UNU Macau Training Portfolio

2023

UNU Macau is a UN think tank that focuses on research concerning digital technologies for sustainable development. It also helps transform the digital future of the UN system and member states through learning and capacity development.

Introduction of
UNU Institute in Macau

Founded in 1992, the Institute has trained thousands of people from all over the world. Some of them are now ministers of ICTs from the Global South, presidents of universities, senior government officials, and UN managers.

As an academic member of the UN family specialised in digital technologies, UNU Macau has brought forward many insightful research contributions for evidence-based and data-driven decision-making and policy development. Our recent research on the ethics of AI, cyber resilience, and modelling to prepare for the next pandemic are some key examples.

We believe that research and training should always go hand in hand. Research makes our training content more fresh, applicable, contextualised, up-to-date, and alive. Training reinforces research, as more ideas emerge during the interactions with learners. The virtuous cycle keeps us energised and sought after in the UN system, by the member states, NGOs, and private sector.

UNU Macau consists of a dynamic, multi-disciplinary and multi-cultural team of international researchers and professors. Moreover, they have deep knowledge about the UN and the digital realities faced by member states.

UNU Institute in Macau is situated in Macau Special Administrative Region (S.A.R.), China. Our office is in Casa Silva Mendes, a beautiful cultural heritage building built in 1905 that once belonged to Manuel da Silva Mendes, a renowned writer and art collector.
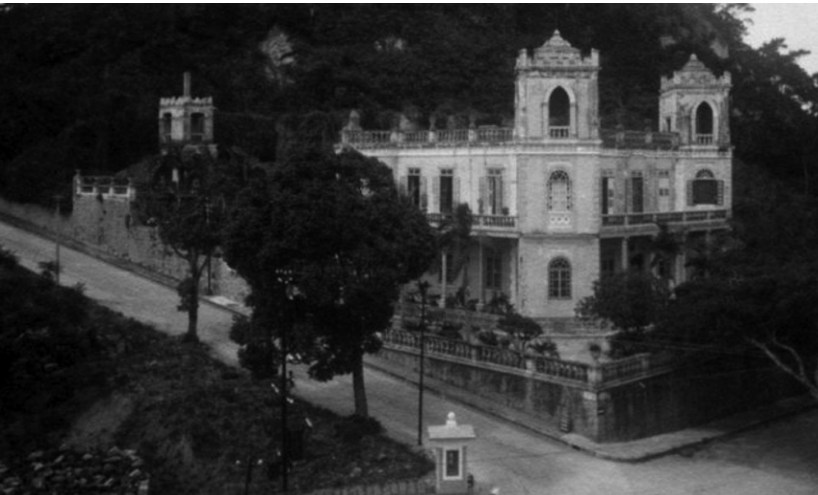
Old photograph of Casa Silva Mendes.

Located in the Greater Bay Area of China, the Institute has access to new technologies and innovation, forward-leaning technology industry partners, and diverse academia and NGOs from the region. Macau's central location enables easy transportation to mainland China, Hong Kong S.A.R., and other Asian countries, such as Japan, South Korea and Thailand.

UNU Macau, formerly known as the International Institute for Software Technology (UNU-IIST), is grateful for the 30 years of generous support of its host governments.

UNU Macau will continue to lead research and training to build a sustainable digital future for all.

What we do

Policy-relevant research to support evidence-based decision-making on digital technologies for sustainable development.

Capacity development and training on digital technologies for sustainable development for the UN system and the Global South.

Global convening of UN Member States, UN entities, regional bodies, NGOs, academia, and the private sector to unlock the potential of digital technologies for sustainable development.

Our research focus

The Institute works collaboratively with its partners to co-create research projects across diverse thematic areas, such as:

- Technology and ethics

- Collective Intelligence and participatory modelling for decision-making

- Youth and Cyber Resilience

- Digital health and one health approach

- Closing the digital gap for marginalised populations

Target audience and training themes

Our courses are targeted at a range of audiences across all levels from government officials, UN staff and managers, those working in NGOs, as well as interested private sector employees and youth. These courses can be run across a variety of modalities including in-person, online, and hybrid. We work with individuals and organizations to provide the best fitting training solutions. Our course offering are broadly categorised into five main themes:

