

OCTOBER 2→3, 2025 | 2025年10月2日~3日

フランスと日本における 仕事の変容

40th ANNIVERSARY OF
TOYO-UNISTRA ACADEMIC
EXCHANGES

人口動態・環境・デジタルの移行は
職場にどのような影響を与えているのか



Work in Transition

in France and Japan

HOW DEMOGRAPHIC,
ECOLOGICAL AND DIGITAL
TRANSITIONS ARE
CONTRIBUTING TO MUTATIONS
IN THE WORKPLACE

Sympo — 40th — sium

Anniversary

Toyo University

University of Strasbourg

*Work in Transition
in France and Japan*

*How Demographic,
Ecological and Digital
Transitions are
contributing
to mutations
in the Workplace*

ORGANIZING INSTITUTIONS

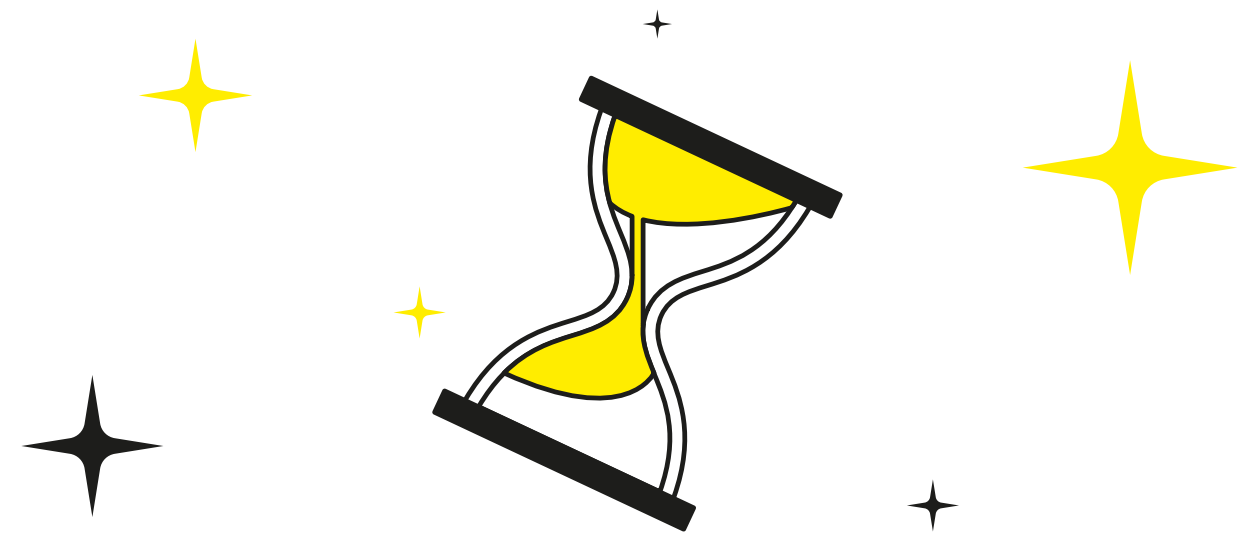
- University of Strasbourg
- Toyo University

WITH THE SUPPORT OF

- Maison Universitaire France-Japon (MUFJ)
- Consulate General of Japan in Strasbourg
- IdEx
- JSPS Strasbourg Office

SCIENTIFIC COORDINATORS

- **Michèle Forté**, University of Strasbourg
- **Sandra Schaal**, University of Strasbourg
- **Toshiya Aramaki**, Toyo University



This symposium is being organised to celebrate the 40th anniversary of academic exchanges between Toyo University (Japan) and the University of Strasbourg (Unistra). It will take place in Strasbourg on 2 and 3 October 2025. A second event will be organised by Toyo University during the week of 10 November 2025, with the presence and contributions of Unistra researchers and teaching staff.

This symposium is being organised to celebrate the 40th anniversary of academic exchanges between Toyo University (Japan) and the University of Strasbourg (Unistra). It will take place in Strasbourg on 2 and 3 October 2025. A second event will be organised by Toyo University during the week of 10 November 2025, with the presence and contributions of Unistra researchers and teaching staff.

These celebrations highlight the significance of this cooperation for both universities. For Unistra, the agreement with Toyo University is the first to be signed with a Japanese university. Scientific exchanges between Toyo University and the University of Strasbourg go back a long way and their quality has led to the signing of successive agreements between the two institutions. This symposium should help strengthen this cooperation and encourage the emergence of new research projects.

The theme of the symposium is “Work in Transition in France and Japan”, which refers to the challenges posed by demographic, environmental and digital changes to the world of work.

The multidisciplinary conferences will bring

together specialists from both universities who work in the fields of health, economics, the social sciences, environmental sciences, artificial intelligence and chemistry. They will therefore provide an overview of the problem and the various observations and solutions coming from different scientific fields.

Through lectures, a round-table discussion and visits, the aim is not only to highlight the importance of the collaborations developed between the two institutions and the many partnerships now established, but also, and above all, to consolidate them and open up new prospects for their development. The lectures and round tables will be open to Unistra teachers, researchers and doctoral students, as well as to French and foreign universities (particularly those in the Upper Rhine region) interested in the subject. The colloquium will also be open to non-academics interested in the issue of changes in work: public decision-makers, industrialists, associations and social partners.

The theme of working in the medicine of the future will be explored during two visits, IRCAD and Nextmed.

