaction.

2017 – 2024 ICTP – International Centre for Theoretical Physics (UNESCO), Trieste, Italy

I was an invited lecturer and programme developer (7 editions) for the two-week workshop “Advanced Techniques for Scientific Programming and Management of Open Source Software Packages”. I was responsible for course design, lectures, and hands-on sessions for an international audience (all over the world) of around 40 early-career researchers.

2021 – 2025 ENS de Lyon – École Normale Supérieure de Lyon, Lyon, France

Lecturer and course developer (4 editions) for the course “Scientific Software Development”, delivering lectures and practical training to graduate students. This was a 6 credit course aimed at final year master students.

2023 – 2024 University of Bergen, Bergen, Norway

Invited lecturer (2 editions) for a one-week workshop on “Collaborative Scientific Software Development”, covering best practices in teamwork, version control, and sustainable research software.

Course Description

本课程旨在探讨大数据与人工智能（AI）技术如何重塑全球药事管理、药品监管科学及医药商业模式。课程将传统药事法规、药物流行病学与数智化工具（大数据分析、AI 辅助编程与可复现科学研究）深度融合。通过本课程，学生将熟悉和了解：

国际药事法规与政策：了解全球主流监管机构（如 FDA、EMA、韩国 MFDS 及中国 NMPA）的监管框架，学习上市后药品安全评估、风险管理计划（RMP）及真实世界证据（RWE）在监管决策中的应用。

大数据与药物流行病学：基于讲者的研究案例，探讨如何利用国家级医疗健康大数据库开展药物安全性与有效性评价。

数智化工具与可复现研究：学习在医药数据分析中应用版本控制

（Git）、模块化编程与 AI 辅助工具，确保医疗数据处理的合规性、准确性与结果的可复现性。

AI 在药事管理中的负责任应用：探讨 AI 辅助医疗数据分析的伦理、偏见排查及验证，以及数字疗法等新技术的监管挑战。 课程期末将通过小组项目（Group Project）的形式，要求学生结合所学的监管政策知识与数智化数据处理技能，模拟完成一份基于真实世界数据的药品风险评估或监管策略提案。

This course explores how Big Data and Artificial Intelligence (AI) are reshaping global pharmaceutical management, regulatory science, and pharmaceutical business models. It integrates traditional pharmaceutical regulations and pharmacoepidemiology with modern digital-intelligent tools, including big data analytics, AI-assisted workflows, and reproducible research practices. Through this course, students will learn to:
Global Pharmaceutical Regulations & Policies: Understand the regulatory frameworks of major global agencies (e.g., FDA, EMA, MFDS) and explore post-market drug safety evaluation, Risk Management Plans (RMP), and the role of Real-World Evidence (RWE) in regulatory decision-making.
Big Data in Pharmacoepidemiology: Examine how national healthcare databases are used to evaluate drug safety and efficacy, drawing on the instructors' published studies.
Digital Tools & Reproducible Research: Apply version control (Git), modular programming, and AI-assisted tools to healthcare data analysis, ensuring compliance, accuracy, and reproducibility in pharmaceutical data workflows.
Responsible AI in Pharma Management: Discuss the ethics, bias mitigation, and validation of AI in healthcare analytics, alongside the regulatory

challenges of emerging medical technologies like digital therapeutics. The course concludes with a collaborative Group Project, where students will combine regulatory knowledge and digital data skills to simulate a drug risk assessment or propose a regulatory strategy based on real-world data scenarios.

Syllabus

Day 1 (3h): 国际药事管理基础与数智化转型启蒙 (Foundations of Global Pharma Management & Digital Transformation)

Lesson 1: 全球药事管理与监管科学导论 (Introduction to Global Pharma Management & Regulatory) - Shin

Lesson 2: 大数据与 AI 在医疗医药领域的应用与重塑 (The Role of Big Data and AI in Healthcare/Pharma) - Farnudi

Lesson 3: 真实世界证据 (RWE) 与监管决策机制 (Real-World Evidence in Drug Approval and Safety) - Shin

Lesson 4: 课程项目介绍与分组研讨 (Course Project Intro & Group Formation)