I.   Smart usage of digital technologies for SDGs

II. Data for a sustainable digital future

III. Ethics of Artificial Intelligence (AI)

IV. Modelling for policy making & Computational Behavioural Science

V.   Digital behaviour and wellbeing

Courses

Section I
Smart Usage of Digital Technologies for the SDGs

Section II
Ethics for AI

1
Introduction to the Sustainable Development Goals

4
Institutions, economics and the environment in the anthropocene

5
Basic principles of AI ethics and policy

2
Introduction to the impact of digital technologies on Sustainable Development Goals

6
Gender-sensitive AI policy

3
Participatory methods: understanding and engaging technology to build and maintain partnerships

Target Audience

☐ All

Middle managers and middle-senior managers

Senior decision makers

Section III
Data for a Sustainable Digital Future

Section IV
Modelling for Policy Making and Computational Behavioural Science

Section V
Digital Behaviour and Wellbeing

7

Data exploration and analytics for beginners

10

Integrated modelling that engages citizens to support better policy

12

Digital wellbeing: exploring the ways that digitalisation is changing how we think, feel, and act

8

Data for sustainable development

11

An introduction to behavioural science and digital technologies

13

The risks and opportunities of growing up online

9

Organisational cyber resilience management

14

Women as leaders, digital transformation, and wellbeing

Smart Usage of Digital Technologies for SDGs

1

Dr. Mamello Thinyane
Target Audience | All

Introduction to the Sustainable Development Goals

This course aims to provide participants with an understanding of the United Nations 2030 Agenda for Sustainable Development to catalyse action towards the achievement of the Sustainable Development Goals (SDGs). This course will enable participants to locate the SDGs within the discourse on sustainability and development and within the historical context of global development.

Subtopics

- Primer on sustainability and development
- History of the 2030 Agenda for Sustainable Development
- The triple bottom line and 5P's of SDGs
- Core principles
- The SDGs – goals, targets, and indicators
- Means of implementation and global partnerships
- Follow-up and review
- Progress on the SDGs
- Acting on the SDGs

Expected outcomes

- Understanding of the foundational theories and perspectives of sustainability and development
- Appreciation of the historical precedents to the SDGs
- Understanding of the processes that culminated in the 2030 Agenda for Sustainable Development
- Knowledge of each of the 17 SDGs including awareness of the related targets and indicators
- Understanding of the processes that support the monitoring and implementation of programmes for the SDGs
- Awareness of the major achievements and ongoing challenges regarding the SDGs
- Appreciation of the various approaches that different stakeholders employ to contribute to the achievement of the SDGs

2

Dr. Serge Stinckwich + Dr. Eleonore Fournier-Tombs

Target Audience | Senior decision makers

Introduction to the impact of digital technologies on Sustainable Development Goals

Digital technologies have advanced more rapidly than any innovation, reaching around 50% (see Digital Cooperation report) of the developing world's population in only two decades. Technology can have a huge impact on development, and those without connectivity may remain cut off from its benefits, and as technology advances, become further distanced from opportunities. This course explores the uses and impacts of new technologies within international organisations. Using a conceptual framework including technology maturity, ethics, and impact on beneficiaries, the course introduces and explores emerging technologies, such as artificial intelligence, blockchain, and remote sensing and their impacts on the SDGs. Participants will learn how these technologies are currently used in both humanitarian and development contexts, what are their advantages, and what are some of the current risks and challenges.

Subtopics

- Digitalisation and its relationship to development
- AI and its impact on SDGs: smart cities, digital twins, IoT, robotics
- Blockchain relationships to data/privacy
- Remote sensing within humanitarian and development contexts
- Social listening
- New technologies and data governance
- Ethics, policy, and environmental practices related to new technologies

Expected outcomes

- Understand digitalisation issues and the impact of digital technology on the Sustainable Development Goals
- Understanding of new technologies and their application in humanitarian and development contexts
- Ability to assess the relevance and usefulness of new technologies to new projects and programmes
- Understanding of the connection between new technologies, data, and more mature technologies
- Capacity to evaluate risks of applications to aid beneficiaries
- Ability to describe the ethics and policy ecosystem for these technologies

3

Dr. Jaimee Stuart
Target Audience | All

Participatory methods:
Understanding and engaging technology to build and maintain partnerships

