

HMRF Research Fellowship Scheme – Experience Sharing

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Outline

- Brief introduction of my HMRF Research Fellowship Project
- Proposal writing and interview
- Challenges during the implementation phase
- Take-home messages

Developing an Assessment Tool for Measuring Hong Kong Adults' Genetic Literacy in Clinical and Non-Clinical Settings

- What is genetic literacy?
 - “...sufficient knowledge and appreciation of genetics principles to allow informed decision-making for personal well-being and effective participation in social decisions on genetic issues” (Bowling et al, 2008)
- Why is it important?
 - HK Genome Project
 - Precision & personalized medicine
 - DTC genetic screening services
 - Informed decision making & other ethical concerns
 - ...

Human genome project around the world

UK 2018

“The 100,000 Genomes Project” project completed sequencing 100,000 genomes from around 85,000 NHS patients affected by a rare disease, or cancer. (“The 100,000 Genomes Project”, 2018)

USA 1990

Start to coordinate the Human Genome Project (HGP) that identify all the approximately 20500 genes in human and determine sequence of 3 billion base pairs that make up DNA. Project finished in 2003 (NHGRI, 2018).

Brazil 2020

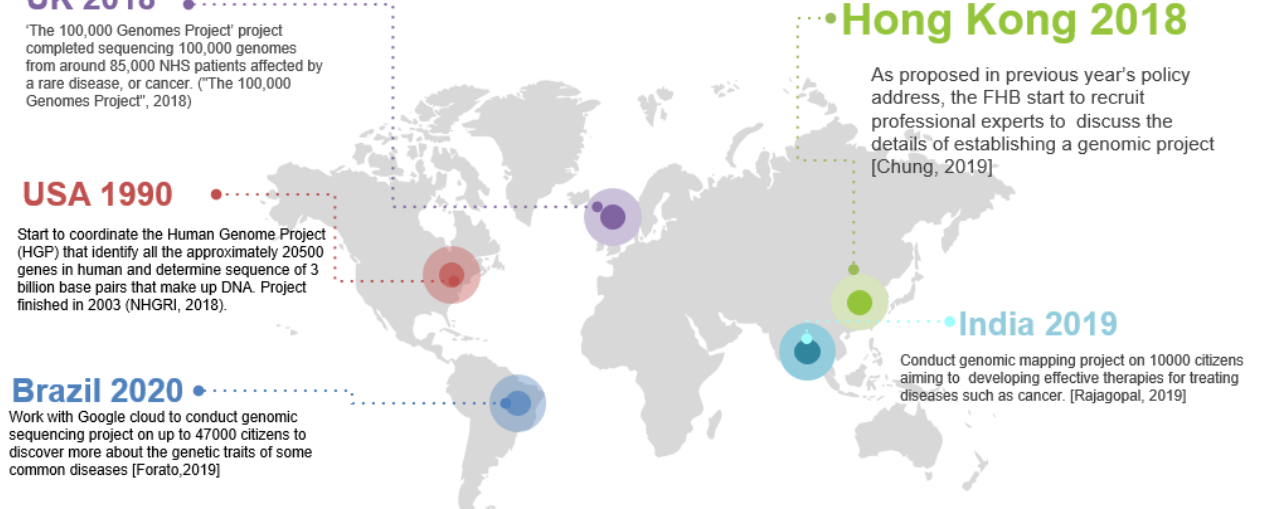
Work with Google cloud to conduct genomic sequencing project on up to 47000 citizens to discover more about the genetic traits of some common diseases [Forato, 2019]

Hong Kong 2018

As proposed in previous year's policy address, the FHB start to recruit professional experts to discuss the details of establishing a genomic project [Chung, 2019]

India 2019

Conduct genomic mapping project on 10000 citizens aiming to developing effective therapies for treating diseases such as cancer. [Rajagopal, 2019]



Developing an Assessment Tool for Measuring Hong Kong Adults' Genetic Literacy in Clinical and Non-Clinical Settings

Research objectives

1. To develop a valid and reliable instrument to measure the genetic literacy level among the general public in Hong Kong

2. To explore social determinants of genetic literacy among the general public in Hong Kong

3. To further develop a shortened version of genetic literacy instrument for clinical settings for rapid test

Research methods

Scoping review

- Systematic review of literature on genetic literacy
- Compile a list of existing instruments

Delphi Panel

- Assessing the quality of existing instruments
- Consensus on a list of existing instruments

Qualitative interview

- Investigate public's views on genetic literacy
- Understand their viewpoints on the experts' list
- Create a new instrument based on previous ones

Quantitative survey

- Validate newly created instrument via psychometric analysis
- Explore the social determinants of genetic literacy levels



Proposal Writing and Interview

- Three main components of FA

1. A research project ✓
2. A mentorship program ✓
3. A training program outside Hong Kong ?



- When?
- Where?
- Who?
- What?
- Why?
- How?