Day 2 (3h): 药物流行病学与上市后药品风险管理 (Pharmacoepidemiology & Post-market Risk Management)

Lesson 1: 药物流行病学与真实世界数据基础 (Principles of Pharmacoepidemiology & RWD) - Shin

Lesson 2: 国家级大数据库在药品安全评估中的应用案例(Case Studies in Drug Safety Evaluation using National Cohorts) - Shin

Lesson 3: 全球视角下的药品风险管理计划 (Risk Management Programs: MFDS, EMA, FDA perspectives) - Shin

Lesson 4: 医药管理中的数据合规与隐私保护 (Data Compliance and Privacy in medical data management) - Farnudi

Day 3 (3h): 医药大数据的可复现研究与数智化工作流 (Big Data Workflows & Reproducible Research in Pharma)

Lesson 1: 医药数据处理原则与高可读性代码 (Principles of Clean Code in

Health Data Management) - Farnudi

Lesson 2: 版本控制(Git)在医疗协作研究中的应用基础 (Introduction to Git for Collaborative Health Research) - Farnudi

Lesson 3: 架构与管理数据驱动型药事管理项目 (Structuring Data-driven Pharma Management Projects) - Farnudi

Lesson 4: 实践操作：构建你的第一个医药数据版本控制库 (Hands-on: Version Control Basics) - Farnudi

Day 4 (3h): AI 辅助工具在药事监管与数据分析中的应用 (AI-Assisted Tools in Regulatory Analysis)

Lesson 1: 负责任地使用 AI：医药数据分析中的伦理、偏见与验证 (Responsible AI: Ethics, Bias, and Validation in Medical data Analytics) - Farnudi

Lesson 2: 利用 AI 辅助清理与分析健康医疗数据 (Cleaning and Analysing Health Data using AI tools) - Farnudi

Lesson 3: 监管视角的碰撞：如何评估 AI 生成的数据报告(Regulatory Perspective: Evaluating AI-generated Data Reports) - Shin & Farnudi

Lesson 4: 小组项目辅导与答疑 (Group Project Workshop & Mentoring)

Day 5 (3h): 医药数据项目的高效协作与可复现性实践 (Collaborative Workflows & Reproducibility Practices in Pharma Data)

Lesson 1: 远程代码库管理与跨部门团队协作实战 (Managing Remote Repositories and Team Collaboration) - Farnudi

Lesson 2: 虚拟环境管理：确保计算结果的一致性 (Managing Virtual Environments for Consistent Computational Results) – Farnudi

Lesson 3: 代码文档编写与开源合规 (Writing Code Documentation & Open-Source Licenses) – Farnudi

Lesson 4: 数据质量验证（单元测试）与项目冲刺 (Verifying Data Quality with Unit Tests & Group Project Hands-on) - Farnudi

Day 6 (3h): 课程考核与前沿展望 (Project Evaluation & Course Wrap-up)

Lesson 1: 小组项目汇报与答辩（第一部分）(Group Presentations Part 1)

Lesson 2: 小组项目汇报与答辩（第二部分）(Group Presentations Part 2)

Lesson 3: 教师联合点评与综合评估 (Joint Feedback & Evaluation from Instructors)

Lesson 4: 课程总结与本科生数字时代职业发展建议 (Course Wrap-up & Career Paths in Digital Era)

The Perspective of Molecular Imaging: Innovations in Nuclear Medicine and Global Health

分子影像的视角：核医学创新与全球健康

开课单位：工学院

<table>
<tr><td rowspan="5">任课教师 Instructor's Information</td><td>姓　　名 Name</td><td colspan="2">林亮廷</td><td rowspan="3">  </td></tr>
<tr><td>性　　别 Gender</td><td colspan="2">男</td></tr>
<tr><td>国　　籍 Nationality</td><td colspan="2">中国台湾</td></tr>
<tr><td>职称/职务 Title</td><td>副教授</td><td>邮箱地址 Email</td><td>Lt.lin@polyu.edu.hk</td></tr>
<tr><td>最终学位 Degree</td><td>博士</td><td>任职单位 Work Place</td><td>University of Manchester, Division of Pharmacy and Optometry, Manchester, UK</td></tr>
<tr><td rowspan="2">课程信息 Course Information</td><td>授课对象 Open to</td><td>本科生</td><td>学　时 Class Hour</td><td>16</td></tr>
<tr><td>授课时间 Lecture Schedule</td><td>2026 年 7 月 11 – 17 日</td><td>考核方式 Assessment Method</td><td>Written Assignment / Group Presentation</td></tr>
</table>