Participatory approaches seek to engage diverse individuals and groups (e.g., citizens, communities, policy makers, expert practitioners) in processes related to sustainable development by providing platforms for collaborative work and partnership. These approaches often utilise direct and targeted involvement and inclusion of stakeholders in identifying and shaping relevant problem statements, discussing and designing potential solutions, and collaborating to implement and evaluate these solutions. Participatory approaches are likely to generate relevant, contextualised solutions that are connected to lived experiences, and thus more readily translated into action. But in our increasingly digitally connected world, how do we engage in participatory practice effectively, and can online environments be used to increase authentic interaction? This training focuses on the principles and practice of participatory approaches and how we can unlock the potential of digital technologies to build and maintain authentic partnerships to meet the SDGs.

Subtopics

- Participatory methods
- Principles of partnerships
- The continuum of partnerships; consultation to co-creation
- Translating participatory methods to online contexts
- Utilising digital technologies for participation

Expected outcomes

- Understanding of a range of participatory methods and how to utilise these in practice
- Ability to identify, develop, and apply principles of participation to research and action initiatives
- Ability to articulate the level and nature of participation and align this with the aims and outcomes of research and action
- Understanding of the barriers and opportunities of the online environment for participatory processes
- Awareness of technologies to facilitate participatory methods

Institutions, economics and the environment in the anthropocene

In an epoch characterised by increasing resource use, population levels, environmental pressures, interconnectedness, and complexity we must rethink human values, institutions, economics, and the environment. In this context there are major challenges and existential threats faced from transformations in nature and the environment, but there are also new opportunities for collective intelligence and action. This course focuses on exploring the need to scale up social complexity and enhance collective intelligence by transforming emerging values into institutions, and governance for the common public good.

Subtopics

- A unifying theme: Complexity
- Welcome to the Anthropocene
- Wealth creation: From hunter-gatherers to urbanites
- Economics under planetary boundaries
- Institutional change for sustainability
- Governance and policies for our common sustainable future

Expected outcomes

- Understanding of complexity theory, coevolution, and scale and the ability to apply these to human development
- Understanding of the historical context of the Anthropocene and what the implications are for climate change and planetary health
- Understanding of wealth creation from the perspective of complexity theory and from different schools of economic thought
- Ability to differentiate theories of institutional change, explain institutional failure, governance of systemic risks and transformations to sustainability
- Awareness of different governance types and resource regimes, and the role of communicative rationality and collective intelligence

Section II

Ethics of AI
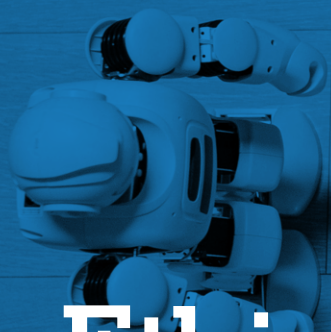
Basic principles of AI ethics and policy

This course aims to introduce AI ethics and policy, with the objective of helping professionals develop an analytical perspective on this important current issue. The course examines the role of ethics in developing policy and situates the AI ethics landscape in a broader technological ethics landscape. It then moves on to explore the mechanisms by which ethical considerations have been converted to AI strategies, standards, and legislations at different levels of government, from international norms developed by UNESCO and other UN agencies to strategies and draft laws proposed by member states, to subnational, grassroots and corporate initiatives. The main aim of this course is to help those interested in AI ethics and policy to develop a framework to understand and participate confidently in AI-related policy dialogues and projects.

Subtopics

- Applications of AI
- Current policy and ethics landscape
- Biases, stereotypes and human rights
- Cybersecurity and AI
- Power and AI

Expected outcomes

- Ability to explain AI technologies at a basic level, along with what makes them unique
- Capacity to distinguish between ethics, norms, strategies, standards and laws, and understand how each contributes to AI safety
- Ability to describe the current state of AI ethics and policy, trends and challenges
- Grasp of key ethical issues, such as human rights, sustainability, security and localisation
- Understanding of power dynamics of AI development and how this affects ethical issues
- Situation of AI ethics within other new technology challenges, such as cybersecurity and data governance

Dr. Eleonore Fournier-Tombs

Target Audience | Middle – senior managers

Gender-sensitive AI policy

This course examines the main gender risks of AI technologies, notably as they relate to the high-risk and forbidden uses of AI listed in the European Union's Draft AI Act from 2021. The course provides information about the current state of AI policy at global, regional and national levels, and examines the different types of AI policies, from frameworks, to guidance, to legislation. Participants will learn how to conceptualise gender opportunities and risks in this context, and what technical and policy solutions might be considered to include gender in the AI policy conversation.