THURSDAY, OCTOBER

02ND

8H30-9H00

Opening remarks

- **Frédérique Berrod**, President of the University of Strasbourg
- **Etsuko Yaguchi**, President of Toyo University
- **Hiroyuki Uchida**, Consul General of Japan in Strasbourg
- **Toshiyuki Takagi**, Director, JSPS Strasbourg Office
- **Michèle Forté**, Director, Maison Universitaire France-Japon
- **Sandra Schaal**, Director, GEO, University of Strasbourg

9H00-10H30

SESSION 1 *AI, innovation and transitions*

CHAIRPERSON: MICHÈLE FORTÉ

- **Hajime Imamura**, Toyo University
- **Thomas Lampert**, University of Strasbourg
- **Takeshi Yashiro**, Toyo University

10H30-10H45

Coffee break and group photo

10H45-12H15

SESSION 2 *Nanosciences and health in transitions*

CHAIRPERSON: MARIE-CLAIRE LETT

- **Alberto Bianco**, University of Strasbourg
- **Tatsuro Goda**, Toyo University
- **Kazutaka Takeshita**, Toyo University

12H30-13H45

Lunch

14H15-17H30

SESSION 3 *Visit Session (on registration*)* *Surgery and health in the future*

- **Visit of IRCAD** and conference Jacques Marescaux, founder and president of IRCAD
- **Visit of Nextmed** with his director Nicolas Pellerin and meeting with researchers (TBC)

*registration by e-mail: mujapon@unistra.fr

FRIDAY, OCTOBER

03RD

9H00-10H30

SESSION 4 *Gender, work and public policies*

CHAIRPERSON: RENÉ CARRAZ

- **Michèle Forté**, University of Strasbourg
- **Natsuko Minamino**, Toyo University
- **Sandra Schaal**, University of Strasbourg

10H30-10H45

Coffee break

10H45-12H00

SESSION 5 *Entrepreneurship*

CHAIRPERSON: HERRADE IGERSEIM

- **René Carraz**, Toyo University
- **Véronique Schaeffer**, University of Strasbourg

12H15-14H00

Lunch

14H00-15H00

SESSION 6 *Privacy and democracy in digital and environmental transitions*

CHAIRPERSON: SANDRA SCHAAL

- **Toshiya Aramaki**, Toyo University
- **Emmanuel Droit**, University of Strasbourg

15H00-15H45

FINAL SPEECH *Molecular machines and motors: a historical perspective*

CHAIRPERSONN: YOICHI NAKATANI

- **Jean-Pierre Sauvage**, Emeritus Professor, University of Strasbourg, Nobel Prize in Chemistry 2016

15H45-16H00

Concluding remarks

- **Rémi Barillon**, Vice President for Research, Doctoral training and Open Science, University of Strasbourg
- **Toshiya Aramaki**, Vice President for International Affairs, Toyo University



EDUCATION

- Dr. Engineering in Urban Engineering from the University of Tokyo (1996)
- Research Associate, Lecturer, and Associate Professor, Department of Urban Engineering, The University of Tokyo (1996-1998, 2004-2008)
- Lecturer, Research Center for Advanced Science and Technology, The University of Tokyo (1999-2004)
- Visiting associate professor, School of Environment, Resources and Development, Asian Institute of Technology, Thailand (2004-2006)
- Professor, Department of Regional Development Studies, Toyo University (2008-now)
- Dean, School of Global and Regional Studies, Toyo University (2017-2024)
- Vice President and Director of the Center for Global Education and Exchange, Toyo University (2024-now)

SCIENTIFIC INTEREST

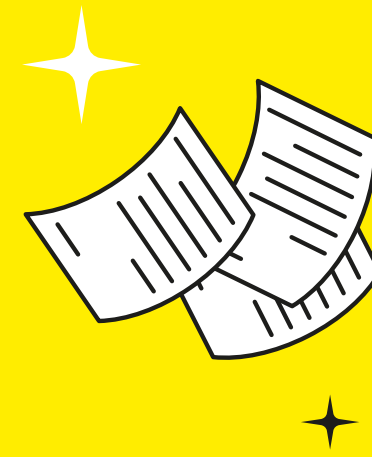
- Water, wastewater and solid waste management both in developed and developing countries
- Climate change mitigation and Adaptation
- Environmental Systems Analysis

LATEST PUBLICATIONS OF INTEREST TO THE SYMPOSIUM

- Otsuka, Y., Hiramatsu, A., Goto, N., Hanaoka, C. and Aramaki, T. (2025) Analysis of Consensus Building Process in Online Citizens' Assembly and the Transition of Participants' Attitudes and Perceptions - Focusing on the Decarbonization of Detached Houses -, Environmental science (Japanese), 38(2) 16-32
- Ishikawa, S., Goto, N., Aramaki, T., Otsuka, Y., Hiramatsu, A. and Hanaoka, C. (2025) The Impact of Games on Citizens' Awareness and Behavioral Change Regarding Decarbonization, International Forestry and Environment Symposium 2025
- Aramaki, T., Komoda, R., Otsuka, Y., Hiramatsu, A., Goto, N. and Hanaoka, C.(2024) Relationship between Personal Attribute, Attitude for Climate Change and Willingness to participate in Climate Discussions at the Local Level, Japanese Journal of JSCE, 80(26)
- Nguyen, M.L. and Aramaki, T. (2022) Analysis of factors influencing waste separation behavior of Hanoi citizens with consideration to societal elements, Journal of Material Cycles and Waste Management, 24(6) 2499-2509.

Work in Transition in France and Japan

How Demographic Ecological and Digital Transitions
are Contributing to Mutations in the Workplace



How Will Digital Revolution Lead To Environmental Transition

TOSHIYA ARAMAKI
aramaki@toyo.jp

AI technology is improving energy and resource efficiency in our economic activities. The spread of the Internet and advances in network technology are changing our lifestyle. Visualization of environmental information is changing our awareness and behavior. Those changes may contribute to reduce our environmental footprint. Solving the environmental issues we face today, such as climate change and biodiversity

conservation, will require us to rethink the way we behave. How will digital revolution change people's awareness and behavior and lead to environmental transition? I will discuss it through concrete examples, such as effects on visualization of energy and water usage by smart meters, gamification on climate change and its actions, and way of citizen's participation to climate discussions.



