MEDINFO23

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Panel: Academic leadership development in biomedical and health informatics

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

AIDH IMIA

Panel: Academic leadership development in biomedical & health informatics

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The Panelists

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PhD, FAMIA
Professor, Chair,
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Temple University
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Lei Liu
PhD, FIAHSI
Professor
Executive Vice Director
Fudan University
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Full Professor
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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

OBTAIN RELEVANT EDUCATION

GAIN PRACTICAL EXPERIENCE

DEVELOP LEADERSHIP SKILLS

FOSTER COLLABORATION AND NETWORKING

STAY UPDATED WITH INDUSTRY TRENDS

SEEK MENTORING AND GUIDANCE

ENGAGE IN SERVICE AND LEADERSHIP ROLES

EMBRACE A LIFELONG LEARNING MINDSET

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.


復旦大學智能医学研究院
Intelligent Medicine Institute, Fudan Universtiy
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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.

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

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.)

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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Daily life for leadership positions

Rui Wang

Path: PhD (2013); Assist Prof (2014-2019), Assoc Prof (2019-present)

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

Stephen Abah

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

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

Current State of Health Informatics in Nigeria

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

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

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

01
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

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

TEMPLE UNIVERSITY

FUHSO

BRIDGING THE GAP: INSTITUTIONAL COLLABORATION ON BMHI