Subtopics

- International regulation of AI
- Gender risks in AI such as discrimination, stereotyping, and exclusion
- Gender-based opportunities in AI
- Policy and technical solutions

Expected outcomes

- Ability to describe, with examples, the different categories of gender risks in AI
- Understanding of current AI policy development at different levels
- Capacity to evaluate risk in AI systems
- Ability to propose gender modules to current policies
- Increased awareness of gender risks in technology and of tools available to mitigate them

Data for a Sustainable Digital Future

7

Data exploration and analytics for beginners

This course will introduce people who are beginners in data analytics or those with little prior knowledge of coding or statistics to a range of methods to explore, present, and understand data.   In line with the UN Secretary-General's Data Strategy, everyone in the UN family is challenged to use data to understand problem situations and develop solutions that are insightful, impactful, and have integrity. The course will seek to enable participants to actively engage with data using hands-on activities based on a free visual programming tool called Orange (https://orangedatamining.com/).

Subtopics

- Visual programming
- Data exploration
- Data analytics

Expected outcomes

- Ability to explore and visualise data
- Ability to analyse your own quantitative data
- Understanding of how data can be used to inform the SDGs

8

Dr. Mamello Thinyane
Target Audience | Middle managers

Data for sustainable development

This course aims to lay the foundations for using data for sustainable development. It locates the role of data within existing digital development theories and frameworks. The course also discusses the use of data within the global development agenda for indicators monitoring and for facilitating the broad participation and inclusion of diverse stakeholders. Lastly, the course will introduce the participants to selected topics within the complex data for development ecosystem, including data justice, data assemblages, and politics of data.

Subtopics

- Foundations of data for sustainable development
- Data varieties and affordances
- Leaving no one behind in data
- Beyond data: Data Assemblages, Data Justice, Politics of Data, Data and Compliance

Expected outcomes

- Understanding of the basic theories and frameworks on data for sustainable development
- Appreciation of the different varieties of data, such as big data, small data, geospatial data, digital exhaust, and the affordances of these types of data for sustainable development
- Ability to identify different forms of data marginalisation and exclusion in data systems
- Appreciation of the key issues within data for development ecosystems, including politics of data, data compliance, data sovereignty, and data justice

9

Dr. Mamello Thinyane
Target Audience | Senior decision makers

Organizational cyber resilience management

This course provides senior managers with a basic understanding of Information and Communication Technology (ICT) use and management in organisations. It describes the resources, processes, roles, and responsibilities associated with the effective use of ICT in meeting organisational goals. It introduces organisational risk management and presents frameworks to help managers understand potential cybersecurity risks as well as the tools for managing such risks. The course introduces basic cybersecurity concepts and presents the top cybersecurity threats and countermeasures. This course aims to equip senior managers with the skills to effectively prepare for, withstand, recover from, and adapt to cybersecurity threats that may be faced by their organisations.

Subtopics

- Organisational resilience and risk management
- Cybersecurity risk management
- Cybersecurity frameworks and standards
- Key cybersecurity threats and countermeasures

Expected outcomes

- Understanding of organisational/enterprise risk management
- Familiarity with risk management frameworks such as the COSO and the ISO 31000 frameworks
- Understanding of cybersecurity risk management in the context of overall organizational risk management
- Understanding of common cybersecurity frameworks such as the NIST CSF, CIS, ISO/IEC 27001 and familiarity with the key domains and processes within these frameworks
- Understanding of CIA information security model and the major types of cybersecurity threats and attacks
- Familiarity with the common types of cybersecurity attacks, their kill-chain, as well as their primary countermeasures

Modeling for Policy Making & Computational Behaviuoral Science

10

Dr. Serge Stinckwich
Target Audience | All

Integrated modelling that engages citizens to support better policy

Multiple social and environmental systems on the planet are experiencing massive stresses leading to migration, poverty, and displacement, among other issues. Governments and international organisations decisions on policies and investments need to be better informed, and this can be achieved by using integrated models where citizens are more involved, so policies are more relevant and accepted. The objective of such models is to provide a realistic, simplified representation of reality. This can be as simple as a map to understand the optimal way to travel or as complex as a climate change model that integrates various societal or environmental perspectives across different times or geographical scales. Governments use modelling in their decisions all the time, but often these models are too narrow and lead to unsustainable decisions because environmental damage or social harm are not considered.

