



@MEDINFO23

Panel: Academic leadership development in biomedical and health informatics

Huanmei Wu, Lei Liu, Rui Zhang, Gayo Diallo, Steven Abah



# Panel: Academic leadership development in biomedical & health informatics MEDINF023

#### **The Panelists**



Huanmei Wu PhD, FAMIA Professor, Chair, Assistant Dean Temple University Philadelphia, PA USA



Lei Liu PhD, FIAHSI Professor Executive Vice Director Fudan University Shanghai China



Gayo Diallo PhD Full Professor Deputy Director Univ of Bordeaux France



Rui Wang PhD, FAMIA Associate professor Division Chief Univ of Minnesota Minneapolis, MN USA



Stephen Abah MD, FWACP Professor Deputy Vice-Chancellor Federal Univ of Health Sciences Otukpo Nigeria



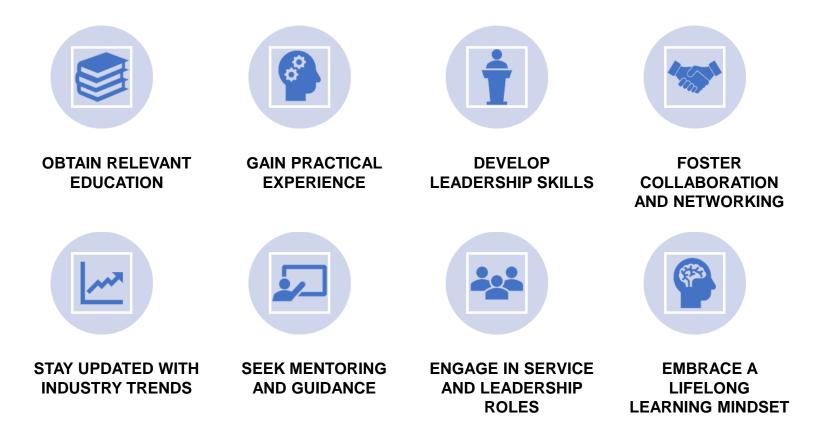


# Academic leadership positions in BHI

Professor/Associate Professor/Assistant Professor Program Manager/Program Director/Coordinator **Research Director/Manager** Center/Institute Director **Department Chair/Head Director of Continuing Education** 

- College/School Dean
- Vice Provost/President
- Chief Research Officer (CRO)
- Chief Innovation Officer
  (CINO)
- Chief Medical Informatics
  Officer (CMIO)

### **Academic Leadership Development Pipeline**







## Panelist: Lei Liu, Ph.D. FIAHSI

- Professor of Biomedical Informatics
- Executive Vice Director of Intelligent Medicine Institute at Fudan University in China.
- co-Chair of OHDSI China
- Research areas: Biomedical Informatics, Precision Medicine, and Medical Artificial Intelligence.
- Published more than 120 scientific research papers.









# Introduction

- Established in June 2022, the **Intelligent Medicine Institute** (IMI) is a new research institute of Fudan University.
- Integrates the first-class disciplines of Fudan University, focusing on multi-disciplinary research between biomedicine and information technology.
- Provides state-of-art research facilities including high performance computing, clinical research data networks, VR/AR/MR labs, etc.
- Offer graduate and postdoc training.

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#### The future direction and academic frontiers of medicine

- *Intelligent Medicine:* integrates advanced big data, cloud computing, artificial intelligence and other technologies to explore the nature and law of human life and disease phenomena, and promote intelligent diagnosis and clinical applications of man-machine collaboration.
- *Changing the mode of future medical practice:* promotes the transition from engineering medicine to intelligent medicine.
- *Making the paradigm shift of biomedical research*: entering the fourth paradigm -- data-intensive science, generating innovative technologies.



## **Panelist: Gayo Diallo**

- Full Prof. in Computer Science/Digital Health,
  - ISPED, Bordeaux Institute of Public Health
  - Bordeaux Population Health (BPH) Inserm 1219 research center
- Deputy Director of the AHeaD research group of BPH
- Students associations relations officer of ISPED
- Coordinator of the Informatics course for the Public Health Data Science Master Degree programme ISPED - Univ. of Bordeaux
- Member of the Steering Committee of the French Society of Artificial Intelligence (& Member of the French Association of Health Informatics
- Volunteering with other peer academics for the advance of Data Science in LMICS for societal development: Organizing a yearly data science school in different countries across Africa (e-Health, climate change, etc.)