Alberto Bianco
Immunologie Immunopathologie et Chimie Thérapeutique, UPR3572, CNRS

EDUCATION

Dr. Alberto Bianco received his PhD in 1996 from the University of Padova. As a visiting scientist, he worked at the University of Lausanne, the University of Tübingen (as an Alexander von Humboldt fellow), the University of Padova and Kyoto University. He is currently Distinguished Research Director at the CNRS in Strasbourg. His research interests focus on the design of multifunctional carbon and 2D nanomaterials for therapy, diagnosis and imaging. He is also interested on their health impact, particularly on the immune system. He has published more than 370 articles (h-index: 98, > 57000 citations). Since 2011 he is Editor of the journal CARBON. In 2017 he has been elected Fellow of the European Academy of Science and in 2020 of the Academia Europaea, and in 2019 he has obtained the CNRS Silver Medal.

SCIENTIFIC INTEREST

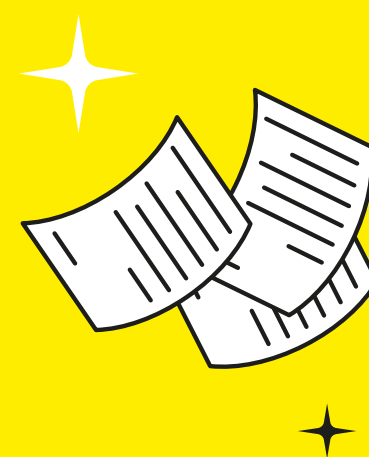
- Multifunctional nanomaterials, organic functionalization of nanomaterials
- Carbon nanotubes, graphene, carbon dots and other bi-dimensional materials
- Hydrogels based on self-assembly of hybrid systems and amino acid-base nanoparticles
- Drug delivery, imaging and theragnosis
- Health impact of nanomaterials

LATEST PUBLICATIONS OF INTEREST TO THE SYMPOSIUM

- Lucherelli, M.A.; Yu, Y.; Reina, G.; Abellán, G.; Miyako, E.; Bianco, A. Rational chemical multifunctionalization of graphene interface enhances targeting cancer therapy. *Angewa. Chem. Int. Ed.* 2020, 59, 14034-14039.
- Guo, S.; Garaj, S.; Bianco, A.; Ménard-Moyon, C. Controlling covalent chemistry on graphene oxide. *Nat. Rev. Phys.* 2022, 4, 247-262.
- García-Hevia, L.; Soltani, R.; González, J.; Chaloin, O.; Ménard-Moyon, C.; Bianco, A.; López Fanarraga, M. Carbon nanotubes targeting the metastatic vasculature inhibit metastasis in a preclinical model of melanoma. *Bioactive Mater.* 2024, 34, 237-247.
- Vranic S.; Kurapati, R.; Kostarelos, K.; Bianco A. Biological and environmental degradation of two-dimensional materials. *Nat. Rev. Chem.* 2025, 9, 173-184.

Work in Transition in France and Japan

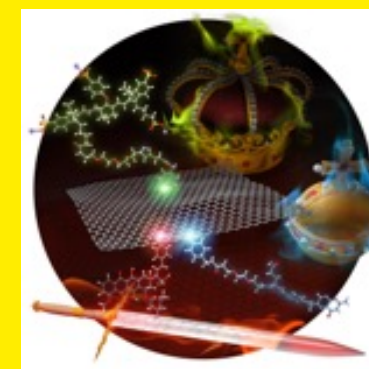
*How Demographic Ecological and Digital Transitions
are Contributing to Mutations in the Workplace*



Multifunctional Nanomaterials for the Medicine of the Future

ALBERTO BIANCO

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Many classes of nanomaterials are explored in well-being technologies for their specific properties, aiming to become the future biomedical (e.g., therapeutic, imaging and biosensing) tools. Carbon-based nanomaterials (e.g., graphene, carbon nanotubes and carbon dots) are considered unique systems, offering the possibility to explore a wide range of reactions for their chemical functionalization towards the design of complex multifunctional systems that allow further their exploitation in therapy (e.g.,

targeted drug delivery), imaging and diagnosis. In this presentation, I will illustrate how chemistry helps to modify this type of materials with appropriate functional groups and therapeutic molecules in view of their applications in biomedicine. I will describe few examples of their use in cancer therapy and imaging. I will also present appropriate strategies to enhance the biodegradability and tune their toxic effects, enhancing their biocompatibility, rendering these materials safer.



René Carraz
Toyo University, Faculty of Global and Regional Studies, Department of Global Innovation Studies, Tokyo, Japan
Associate Researcher, BETA (UMR7522), University of Strasbourg

EDUCATION

- Doctor of Philosophy (PhD), Economics / Innovation (2010, University of Strasbourg / BETA-CNRS – France)
- Certified in Management de la Créativité (Institut Européen Entreprise et Propriété Intellectuelle – France & HEC Montréal 2019)
- Master's in economics, major in "Business science". (2006, Kyoto University – Japan)
- Master's in economics, major in "Economics and Management of Innovation and Knowledge." (2005, University of Strasbourg / BETA-CNRS – France)

SCIENTIFIC INTEREST

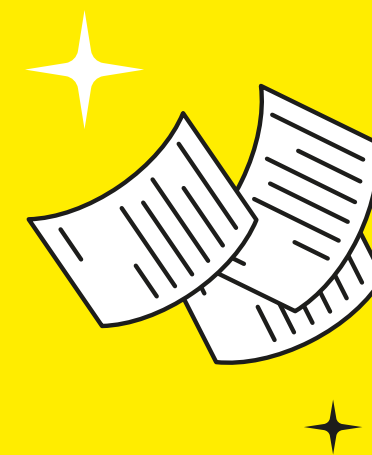
René Carraz holds the position of Associate Professor at Toyo University's Department of Global Innovation Studies, Japan. His expertise lies in the realm of economics-driven exploration of science, technology, and innovation. Recently, he has been engaged in the development of a matching algorithm for academic patent-paper pairs. This innovative algorithm is designed to connect patents with their corresponding academic papers, facilitating a more comprehensive understanding of the relationship between scientific research and intellectual property (<https://kaken.nii.ac.jp/en/grant/KAKENHI-PROJECT-24K05092/>). Beyond this, his research spans science and technology policy, academic entrepreneurship in Japan, and the intricate interplay between urban environments and creativity.