This course will help decision-makers to understand the complex connections and interactions between the Sustainable Development Goals and environmental, social, and economic parameters included in integrated models. Concrete examples will be provided such as: models to explore policy prioritisation complexities, COVID-19 models in their role in public health policies, and how to engage communities in the design of public health models and policies.

Subtopics

- Complex systems and wicked problems
- Models examples in various sectors: economics, climate change, and the humanitarian sector
- Models that serve the society
- Black swan events, black box problem
- Social Simulation and participatory modelling

Expected outcomes

- Understanding of situations where models/social simulation can be applied
- Understanding of the uses and limitations of models for decision-making in the context of SDGs and sustainability
- Ability to engage stakeholders and citizens in the design of large-scale models using participatory approaches such as role-playing games and computer simulations

Dr. Serge Stinckwich + Dr. Jaimee Stuart

Target Audience | All

11

# An introduction to behavioural science and digital technologies

To make progress towards meeting the Sustainable Development Goals, tools, insights, and methods from behavioural science can be utilised to maximise the impacts of policies and programmes. Behavioural science uses evidence-based methods to the study human behaviour in ways that can help us to understand individual and social decision making as well as investigate how and why people respond to programmes, policies, and incentives in particular ways. Digital technologies have allowed for advances in the way we communicate and interact with others, meaning that the hold many possibilities and potential challenges for applying behaviourally based insights. This course will cover the major concepts within behavioural science and consider the use of new and emerging technologies on capturing behavioural insights and promoting behaviour change.

Subtopics

- An introduction to behavioural science
- The psychology of behaviour and behaviour change
- Behavioural science in the context of policy
- Agent based modelling
- Predictive analytics and ethics
- Data driven insights and behaviour change

Expected outcomes

- Understanding of behavioural science and the psychology behind behaviour change
- Ability to recognise the importance of behavioural science in policy
- Understanding of new tools and technologies for behavioural insights
- Awareness of the opportunities and risks of digital technologies for behavioural insights and behaviour change
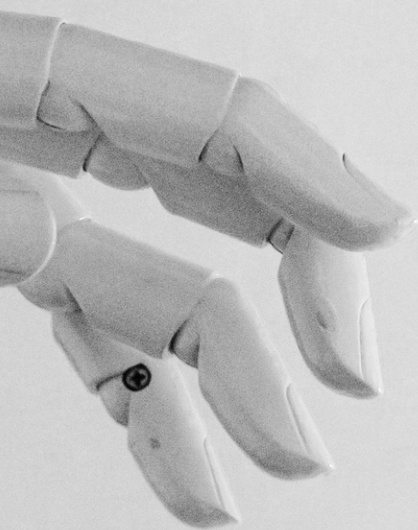
Digital Behaviour and Wellbeing

Digital Wellbeing:
Exploring the ways that digitalisation is changing how we think, feel, and act

We have more opportunities than ever before to be connected to one another, to learn, to engage with media, and to be entertained through digital technologies. With this connection comes both positive and negative impacts on physical, mental, and social health. Omnipresent access to the internet is influencing the ways we live and work, and this has flow on effects to how we think, feel, and act. This course will examine how human interactions with technology are influenced by, and in turn influence our psychology. The concept of digital wellbeing will be introduced to help participants understand how to mitigate the risks and garner the benefits of online life for themselves and others.

Subtopics

- Ecological models of wellbeing and the techno-subsystem
- Online life: Impacts on personal and collective wellbeing
- Digital wellbeing
- The relationship between digital wellbeing and the SDGs

Expected outcomes

- Ability to understand the multidimensional nature of wellbeing and the impacts of digitisation across contexts and levels
- Understanding of cyberpsychology and how this can help inform contemporary approaches to personal and collective wellbeing
- Awareness of constructs comprising digital wellbeing
- Understanding of how digital wellbeing can be leveraged to action the SDGs

13

Dr. Jaimee Stuart
Target Audience | All

The risks and opportunities of growing up online

As we make progress in addressing the first level of the digital divide – the ability to access internet connected technologies – it is becoming clear that there are both risks and opportunities of engagement in online spaces. This is particularly true for young people who spend more time online than any other age group and are in the process of exploring their sense of self, developing relationships, and understanding personal and social values. For many young people in the current global environment, connection to the internet happens early in life, often in the home and in school. This course explores how such connection can impact on youth in both positive and negative ways and seeks to examine how we can support, educate, and include young people in our future planning around the impact of technology in society.