Gayo Diallo





### **Reflection and (few) Recommendations**

- BioMedical and Health Informatics
  - Multidisciplinary fields by essence requiring "multicultural" approach
  - Setting up use cases driven and applied oriented curriculum
  - Reaching out to young audiences (via events for the general public) and continuous training for professionals
- An increase need of Biomedical and Health Informatics for a more Digitalised Health world
  - IT/Digiotal survival kit for healthcare professionals
  - Advanced programmes in digital technologies for health to provide high-level experts to design new generations of applications
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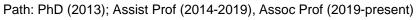
Driven to Discover®

Rui

Wan

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# Daily life for leadership positions



Leadership positions	Responsibilities	Daily life
Director of NLP services, CTSI (2018-2022)	Providing method consulting services to clinical researchers	Meeting clinical researchers; Providing solutions and tool tutorials; Working with analysts to delivery solutions
Director of NLP research program (2022-present)	Leading a group of developers, trainees to develop innovative NLP methods and tools	Working with faculty to determine the research directions; Identifying resources and projects; Monitoring research progress; Securing research funds;
Scientific co-director, Innovative Methods and Data Science (IMDS), CLHSS (2022-presnt)	Co-leading faculty and developers to develop innovative data science and AI methods for projects within the learning health care systems.	Collaborating with faculty from diverse background within IMDS and CLHSS; Prioritizing projects and expertise; Hiring developers and RAs; Delivering innovative methods
Founding Chief, Division of Computational Health Sciences, Medical School (2022-present)	Creating a new division focusing on innovative data science and AI methods in health care	Hiring new faculty and staff; identifying the direction of the new division, outreaching and marketing; mentoring new faculty; securing division sustainability





## Pros, cons, and suggestions

- Pros and cons
  - **Pros**: influence and impact, intellectual stimulation, career advancement, mentorship and guidance
  - **Cons**: admin responsibilities, increased workload, decision-making challenges, limited research time
- Suggestions
  - Skills: communication, time management, collaborating, problem solving
  - Best time: mid-career for leadership positions





Just a quick note!! I am a professor of Public Health and consultant Community Physician @ the Federal University of Health Sciences Otukpo (FUHSO), Nigeria

Administratively I oversea academic planning, academic program review and curriculum development.

Also Provide leadership in creating and maintaining academic standards and policies.

Stephen Abah







Health informatics in Nigeria is in its nascent stages



However, there are already examples of universities, hospitals and health institutions pioneering its adoption

For instance, University Teaching Hospital Lagos has implemented a digital patient data management system Current State of Health Informatics in Nigeria





#### Government support for BMHI

The government has launched initiatives like the National Health ICT Strategic Framework 2015-2020, aimed at digitalizing healthcare While these efforts have seen some progress, they face challenges such as shortage of skilled professionals, infrastructure issues, and low awareness among the public and healthcare providers

**Tetfund** – The Nigeria agency for tertiary education fund is aggressively pursuing the integration of digital technologies, tools, and resources into the teaching and learning process and environment @TheInstituteDH #MEDINF023





#### Research and Training Opportunities in Nigeria

Research initiatives in BMHI, sponsored by the government, NGOs, and through international collaborations, are on the rise

> These initiatives contribute to the local and global understanding of BMHI and have potential for significant impact on policy and practice





#### Constraints of BMHI training in Nigeria

The Emerging skills required to bridge the deficit, to define the knowledge needed for establishing business practices and career paths are not taught, assessed and amplified @ undergraduate level

#### 02

Development of critical thinking and problem-solving skills, data and analytics, convergence, robotics, nanotechnology and AI in Nigeria still evolving

#### 03

Low broadband penetration coupled with unequal access to technology and infrastructure can limit the reach and impact of digital learning

#### 04

Staff and researchers learning and carrying out research in isolation (silos mentality)

Courtesy Arch. Sonny S.T Echono Executive Secretary Tertiary Education Trust Fund (Tetfund), June 2023 @TheInstituteDH #MEDINF023





Constraints in Research and Training The skills that students and graduates need to favourably compete are neighter widely taught nor captured in the CCMAS/Minimum academic standards (MAS)

A key issue is the limited number of trained educators in this field, affecting the quality and availability of BMHI education

Additionally, research is hindered by insufficient funding, slowing the pace of advancement in this crucial area



#### Future of BMHI in Nigeria

- The future vision of healthcare in Nigeria includes a fully integrated health informatics system
- Such a system will facilitate seamless sharing of health records, allow remote consultations via telemedicine, and enable data-driven policy decisions
- This could dramatically improve healthcare efficiency, patient outcomes, and reduce costs





# BRIDGING THE GAP: INSTITUTIONAL COLLABORATION ON BMHI