LATEST PUBLICATIONS OF INTEREST TO THE SYMPOSIUM

- Keita, J. & Carraz, R. (2025) Innovation at the Crossroads: Managing competing institutional logics in Indonesia's impact investing ecosystem *Journal of Innovation Economics & Management* (Forthcoming)
- Nguyen, V., & Carraz, R. (2025). Exploring academic patent-paper pairs: a new methodology for analyzing Japan's research landscape. *Scientometrics* 130, 1329–1356 <https://doi.org/10.1007/s11192-025-05275-5>
- Oo, N., & Carraz, R. (2023) How Healthy is Japan's Entrepreneurial Ecosystem? From the Perspective of Leading Universities in Japan. *Journal of Regional Development Studies*. (26) 91–116 <http://id.nii.ac.jp/1060/00013983/>
- Renou, T., Carraz, R., & Burger-Helmchen, T. (2023). Japan's Corporate Governance Transformation: Convergence or Reconfiguration? *Administrative Sciences*, 13(6), 141. <https://doi.org/10.3390/admsci1306014>

Work in Transition in France and Japan

How Demographic Ecological and Digital Transitions
are Contributing to Mutations in the Workplace



Internationalization in Japanese Higher Education: Evidence from the Top Global University Project

RENÉ CARRAZ

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This study evaluates the impact of Japan's Top Global University Project (TGUP) on the internationalization of Japanese universities, focusing specifically on patterns of internationally co-authored publications. Launched in 2014 and ending in 2024, TGUP is a large-scale government initiative that aims to enhance the global competitiveness of selected universities through targeted funding, international collaboration, and governance reforms. Despite its policy significance, there has been limited empirical evaluation of TGUP's effectiveness. To assess the program's impact, the study employs a difference-in-differences approach, comparing TGUP-affi-

liated universities with non-affiliated institutions from 2004 to 2024. The analysis focuses on Type B institutions – typically mid-tier universities – and finds that, compared to similar universities that did not participate in the program, participating institutions experienced an 11–12% increase in internationally co-authored publications and an approximate 30% increase in papers with at least one foreign author. These effects are statistically significant and robust to the inclusion of institutional funding and publication-level citation controls. Beyond publication outputs, the study investigates TGUP's influence on academic entrepreneurship and innovation activities. In

particular, it connects with recent work on academic patent-paper pairs (PPPs) to examine whether TGUP universities show distinct patterns in combining scientific publication and patenting (Van Thien & Carraz, 2025). The study also highlights key strategic initiatives—such as the creation of innovation hubs and strengthened technology transfer offices—introduced through TGUP reforms. Overall, the findings contribute to a broader understanding of how targeted policies can promote both international research collaboration and academic entrepreneurship, particularly within mid-tier institutions striving for global relevance.



Emmanuel Droit

LInCS, Sciences Po Strasbourg, University of Strasbourg

紹介

EDUCATION

- PhD at Sorbonne University about the school in the GDR (2006) and Habilitation at Sorbonne University between the secret services of the Eastern Bloc (2016)
- Professor for Contemporary History with focus on the German History, the History of the Cold War and the Intelligence Services
- After studying history, literature and philosophy in Nancy, Göttingen and Berlin, Emmanuel Droit wrote his dissertation on schooling in the GDR in 2006. He became a lecturer in contemporary history at the University of Rennes 2 in 2008. In 2012, he was Fellow of the Alexander von Humboldt Foundation and then of the Institute for Advanced Studies in Nantes. Between 2014 and 2017, he was Deputy Director of the Center Marc Bloch, a French-German Research Institute for Social Sciences in Berlin (2014-2017). Since 2017, he has been Professor of Contemporary History at the University of Strasbourg. He was a visiting professor at Saarland University in 2021. He currently leads a Franco-German research project on experiences of deindustrialization (ANR-DFG) in cooperation with the University of Bochum. He is also responsible of a French-Japanese Master Degree in International Relations with the University of Hitotsubashi.

SCIENTIFIC INTEREST

- German History after 1945, Intelligence studies, History of the Cold War, History of European cultures of memories
- Germany, Cold War, communism, intelligence studies

LATEST PUBLICATIONS OF INTEREST TO THE SYMPOSIUM

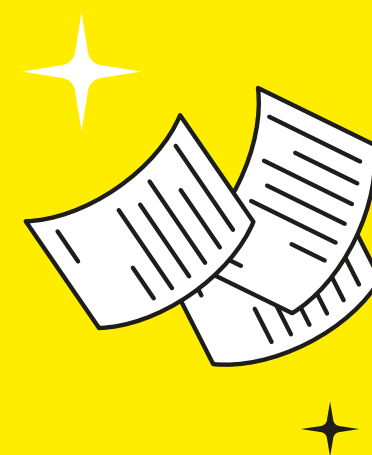
- « La communauté tchékiste » de Guerre froide: réalités et limites d'une culture partagée du renseignement », Études françaises de renseignement et de cyber, 2024/1 (n°2), p. 169-182.
- Les polices politiques du bloc de l'Est. A la recherche de l'Internationale tchékiste 1955-1989, Paris, « La suite de temps », Gallimard, 2019, 288 p.
- Avec Frank Reichherzer et Jan Hansen (dir.), Den. Kalten Krieg vermessen. Über Reichweite und Alternativen einer binären Ordnungsvorstellung, Berlin, Gruyter Verlag, 2018, 317 p.
- « Geheimdienste », in Frank Reichherzer et Jan Hansen (dir.), Den. Kalten Krieg vermessen. Über Reichweite und Alternativen einer binären Ordnungsvorstellung, Munich, Gruyter Verlag, 2018, p. 137-148.