Subtopics

- The digital divide
- Unpacking digital nativity
- Personal and collective risks and opportunities online
- Youth voices about technology
- Planning for youth development and digital connection

Expected outcomes

- Understanding of levels of the digital divide and how these impact young people
- Awareness of the historical context of digital nativity and critical engagement in its relevance to contemporary contexts
- Understanding of the broad risks and opportunities youth face as related to their developmental stage
- Awareness of the importance of youth participation in an increasingly digitalised future

14

Dr. Jaimee Stuart

Target Audience | Senior decision makers

Women as leaders, digital transformation, and wellbeing

Increased digitalisation offers much potential to improve the social and economic conditions of women. However, risks and opportunities of digital technologies are gendered, and this changing context may pose risks of perpetuating gender inequality and exacerbating a gender digital divide. There is a critical space for female leaders to be digital leaders, so that they can champion positive digital transformation, make decisions that encourage digital wellbeing, and accelerate action towards sustainable development in our contemporary digitally connected world. This course focuses on enabling female leaders to be aware of and increase their own digital wellbeing, to understand the importance of positive digital disruption, and to reduce risks and promote opportunities for digital empowerment from a gendered lens at both an interpersonal and organisational level.

Subtopics

- The gender digital divide: Technological change and gender power relations
- Women as digital leaders
- Digital wellbeing and decision-making
- Women's leadership for health and wellbeing in a digital world

Expected outcomes

- Understanding of the impacts of digitalisation on women, and the role of female leaders in digital transformation
- Awareness of the ways in which technology can perpetuate gendered power relations and inequality
- Understanding of the importance of personal and organisational levels of digital wellbeing
- Ability to identify practices that increase digital wellbeing and development of skills to promote digital wellbeing

Meet Our Researchers and Trainers

*In alphabetical order.

Dr. Eleonore Fournier-Tombs

Senior Researcher

—

fourniertombs@unu.edu

Education

McGill University
(Post-Doc) Information Studies

University of Geneva
(PhD) Social Science of Information Systems

University of Toronto
(MI) Information Studies

University of London School of Oriental and African Studies
(MSc) Sustainable Development

McGill University
(BA) Political Science and History

Eleonore Fournier-Tombs is a Senior Researcher – Team Lead at the United Nations University Institute in Macau with an interest in data and technologies for sustainable development. During her career, she has worked as a data scientist throughout the United Nations system and conducted research at the intersection of technology and gender, migration, democracy, and health.

In 2012, she was awarded the UN21 Award by Secretary General Ban Ki Moon for her work at UN-OICT on the Rio+20 Conference. She then worked for the Human Development Report Office from 2012 to 2015, where she managed human development data and online communications. Between 2015 and 2018, she obtained her PhD from the University of Geneva, during which she developed a machine learning method to measure the quality of political deliberations online. She was then awarded a post-doctoral fellowship at McGill University, where she used this tool to analyse parliamentary debates in the Canadian territories of Nunavut, Yukon, and the Northwest Territories.

From 2018 to 2020, Eleonore worked as a data scientist at the Centre for Humanitarian Data, OCHA, where she contributed notably to modelling COVID-19 in countries experiencing humanitarian crises. She continued this work in 2020 and 2021 at the World Bank, where she also participated in climate-related policy research in Afghanistan, Morocco, and Jamaica.

In 2021, Eleonore founded a research lab in the research chair on Accountable AI in a Global Context at the University of Ottawa Faculty of Law, where she was one of the recipients of an IDRC grant on AI for COVID-19 in Senegal and Mali. Eleonore has also lectured at the Université de Montréal on new technologies for international cooperation and is a member of the editorial board for the Data & Policy journal.