Resume of Instructor

林亮廷博士，专注于肿瘤治疗及细胞应激反应的研究超过十年。他持有台湾医疗放射专业执照和辐射操作认证，并在香港作为辐射专业人员注册。林博士的学术背景包括在台湾阳明大学获得医学放射技术学士学位，以及后续在同校取得核子医学与分子生物学博士学位。完成台北荣民总医院干细胞研究室的博士后工作后，他在国际制药公司仁新医药（BLTE）担

任高级研发科学家。2017 年，林博士加入香港理工大学，担任医疗科技与信息学系助理教授，并于 2023 年晋升为副教授，同时承担放射医学本科课程负责人及医学影像与放射科学硕士课程的副负责人。

教学方面，秉持“无缝沟通”理念，融合放射学专业经验，整合在线演示、视频编辑与互动技术，提升师生交流，采用混合教学模式，创新运用 CatchBox®无线麦克风、Mentimeter 互评系统，增强线上线下参与；通过 Zoom 分组讨论与课件协同编辑促进主动学习。推动课程国际化，与亚太高校及医院合作引入尖端放疗技术，更新教材融入社交媒体元素。持续优化教学策略，实现师生双向成长，助力学生成为独立医药从业者。

Course Description

This course offers a comprehensive introduction to the principles, instruments, and clinical applications of radionuclide imaging in nuclear medicine. Topics include radioisotopes, radiopharmaceuticals, imaging instrumentation, SPECT and PET reconstruction techniques, and clinical procedures such as cardiac, bone, brain, renal, endocrine, and respiratory system scans. The course also covers hybrid imaging technologies and clinical case studies. Students will engage in lectures, a presentation seminar, and final assessments.

本课程全面介绍核医学中放射性核素显像的基本原理、仪器设备及临床应用。教学内容包括放射性同位素、放射性药物、显像仪器、SPECT 与 PET 图像重建技术，以及心脏、骨骼、脑、肾脏、内分泌系统和呼吸系统等临床扫描应用。课程还涵盖融合影像技术及临床案例分析。学生将通过理论授课、小组专题研讨会、期末考核等形式进行学习。

Syllabus

1）Introduction to Radionuclide Imaging: Principles and historical development

2）Radioisotopes and Radiopharmaceuticals: Production, mechanisms, and quality control

3）Instrumentation in Nuclear Medicine: Gamma cameras, SPECT, and PET

scanners

4 ） Image Reconstruction Techniques: Filtered back projection, iterative reconstruction, and advanced algorithms

5 ）Theranostic: Central nervous system, endocrine, and respiratory system imaging

6 ） Hybrid Imaging Technologies: PET/CT, SPECT/CT, and emerging multimodality systems

7）Clinical Case Studies: Interpretation and diagnostic decision-making

8）Final Examination-Presentations: Student-led research and case discussions

1、放射性核素显像导论：原理与历史发展

2、放射性同位素与放射性药物：生产、作用机制与质量控制

3、核医学仪器设备：伽马相机、SPECT 与 PET 扫描仪

4、图像重建技术：滤波反投影、迭代重建与先进算法

5、诊疗一体：中枢神经系统、内分泌与呼吸系统显像

6、融合影像技术：PET/CT、SPECT/CT 与多模态成像新进展

7、临床案例分析：图像解读与诊断决策

8、期末——汇报：学生主导的研究与病例讨论

Cutting-edge Technology in Cardiovascular Pharmacology

心血管药理学前沿技术

开课单位：基础医学与临床药学学院

任课教师 Instructor's Information	姓　　名 Name	Xin Wang		
	性　　别 Gender	Female		
	国　　籍 Nationality	UK		
	职称/职务 Title	Professor	邮箱地址 Email	Xin.wang@manchester.ac.uk
	最终学位 Degree	PhD	任职单位 Work Place	Cardiovascular Sciences Division, Faculty of Biology, Medicine and Health, The University of Manchester
课程信息 Course Information	授课对象 Open to	全校大三及以上本科生	学　时 Class Hour	24 学时
	授课时间 Lecture Schedule	7 月 11 日至 7 月 16 日	考核方式 Assessment Method	小组汇报+学生提交一篇课后报告