Work in Transition in France and Japan

How Demographic Ecological and Digital Transitions
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13

フランスと日本における仕事の変容



Secret and Privacy at the Age of the Digital Revolution

EMMANUEL DROIT

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Since the 16th century, Western political modernity have attributed a central function to secrecy considered as something whose control - control of its production and its unveiling - constitutes one of the keys to internal as well as to international power. Secrecy has also shaped until today all social relations in democratical like in dictatorial regimes.

Since the development of the digital revolution, secrecy has been more than in the last centuries under pressure. Confidential documents have been leaked, the law has been violated and the offensive as well as defensive leaks came to dominate the headlines. Some of the most controversial leaking cases in recent years

like the cases of Edward Snowden and Chelsea Manning in the US have involved what Margaret Kwoka has termed “deluge leaks” that disclose huge amounts of data at once in the name of commitment to ethical ideals.

Based on a historical perspective rooted in the 1970s, my contribution aims at proposing a reflection about the tensions between secret, privacy and transparency at the age of the digital revolution. It gives also us the possibility to cast a gloomy light on the continuing battle between the seemingly incompatible traditions of a free press and a national security apparatus that benefits from secrecy.



Michèle Forté
Labor Institute, BETA- Bureau d'économie théorique et appliquée, University of Strasbourg
紹介

EDUCATION

- Associated Professor in Economics (1992-now).
- Director of Maison Universitaire France-Japon (MUFJ), University of Strasbourg, (2019-now).
- Director of Labor Institute, University of Strasbourg, (2012-2016).
- PhD in Economics, University of Strasbourg, 1992

SCIENTIFIC INTEREST

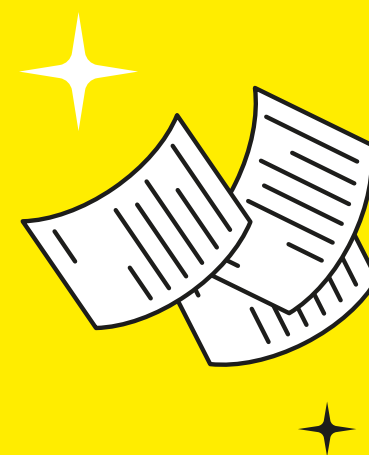
- Women's place in the labour market/ Professional mixity and non-discrimination
- Collective bargaining on equality between men and women.
- Vocational training and qualifications.
- Main keywords: Labor economics, gender equality, vocational training.

LATEST PUBLICATIONS OF INTEREST TO THE SYMPOSIUM

- Forté M., Garat T., Liakopoulou E. (2025), Analyse transversale d'accords sur l'égalité professionnelle entre les femmes et les hommes. Des domaines aux thématiques. Etude réalisée pour la Direction générale du travail. (Forthcoming).
- BUCHER A., FORTÉ M. , GARAT T., LIAKOPOLOU, MOIZARD N. , TERRAZ I. (2021), Collective bargaining outcomes on gender equality in France. ILO. <https://www.ilo.org/publications/collective-bargaining-outcomes-gender-equality-france>
- BUCHER Anne, FORTÉ Michèle, GARAT Tiphaine, MOIZARD Nicolas, TERRAZ Isabelle, TOURNADRE Fabienne, (2018) « Égalité professionnelle: quels apports de la négociation administrée ? », Chroniques du Travail, 8, pp. 149-173.
- Forté M, Rebeuh MC (2004): Relations intergénérationnelles et genres dans les politiques de l'emploi. In Bihr A et Tanasawa N (Coord.): Les rapports intergénérationnels en France et au Japon. L'Harmattan, pp. 59-94.

Work in Transition in France and Japan

How Demographic Ecological and Digital Transitions
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Work In Transitions: Can French Women Take On (More) Responsibilities?

MICHÈLE FORTÉ

mforte@unistra.fr

For more than fifty years, the situation of women and men in the workplace in France has undergone a profound change, gradually leading to a 'rebalancing of the sexes' in the labour market. In 2024, the proportion of women in the labourforce is almost 49% vs 39% in 1975. However, this fundamental trend has not led to an equalization of working and employment conditions for women and men, despite legislation that establishes the general principle of equal treatment and prohibits discrimination based on gender. Professional and managerial workforce provide a striking example of these contradictory trends: the proportion of women in these roles in France increased remarkably between

1975 and 2024. While women accounted for less than 10% of this group in 1975, this figure had increased to almost 44% by 2024.

This progress is undeniable, but it is still unfinished: the pay gap and the glass ceiling, persistent inequalities in the division of domestic tasks still limit women's ascent to decision-making positions.

Demographic, digital and environmental transitions are profoundly redefining the world of work. Do these changes represent opportunities for French women? What major challenges will they face in terms of professional responsibilities?

The aim of this presentation will be to show that to enable women to take on more res-

ponsibility, it is essential to rethink public policies, managerial practices and social norms.

To achieve this, we will provide a historical overview of the changing position of men and women in the French labour market, highlighting the significant changes that have occurred for women in managerial positions. Next, we will examine the impact of the private sphere and the gendered division of labour within families and couples on women's professional activity. Finally, we will demonstrate how government action in the areas of employment and corporate management strategies can increase the number of women in positions of responsibility.