Research Interests

- **AI and data policy**
- **Deliberative democracy**
- **Technology and sustainable development**

Dr. Franz Gatzweiler

Senior Research Advisor

franz@unu.edu

Education

Humboldt University of Berlin
PhD and Habilitation, Resource Economics

Ostrom Workshop, Bloomington, Indiana University (Postdoc)

Humboldt University of Berlin
MSc in Agricultural Economics

University of Bonn
BSc Agricultural Sciences

Franz is Senior Research Advisor at the United Nations University Institute in Macau. Before joining UNU-Macau, he was a Professor at the Institute of Urban Environment, Chinese Academy of Science in Xiamen and executive director of the global science programme on Urban Health and Wellbeing: A Systems Approach, which is an affiliated body of the International Science Council (ISC).

Franz studied agricultural, resource and institutional economics at the University of Bonn and holds a PhD and habilitation in resource economics from the Humboldt University of Berlin. He established links between the Department of Resource Economics under Professor Konrad Hagedorn and the (Vincent and Elinor) Ostrom Workshop in Bloomington, Indiana University, which collaborated in research on the institutional transition process of Central and Eastern European countries. Prior to that, he was a Senior Researcher and project coordinator at the Center for Development Research (ZEF), Bonn University, Germany where he carried out research and development projects on the valuation, conservation, and use of biodiversity and ecosystems, marginality, as well as technological and institutional innovations for marginalized smallholders in agriculture. He is a free-ranging intellectual who grazes on the inter- and transdisciplinary knowledge fields of complex social-ecological-technological systems and is enthusiastic about participatory modelling and systems thinking.

Research Interests

- **Complex adaptive systems**
- **Collective intelligence and action**
- **Participatory modelling, serious games, and systems thinking**
- **Health and wellbeing for sustainable development**

Dr. Jingbo Huang
Director

—

huang@unu.edu

Education

Columbia University
Ed.D in Computing, Communications
and Technology in Education

Institut d'Etudes de Grenoble
Masters in Arts Administration

Indiana University-Bloomington
MA in French

Peking University
BA in French & Economics

Jingbo Huang is an educational technologist, researcher, coach, manager, and leader. She has been leading the United Nations University Institute in Macau in the past four years, during which, she led the multidisciplinary research team and the talented operations team to fundraise, conduct policy-relevant research and deliver high quality training programmes for the UN system and member states.

In her 20 years of UN career, she has held various managerial positions in the UN, UNDP, UNESCO and UNSSC, specialised in the learning design and staff development for UN system staff and managers. She used to design and develop UNDP RR/RC programmes and previously led the team that founded the UN system executive management programmes at UNSSC, which quickly became the UN system standard. She is also a certified coach and has been coaching her peer UN colleagues along their career journeys. She is a career advisor and visiting professor at the Sun Yat-sen University since 2007.

Research Interests

- **Educational technologies (e.g. video-based learning)**
- **Adult learning, and learner-centred design**
- **Staff development/learning and coaching**

Dr. Serge Stinckwich

Head of Research

stinckwich@unu.edu

Education

Université Savoie Mont Blanc
PhD in Computer Science

Ecole Normale Supérieure de Lyon
Magister of Computer Science and Modeling

University of Grenoble I
MSc of Computer Science

Serge is a computer scientist and the Head of Research at the United Nations University Institute in Macau. Before joining UNU-Macau, he was an Associate Professor at the University of Caen Normandie (France) and a researcher in the UMMISCO international joint research unit of IRD (French Research Institute on Sustainable Development) at Sorbonne University.

Over the years, Serge has developed an innovative research programme on modelling and simulation of complex systems at the intersection of several scientific disciplines applied to developing countries' issues. His research interests are domain-specific languages and tools that ease the tasks of non-computer experts to model, simulate, and analyse complex systems. He has applied his work to Epidemiology, Environmental Monitoring and Disaster Management.

From 2008 to 2012, he worked in Hanoi, Vietnam, on the AROUND (Autonomous Robots for Observation of Urban Networks) programme, which deals with deploying simple mobile autonomous sensors during disasters in the context of southern countries. He has also been an invited Professor at Kyoto University to work with Japanese experts on Rescue Robotics.

In 2017, he was based in Cameroon. With colleagues from the University of Yaoundé, he worked on complex system modelling and artificial intelligence applied to applications like epidemiological surveillance and environmental monitoring in collaboration with IRD and CIRAD research institutes.