5W+1H

When?

- Three months of in-person training
- Online courses can also count toward the program.

Training

1. **Three online courses** related to genomics offered by the Mayo Clinic.
 - a. Center for Individualized Medicine for Online Learning
 - b. Pharmacogenomics for Your Practice
 - c. Genomics and Oncology: Nursing Practices
2. **A three-month residential experience** at the Mayo Clinic in Rochester, Minnesota, USA
 - a. Dr. Megan A. Allyse, Associate Professor of Biomedical Ethics
 - b. Dr. Carolyn Rohrer Vitek, Assistant Professor Laboratory Medicine and Pathology, Mayo Clinic; Operations Manager, Center for Individualized Medicine

To be hosted by:

Department of Obstetrics and Gynecology, Mayo Clinic

Where?

- Training outside Hong Kong
 - Choose a place that offers meaningful learning opportunities
 - Ensure you feel safe and comfortable
 - Consider visa requirements
 - Other practical factors

Why the Mayo Clinic in Minnesota?

- a. One of the most renowned medical institutions in the world (even for non-clinicians!)
- b. Existing connection with a researcher there → Invited by her twice to speak on conference panels
- c. Strong genetic counseling program and multidisciplinary environment
- d. My PhD alma mater is the University of Minnesota → a touch of nostalgia
- e. Quiet location away from big cities → fewer distractions
- f. Already hold a 10-year U.S. visa

Who?

- Line manager
 - Has expertise in your chosen study area
 - Willing to provide guidance and support
 - Available during your project timeline
 - Other practical considerations (e.g., responds promptly to requests)

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What?

- Course contents
 - Easier to describe and showcase
 - Structural learning with clear outcomes
- Visiting experience
 - More difficult to present, especially before funding is confirmed
 - Focus on potential learning environments and mentors
 - Highlight networking and presentation opportunities

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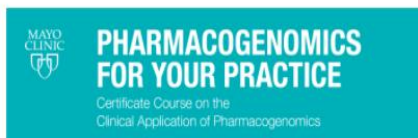
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Why?

- Create an evidence-based link between your research project and the training program
- Clearly explain *why* training outside Hong Kong is essential for your project
- Provide convincing arguments for the unique skills and insights you will gain

Pharmacogenomics for Your Practice – Online Course

[Overview](#) [Program](#) [Faculty](#) [Accreditation](#) [Register](#)



Empowering the health care team



Harness the future of PGx for prescribing



At your own pace - practical content for clinical application

Pharmacogenomics (PGx), the study of how one's genes may affect an individual's response to medication, is an emerging field within patient care. This online course uses over 50 engaging videos from Mayo Clinic experts to teach you how pharmacogenomics testing can make an impact in your practice. Topics include fundamentals of pharmacogenomics, how to interpret test results yourself, and tips on how to implement pharmacogenomics into your practice. Learn through case studies and listen as expert panels debate controversial questions about the field. Includes over 16 hours of content that you can go through at your own pace at work, at home, and even on your mobile device!

Course summary
Available credit:
16.00 ACPE
16.00 AMA PRA Category 1 Credit™
16.00 ANCC
16.00 Attendance

Course opens: 11/01/2019

Course expires: 10/31/2022

Cost: \$1,099.00

Center for Individualized Medicine for Online Learning - Online CME Course



Course Director: Timothy B. Curry, M.D., Ph.D.

Available until August 31, 2023 - Online

Precision medicine is rapidly making an impact on healthcare delivery, being propelled forward by the advances in genomic medicine. The Center for Individualizing Medicine Education online modules offer the opportunity to learn from experts about topics in genomics medicine that are sure to have applications in almost every medical field and specialty. Learn how you can enhance your practice and expand your understanding of how genomics in making a difference in patient care.

Course summary

Available credit:
2.00 AMA PRA Category 1 Credit™
2.00 ANCC
2.00 Attendance

Course opens: 09/01/2020

Course expires: 08/31/2023

Cost: \$100.00

Genomics and Oncology: Nursing Practice - Online CME Course



Course summary

Available credit:
1.00 AMA PRA Category 1 Credit™
1.00 ANCC
1.00 Attendance

Course opens: 09/01/2020

Course expires: 08/31/2023

Cost: \$80.00

Parent activity set:

Center for Individualized Medicine for Online Learning - Online CME Course

How?