Tatsuro Goda
Bioengineering Laboratory, Department of Biomedical Engineering, Faculty of Life Sciences, Toyo University
講演者紹介

EDUCATION

- Ph D in Engineering, The University of Tokyo (2008)
- Assistant Professor at Tokyo Medical and Dental University from 2010 to 2020
- Associate Professor at Toyo University from 2020 to 2021
- Professor at Toyo University from 2021

SCIENTIFIC INTEREST

- Prof. Goda's research focuses on developing biointerfaces between biological systems and artificial materials to induce specific biological responses for bioengineering and biomedical applications.
- Keywords: Biomaterials, Biosensors, Bioelectronics

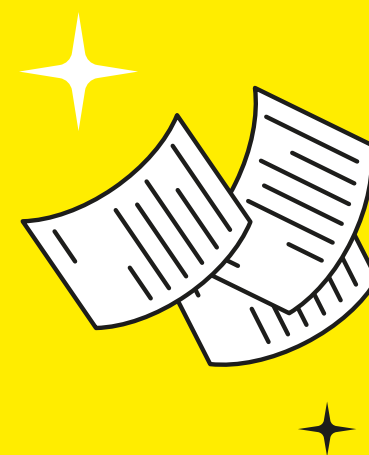
LATEST PUBLICATIONS OF INTEREST TO THE SYMPOSIUM

- Langmuir, 2025, 41(6), 4240–4248.
- ACS Biomaterials Science and Engineering, 2025, 11(1), 586–594.
- Advanced Materials Technologies, 2022, 7(8), 2101486 (11 pages).
- Acta Biomaterialia, 2022, 140, 674–685.

Work in Transition in France and Japan

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17



Biomimetic Biointerfaces: Design and Biomedical Applications

TATSURO GODA
goda@toyo.jp

Biological systems possess a hierarchical organization, and their interaction with artificial materials can elicit a range of responses, including blood coagulation, foreign body reactions, inflammation, and immune responses. These phenomena are often problematic in biomedical applications, potentially impairing therapeutic efficacy and causing adverse effects, thus necessitating precise control of interactions at the biointerface—the crucial juncture between artificial materials and biological systems. Biointerface technology seeks to address these challenges by meticulously designing material surfaces at the molecular level, utilizing diverse materials such as metals, ceramics, polymers, and hydrogels, to guide specific biological outcomes. A primary obstacle is the non-specific adsorption of proteins from bodily fluids onto material surfaces, which can trigger a cascade of unde-

sirable downstream events. Our research group has concentrated on developing highly protein-resistant biointerfaces by employing biomimetic materials, particularly those that emulate the phospholipid structures characteristic of cell membrane surfaces, such as 2-methacryloyloxyethyl phosphorylcholine (MPC) polymers. This strategy has shown considerable promise across several key applications. Firstly, it significantly enhances the biocompatibility of medical materials, including blood-contacting devices like artificial blood vessels and stents, as well as various implantable devices. Secondly, in the realm of biosensing, these engineered surfaces facilitate the highly sensitive and rapid detection of critical disease biomarkers (e.g., for oncological and cardiovascular conditions) and pathogenic viruses (e.g., influenza, SARS-CoV-2) by ensuring selective binding of target analytes while

drastically reducing non-specific adsorption. Moreover, we are actively developing advanced nanocarriers incorporating cell-membrane-mimicking structures; these are designed for efficient penetration of biological membranes to enable targeted drug delivery systems (DDS), thereby improving the intracellular delivery of therapeutic molecules. The sophisticated design and fabrication of such advanced biointerfaces constitute a vital platform technology for the progression of diagnostic and therapeutic modalities within bioengineering and allied scientific disciplines. This presentation will therefore provide a comprehensive overview of our group's innovative strategies for developing these biointerfaces and will detail their successful applications in medical materials, biosensing, and drug delivery systems, substantiated with specific illustrative examples.

フランスと日本における仕事の変容



Hajime Imamura 齋藤 肇 介

Center for Global Innovation Studies (GIC), Visiting Research Fellow, Toyo University

EDUCATION

- Keio University, Finished Ph.D. Course, Business and Commerce (Econometrics), 1985,
- Keio University, M.A., Business and Commerce (Industrial Relations), 1982
- Keio University, B.A., Economics, 1978

SCIENTIFIC INTEREST

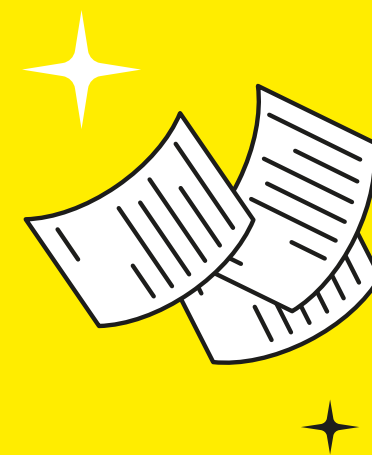
- His areas of expertise span Global Innovation Studies, Global Entrepreneurship, Innovation Management, Social Enterprises, and Social Impact Investment, and he has consistently conducted research aimed at addressing social issues from an economic perspective.
- His research began with his graduate research in Keio with Harvard, “Compositional Change of Heterogeneous Labor Input and Economic Growth in Japan” (1990, University of Chicago Press),”
- He has served as Vice President, Academic Committee Member, and Editorial Board Member of CIRIEC International (International Centre of Research and Information on the Public, Social and Cooperative Economy: Belgium). He has presented research papers annually at international conferences on social enterprise research, such as EMES and ISTR. For over 20 years, he has been at the forefront of global research on the “Third Pillar.”
- He has also explored frameworks for measuring social value through the lens of creative public space and SDGs (PPP White Paper, 2022), and addressed innovation and creativity education challenges (Routledge, 2022), as well as entrepreneurial responses to digital and ecological transformation in global collaborative forums (JSPS-University of Strasbourg, 2023).
- And the latest international collaborative research, as a co-researcher in the INNOVCARE Project (2024–2028), which was selected under the French government’s France 2030 Plan’s priority research program “Autonomy,” And, he is also joining the innovative attempt to build an innovation ecosystem in Japan, IM (Innovation Management) -Lab, Japan Innovation Network from 2025.