From 2018 to 2018, Serge was the Principal Investigator of GDRI Sense-South, an international research network of teams from Senegal, Cameroon, Vietnam and France working on "Innovative Sensors and IoT Telecommunication Networks for Environmental Surveillance in Southern Countries". Sense-south funds actions like the "Smart Clean Garden" project to control the water purification in soils and the sustainable city project of Douala (Cameroon) with a local climate change observatory.

He organised and co-organised more than 50 workshops and conferences on topics such as Software Engineering, Modelling and Simulation, Rescue Robotics, Disaster Management, and Complex Systems, and has supervised more than 20 PhD/Masters students from various countries (e.g., Chile, Vietnam, Cameroon, Senegal).

Research Interests

- **Participatory and agent-based modelling**
- **Social simulation, complex system modelling**
- **Artificial intelligence applied to Sustainable Development Goals (SDGs)**

Dr. Jaimee Stuart
Senior Researcher

—

stuart@unu.edu

Education

Victoria University of Wellington
PhD in Psychology

Victoria University of Wellington
MSc in Cross-cultural Psychology

University of Canterbury
BA (Hons) in Psychology

Jaimee is a Cultural and Developmental Psychologist and Senior Researcher at the United Nations University Institute in Macau. Her research focuses on positive development for children, youth and their families. She is particularly interested in understanding developmental processes as they play out in contemporary contexts – those where there is extensive connection and engagement with technology, exposure to diversity, and experiences of global health and climate risks. Jaimee's work has a specific focus on empowerment for those who are minorities (cultural, religious, gender and sexual orientation) as well as those who experience inflated risk factors (e.g., exposure to violence, low socio-economic status, displacement).

Jaimee's past work has explored the relationships between social-ecological systems (e.g., family, peers, community, geography, and wider social systems) and health, wellbeing, and identity for youth. She has expertise in acculturation studies and participatory community research, having worked with Indigenous, migrant, and refugee communities in settler societies. Her research also extends to digital contexts, examining cyberaggression and victimisation, online disinhibition, social media use, self-presentation, and social connection for young people online.

Before joining UNU-Macau Jaimee worked as the Research and Evidence Lead at Pathways in Place, Griffith University, Australia where her work focused on co-creating solutions with the community to address place-based disadvantage. She has also worked as an academic at Griffith University and Victoria University of Wellington in their respective Schools of Psychology where she taught into developmental, cultural, and methods courses as well as supervised Doctoral, Masters, and Honours students. Prior to this Jaimee was a Senior Evaluator for the Ministry of Defence (NZ) focusing on equity and engagement, and a Research Fellow in the School of Population Health at the University of Auckland.

Research Interests

- **Digital health and wellbeing**
- **Cyberpsychology and youth development**
- **Diversity, equity, and inclusion**
- **Resilience and empowerment for marginalised and/or vulnerable populations**
- **Media, communications, and technology for sustainable development**

Dr. Mamello Thinyane

Senior Research Advisor

mamello@unu.edu

Education

Rhodes University
PhD in Computer Science

Rhodes University
MSc in Computer Science

Rhodes University
BSc (Hons) in Information Systems

Mamello Thinyane is a global citizen who is passionate about scientific research and technology innovation to contribute to the achievement of a sustainable good life for all.

He is a Senior Research Advisor at the United Nations University Institute in Macau, where he leads research on the Smart Citizen Cyber Resilience project. This project is undertaking research and developing tools to enhance the resilience of citizens and civil society stakeholders against adverse cyber incidents in smart digital futures. He also leads research on Data and Sustainable Development, formerly the Small Data Lab, which critically investigates the sustainable development data assemblages and develops artefacts to support the active participation of civil society stakeholders in these data ecosystems.

Before joining UNU-Macau, Mamello was an Associate Professor in the Department of Computer Science at the University of Fort Hare in South Africa, as well as the Director for the Telkom Centre of Excellence in ICT for Development at the same institute. He is a former Visiting Researcher at the Australian Centre of Cyber-Security at the University of New South Wales in Canberra.

Research Interests

- Critical data studies
- Cyber resilience
- Cybersecurity
- Digital technologies and sustainable development

Xia FAN
Communications &
External Relations Officer

T +853 2871 2930
E fan@unu.edu

United Nations University
Institute in Macau