

轉譯醫學(轉化醫學) Translational Medicine

一、課程說明(Course Description)

Translational medicine can be defined as "bench-to-bedside" research wherein a basic laboratory discovery becomes applicable to the diagnosis, treatment or prevention of a specific disease. We will discuss guidelines for designing and conducting a translational study and analyzing and reporting results and discusses key ethical and regulatory issues. We will also discuss selected successful examples and cover the basic sciences behind them. Biotech Industry and Physician scientist lecturers will be invited to offer their viewpoints and experiences in lab and clinics.

二、指定用書(Textbooks)

Textbook: Clinical and Translational Science: principles of human research
David Robertson and Gordon H. Williams; Elsevier/Academic Press, 2009
eBook available at NTHU library <http://www.lib.nthu.edu.tw/>

Supporting Reference: Translational Medicine and Drug Discovery
Edited by Bruce H. Littman, Rajesh Krishna; Cambridge, 2011
eBook available at NTHU library <http://www.lib.nthu.edu.tw/>

三、參考期刊(References)

- (1) Science Translational Medicine <http://stm.sciencemag.org/>
- (2) Journal of Translational Medicine <http://www.translational-medicine.com/>

四、教學方式(Teaching Method)

Lectures; Project Presentation and Discussion

五、暫訂教學進度(Syllabus)

	Date	Topics	Reading
1	2/17	Course intro; Overview of biopharmaceutics	CTS - Ch1, Ch25
2	2/24	Patient oriented research	CTS - Ch1, Ch3, Ch0
3	3/3	Experimental design	CTS – Ch3, Ch5
4	3/10	Measurement of biological materials	CTS - Ch1, Ch25
5	3/17	Imaging tools and biotechnology	CTS – Ch6, Ch7
6	3/24	Infrastructure	CTS - Ch11, Ch12
7	3/31	Clinical trials and ethical issues	CTS – Ch2, Ch28
8	4/7	GCP and regulation	CTS – Ch24, Ch27
9	4/14	Pharmaco-economics	CTS – Ch34, Ch36

10	4/21	Midterm exam	
11	4/28	Good laboratory practice (and GMP)	CTS-Ch24
12	5/5	Su P (GB) – Industrial viewpoint: Project management and medical device introduction	Handout
13	5/12	Liu L (Hsinchu MacKay memorial hospital) – Clinical viewpoint: Cardiovascular Diseases - Atherosclerosis	Handout TMDD-Ch3
14	5/19	Basic research: cardiovascular diseases	TMDD-Ch3
15	5/26	Chen TC (ITRI) – Translational viewpoint: 從市場和臨床需求談轉譯醫學相關產品開發	Handout
16	6/2	Current trends in translational research	CTS-Ch37 TMDD-Ch14
17	6/9	Training and Career in translational research	CTS-Ch13, Ch14
18	6/16	Final week-term paper due	

六、成績考核(Evaluation)

1. Attendance and in-class performance (10%)
2. Exam 1 (45%)
3. Exam 2 and/pr Term project (45%)

七、可連結之網頁位址

TBA; E-Learning system