LATEST PUBLICATIONS OF INTEREST TO THE SYMPOSIUM

- Creative Public Space Design for Sustainable Global Innovation - Finding a place for young people in the DX of “Global Entrepreneurial Mindset,” France-Japan Joint Forum” How to cope with Ecological and Digital transformations - Entrepreneurship and organizational creativity -,” JSPS-University of Strasbourg, November 14-15, 2023
- Educating creativity for innovation- unprecedented challenge in Japan, in Team Academy in Diverse Settings, Routledge Focus on Team Academy Vol. 4, Routledge, 2022
- Current Status and Issues of Social Value Measurement - Necessity of Social Value Measurement from Creative Public Space Design to SDGs, White Paper on Public-Private Partnerships 2021-2022, PPP Research Center, Toyo University, April 2022

Work in Transition in France and Japan

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Leveraging AI and Digital Transitions for Collaborative Innovation “Co-production of Creative Public Space with AI”

HAJIME IMAMURA

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Japan and France face entwined demographic, ecological, and digital shifts. To turn these pressures into inclusive progress, we must strengthen the “Third Pillar”—NGOs, Social Enterprises, and the wider Social & Solidarity Economy (SSE). These actors strike a balance between market and state by prioritizing social value, co-producing public goods, and mobilizing community capital. Digital technology can amplify their impact, but only if it is convivial: transparent, modular, and designed around human agency. AI projects that treat people as users, not data points, foster well-being and local resilience rather than centralized control. A core method is Broad Listening—AI-assisted collection and analysis of diverse public voices, illustrated by Tokyo’s

Shin Tokyo 2050 consultation. Coupled with robust ontologies that map social concepts for both humans and machines, broad listening turns torrents of opinion into plural, actionable insight and keeps democracy responsive. Co-production of Creative Public Space with AI emerges as a vital frontier. By integrating citizen voices and spatial data, AI can help communities imagine and design public spaces that reflect local identities, cultural memory, and inclusive access. Such co-production reclaims urban development from top-down planning and revitalizes civic trust. Newly, we are launching IM-Lab, a collaborative platform for building an Innovation Management Ecosystem aligned with ISO 56000/56001 standards. This system fosters innovation-friendly organiza-

tions and leadership, based not on rigid control but on managing uncertainty and knowledge creation. To support these processes, we cultivate “Ba”—shared spaces that blend physical, virtual, and emotional dimensions. The Travel Play Dialogue framework activates such Ba through movement, playfulness, and structured conversation, helping participants surface tacit knowledge, test ideas quickly, and build trust. This process seeds horizontal connections in Japan’s predominantly vertical society. By empowering middle-ground actors—especially youth, outsiders, and eccentrics—Travel Play Dialogue nurtures “horizontal-minded” leaders who can weave together firms, agencies, and communities.



Thomas Lampert
iCube, University of Strasbourg
講演者紹介

EDUCATION

- Professor in Computer Science, University of Strasbourg
- Expert in Artificial Intelligence for the Council of Europe
- Alumnus of the International Visitor Leadership Programme, US State Department
- Chair of Data Science and Artificial Intelligence 2020–2024, University of Strasbourg
- HDR in Computer Science, University of Strasbourg
- PhD in Computer Science, University of York
- MSc with Distinction in Autonomous Systems, University of Exeter
- BSc (Hons) in Computer Science, University of Exeter

SCIENTIFIC INTEREST

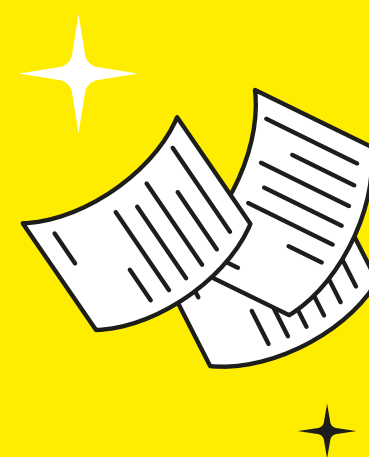
- Area: Machine Learning and Artificial Intelligence
- Keywords: Representation Learning, Deep Learning, Semi-Supervised Learning, Domain Adaptation, Constrained Clustering
- Research Goals: Reducing machine learning’s reliance on labelled data

LATEST PUBLICATIONS OF INTEREST TO THE SYMPOSIUM

- M. Obrenović, T. Lampert, M. Ivanović, and P. Gançarski, Learning Domain Invariant Representations of Heterogeneous Image Data, *Machine Learning* 112: 3659–3684, 2023.
- H. El Amouri, T. Lampert, P. Gançarski, and C. Mallet, Constrained DTW Preserving Shapelets for Explainable Time-Series Clustering, *Pattern Recognition* 143: 109804, 2023.
- J. Vasiljević, F. Feuerhake, C. Wemmert, and T. Lampert, HistoStarGAN: A Unified Approach to Stain Normalisation, Stain Transfer and Stain Invariant Segmentation in Renal Histopathology, *Knowledge-Based Systems* 277: 110780, 2023.
- J. Vasiljević, F. Feuerhake, C. Wemmert, and T. Lampert, ‘Towards Histopathological Stain Invariance by Unsupervised Domain Augmentation using Generative Adversarial Networks’, *Neurocomputing* 460: 277–291, 2021.

Work in Transition in France and Japan

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AI in the Workplace

THOMAS LAMPERT

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Artificial Intelligence (AI) has progressed rapidly in recent years, moving from experimental systems to widely deployed technologies with tangible impacts across sectors. Today’s state-of-the-art models—particularly large language models, advanced machine learning algorithms, and multimodal systems—demonstrate capabilities in natural language understanding, image analysis, and decision-making that were previously considered beyond our reach. These developments have spurred significant changes in the world of work. This talk examines the current role of AI in the workplace, from automating repetitive administrative functions and

enhancing productivity tools, to supporting complex data analysis. AI is increasingly embedded in the fabric of professional life. We will assess both the benefits and tensions emerging from this transformation, including issues of deskilling, surveillance, and algorithmic bias. Looking to the future, we consider which areas of working life are most and least susceptible to AI-driven change. While tasks that are structured, data-intensive, or rule-based are increasingly subject to automation, roles requiring emotional intelligence, contextual judgement, moral reasoning, or creative synthesis are likely to remain relatively resistant.