Resume of Instructor

王欣教授，英国曼彻斯特大学生物医学卫生学部分子心血管终身讲席教授，心血管系科研主任。长期从事心血管疾病机制及药物靶点转化研究，英国医学科学基金评审专家。近年来发表 SCI 论文 60 余篇，包括 Circulation, Circulation Research, Nature Communications, Hypertension, JAHA 和 elife 等专业顶级期刊，参与撰写二部英文专著，研究领域涉及多项心血管及药理前沿方向，包括信号分子调控机制，转基因技术，光控遗传技术，基因编辑技术，天然产物及小分子合成，Protac/Dubtac 技术。实验室已培养四十余名硕士、博士、博士后和访问学者。王欣教授同时担任 International Journal of Drug Discovery and Pharmacology 主编，British

Journal of Pharmacology 高级编委，Cardiovascular Research 执行编委，中国协和医科大学客座教授，南京医科大学客座教授。

Course Description

This course primarily focuses on applying cutting-edge technologies in cardiovascular pharmacology. Topics include stem-cell/cardiac organoid culture, photo-controlled genetic manipulation, CRISPR/Cas9 system, adenovirus-associated virus-based gene therapy, Protac/Dubtac technology in cardiovascular diseases. Additionally, the course covers the design of scientific research papers and techniques for manuscript writing.

本课程主要涉及心血管药理学前沿技术，干细胞及类器官技术，光控遗传技术基因编辑，CRISP/Cas9 技术和腺病毒基因治疗技术，蛋白降解/稳态控制技术在心血管疾病及药物研发的应用，并安排科研论文思路设计及论文写作技巧。

Syllabus

Day 1

Current progress in Cutting-edge Technology in cardiovascular pharmacology 心血管药理学前沿技术概述

Day 2

1）Transgenic and optogenetic approach in cardiovascular research 基因改造和光遗传学在心血管研究中的应用

2）The use of iPS cells/organoids in cardiovascular drug development 干细胞技术/类器官在心血管药物研发中的应用

Day 3

1）CRISPR/Cas9 approach in research and drug development / CRISPR/Cas9 基因敲除技术在药物研发中的应用

2）AAV9 gene therapy in cardiovascular research / AAV9 基因治疗技术在心血管研究中的应用

3）Protac/Dubtac 技术

Day 4

1）Cutting-edge Technology in Cardiovascular Pharmacology and critical thinking - Tutorial unit 1 for critical analysis of research problems 心血管药理学前沿技术与深度阅读 1-互动学习-科研问题的关键性分析

2）Cutting-edge Technology in Cardiovascular Pharmacology and critical thinking - Tutorial unit 2 for research project design 心血管药理学前沿技术与深度阅读-2 撰写研究计划

Day 5

Cutting-edge Technology in Cardiovascular Pharmacology and critical thinking - Tutorial unit 3 (option) for research & practice 心血管药理学前沿技术与深度阅读 3-研究实践讲解

Day 6

Group Presentation 小组汇报

Computational Methods in Drug Discovery
药物发现中的计算方法

开课单位：国际处

任课教师 Instructor's Information	姓　　名 Name	Prof S M Shozeb Haider		
	性　　别 Gender	Male		
	国　　籍 Nationality	United Kingdom		
	职称/职务 Title	Professor of Computational Biophysics	邮箱地址 Email	shozeb.haider@ucl.ac.uk
	最终学位 Degree	博士	任职单位 Work Place	UCL
课程信息 Course Information	授课对象 Open to	students/researchers wanting to learn more about the application of structural information in their work and how to use some of the key bioinformatics resources that are available.	学 时 Class Hour	24
	授课时间 Lecture Schedule	白天	考核方式 Assessment Method	Practical Tasks

Resume of Instructor

Dr. Shozeb Haider is a Professor of Computational Biophysics at the UCL School of Pharmacy. His research has contributed to the field of structural biophysics and bioinformatics. His research focuses on understanding the structural and functional dynamics of biological macromolecules, with an emphasis on drug discovery and development. By integrating computational and experimental approaches, Professor Haider aims to elucidate the mechanisms of disease at a molecular level and identify potential therapeutic targets.