- Show evidence
- Show plan
- Show confidence

Timeline

24 Months	Research	Training
01/06/2021 – 31/12/2021	Scoping review (completed) Delphi panel	3 online training courses (completed)
01/01/2022 – 31/05/2022	Delphi panel (completed) Qualitative interviews (completed)	Preparation for the visit to Mayo Clinic
01/06/2022 – 31/08/2022	Survey questionnaire design	3-month residential experience at Mayo Clinic (completed)
01/09/2022 – 31/12/2022	Survey (completed)	Report on the training experience
01/01/2023 – 31/05/2023	Data analysis Manuscript writing and submission Final report	Final report

Interview

- 10 minutes total
 - 5 min presentation
 - 5 min Q&A
- The question I got was...
- Enjoyable social time while waiting for the interview...





**Reality is often a hundred miles
away from the plan...**

A green vertical bar is positioned on the right side of the slide, with a yellow square at its base.

In the summer of 2022, I departed for the US, knowing that I wouldn't be able to return anytime soon, and that the pandemic was not yet over...

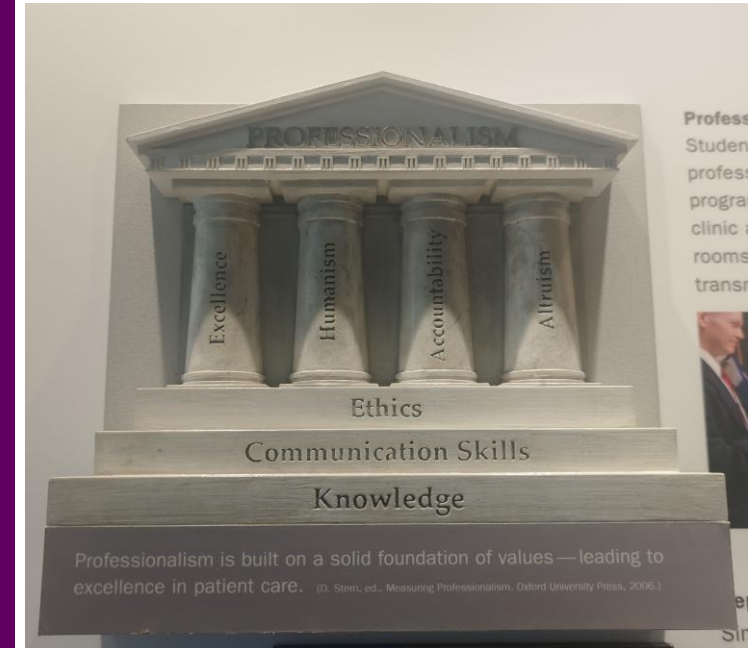
- Three online courses → only two were available...
- Two line managers → One relocated to Mayo Clinic in Florida, the other on long vacation in Germany...
- In-person training → turned into “in-person remote” training
 - Mayo Clinic still in WFH mode, most faculty and non-clinical staff worked remotely
 - Fear of COVID-19 remained high, many preferred online meetings over in-person ones

But, every cloud has a silver lining...

- Three online courses → One new module + two original courses = six courses completed, no extra cost
- Two line managers → Replaced by two new line managers with similar expertise and more time for guidance.
- In-person training → Replaced by multiple one-on-one sessions → meaningful and in-depth discussion.
- Successfully completed both the training and research program on time.

Take-home messages

- **Plan early and strategically:** Identify potential non-local collaborators and align your training with your research goals.
- **Be adaptable:** Unexpected changes can still lead to valuable learning experiences
- **Seek guidance and stay connected:** Regularly communicate with your mentor and the Research Fund Secretariat to navigate challenges smoothly.
- **Embrace the journey:** Every setback can become an opportunity for growth and collaboration.
- *Last but not least...*
 - **Dress professionally and appropriately for the interview!**



Professionalism is built on a solid foundation of values — leading to excellence in patient care.

Acknowledgement



- HHB Research Fund Secretariats, Consultants and Scientific Officers (past/present)
- CUHK Office of Research and Knowledge Transfer Services

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CUHK

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- Co-A
 - Prof WONG Lai Yi Eliza
 - Prof MO Kit-han Phoenix
 - Prof ZHANG Dexing Daisy
 - Prof HUNG Chi-tim
 - Prof SAHOTA Daljit Singh

Mayo Clinic

- Line managers
 - Dr. Zhu Xuan
 - Dr. Zhu Ye
- Experts
 - Dr. Richard Sharp
 - Dr. Gloria Petersen
 - Dr. Myra J. Wick,
 - Dr. Kathleen Yost
 - Dr. Karen M. Meagher
 - Dr. Minji Lee