Course Description

本课程和实践研讨会将探讨生物信息学数据资源和分子建模工具，用于解释和利用生物大分子结构，重点是如何在特定研究背景下最佳地使用结构信息以获得最大收益。本课程将包括结构/序列数据库搜索、蛋白质结构和功能预测，以及探索与配体的相互作用。实践研讨会将同时运用理论与实验。学生将有机会讨论自己的研究兴趣，以最大化效果。

This course and hands-on workshop will explore bioinformatics data resources and molecular modelling tools for the interpretation and exploitation of biomacromolecular structures, focusing on how best to use structural information to gain the most from it in specific research contexts. This course will include structural/sequence database searching, predict protein structure and function, and exploring interactions with

ligands. The hands-on workshop will use theory and experiment simultaneously. There will be an opportunity to discuss your own research interests to maximize effectiveness.

Syllabus

Day 1 Basic principles of Protein Structure (2hrs)

Day 2 Basics of Molecular Visualization Tools, Database Searching (2 hrs lecture + 2 hours practical workshop)

Day 3 Introduction to AlphaFold, Homology Modelling and Protein Analysis (2 hrs lecture + 2 hrs hands-on tutorial)

Day 4 Basics of Automated Ligand Docking and Virtual Screening (2 hrs lecture + 2 hrs hands-on tutorial)

Day 5 Basics Molecular Dynamics Simulations (2 hrs)

Applied Pharmaceutical Dosage Forms: Design, Manufacturing & Performance
药物制剂：设计、制备与性能

开课单位：国际交流合作处

任课教师 Instructor's Information	姓　　名 Name	Dr Randa Zoqlam		
	性　　别 Gender	Female		
	国　　籍 Nationality	Jordanian		
	职称/职务 Title	Dr	邮箱地址 Email	R.zoqlam@ucl.ac.uk
	最终学位 Degree	PhD in drug delivery	任职单位 Work Place	UCL/London
课程信息 Course Information	授课对象 Open to		学 时 Class Hour	32 class hour
	授课时间 Lecture Schedule		考核方式 Assessment Method	Case Study

Resume of Instructor

Dr Zoqlam is a Lecturer in Pharmaceutics at UCL School of Pharmacy with a PhD in Drug Delivery and around five years of experience teaching pharmaceutical dosage forms, formulation science, and pharmaceutical technology at undergraduate and postgraduate levels. Experienced in designing and delivering intensive courses, practical laboratories, and industry-aligned curricula for international cohorts. Fellow of the Higher Education Academy (FHEA) with strong expertise in student-centred learning, assessment design, and applied pharmaceutics. Research-active academic specialising in drug

delivery systems and nanomedicine, with multiple peer-reviewed publications. Passionate about delivering high-quality, practice-oriented teaching in global and multicultural settings.

Course Description

本课程提供药剂型的应用与实践导向概述，涵盖药物设计、生产和评估背后的科学原理。学生将探索固体、液体和半固体制剂型，重点学习辅料选择、生产工艺、质量控制及性能测试。通过互动讲座、基于案例的研讨会以及（条件允许下的）动手实践环节，本课程将理论与真实的制药实践相结合。课程旨在赋予学生理性设计制剂型以及在学术和工业背景下批判性评估制剂策略所需的技能。

This course provides an applied and practice-oriented overview of pharmaceutical dosage forms, covering the scientific principles underpinning the design, manufacture, and evaluation of medicines. Students will explore solid, liquid, and semi-solid dosage forms, with emphasis on excipient selection, manufacturing processes, quality control, and performance testing. Through a combination of interactive lectures, case-based workshops and hands-on practical sessions (if possible), the course bridges theory with real-world pharmaceutical practice. The course is designed to equip students with the skills needed to rationally design dosage forms and critically evaluate formulation strategies in both academic and industrial contexts.