Natsuko Minamino
Faculty of Design for Welfare Society, Department of Child Care and Support, Toyo University

EDUCATION

- PhD. in Social Work, September 2019, Japan Women's University Graduate School of Human and Sociology, Tokyo, Japan
- Doctoral dissertation title: Difficulties and coping strategies of female migrants
- Master of social work, August 1998, George Warren Brown School of Social Work, Washington University in St.Louis, the United States.

SCIENTIFIC INTEREST

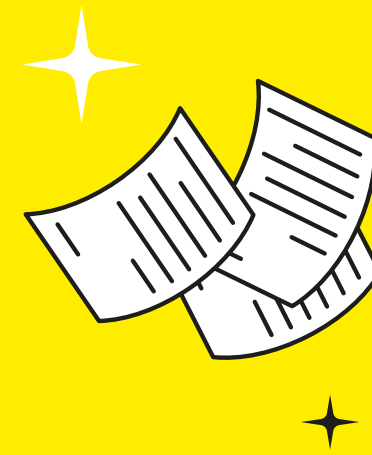
- Natsuko Minamino, PhD, is a professor in the Faculty of Design for Welfare Society at Toyo University, Japan. Her research interests include social work for vulnerable children and women, with a particular focus on immigrant women who experience domestic violence, child-rearing difficulties, and social isolation. She points out that one of the major factors making life difficult for immigrant women is the combination of disadvantages—the lower status of women in Japan, the lower status of immigrants, and local/global social structures.
- Her research examines the mechanisms by which women are excluded from support due to various barriers, cultural differences, and their roles as caregivers. She is an expert in women's and children's social work, has provided training for social welfare professionals in Japan, and is actively involved in supporting women in child-rearing families in Tokyo and neighboring areas, as well as supporting single mothers and children in need.
- Main keywords: social work, gender, women, immigrants

LATEST PUBLICATIONS OF INTEREST TO THE SYMPOSIUM

- Support for women facing difficulties in France Survey on the current situation and issues surrounding domestic violence victims and immigrant/refugee women Design for Welfare Society Research, (2) 145-163, Mar, 2025.
- Best Practices of social work methods: contextual examples and reflections from the field (Role: Joint author, Social case work for migrant women and children in Japan) Norton Press, Chapter1, pp3-16,2022.
- Welfare issues of migrant women and multi-cultural social work: E exploring women's life stories. Akashi-Shoten, 2022.
- Children and Family Welfare(5th edition),Domestic Violence and women's support. Chuo Houki, Chapter5, pp147-153.2025.

Work in Transition in France and Japan

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Gender, Work and Public Policies

NATSUKO MINAMINO
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In the session, (i) the current gender situation in Japan, (ii) disadvantages and gaps in the labor market for women in Japan, and (iii) the current status and challenges of public policies to correct the gender gap in Japan, based on a review of statistics, government publications and previous literature will be addressed.

Gender equality is a major issue in Japan. Japan was ranked 118th out of 146 countries in 2024 in a ranking of the Gender Gap Index. In particular, the ranking in the political (113th) and economic (120th) sectors is very low. The proportion of women in the workforce in Japan is 44.7%,

which is not significantly different from France (48.9%), the UK (47.7%), the USA (47.0%) and Germany (46.8%). However, the proportion of women in management positions is 13.2%, which is far lower than in other countries. In addition, the proportion of part-time workers is 53%, twice that of men. These disparities in employment creates a wage gap. In addition, policy problems such as the insufficient functioning of welfare policies to support labor, has created economic disparities for women. These economic disparities are the source of serious welfare issues, such as high poverty rates for women, increased

vulnerability in women's lives as they get older, mental health problems, difficulties for women raising children, and the marginalization of women from violent environments.

In addition, the deeply rooted culture of affirming women's subordination also has an impact on gender, especially in non-urban areas. This is the mechanism by which cultural and family norms prevent policy improvements, and those policies in turn prevent improvements in gender-related social norms. A parallel approach to change both laws and gender values is crucial.



Jean-Pierre Sauvage
ISIS (Institut de Science et d'Ingénierie Supramoléculaire), University of Strasbourg

EDUCATION

- PhD in Strasbourg under the supervision of Prof. Jean-Marie Lehn
- Professor emeritus of the University of Strasbourg

SCIENTIFIC INTEREST

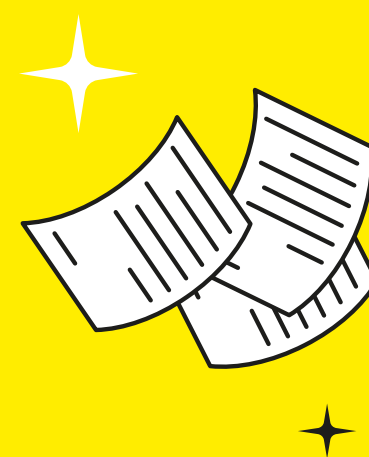
- Inorganic photochemistry and water splitting – Molecular topology (catenanes and knots) – Machines and motors at the molecular level.

LATEST PUBLICATIONS OF INTEREST TO THE SYMPOSIUM

- J.-P. SAUVAGE "From Chemical Topology to Molecular Machines (Nobel Lecture)"
Angew. Chem. Int. Ed., 56, 11080 (2017)

Work in Transition in France and Japan

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From Inorganic Photochemistry to Molecular Machines: an Historical Perspective

JEAN-PIERRE SAUVAGE

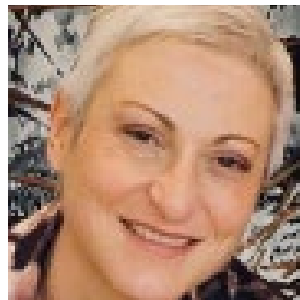
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The field of artificial molecular machines has undergone spectacular development, from nanoscale molecular devices to mimics of biological motors. This field of research began with the synthesis of catenanes and rotaxanes. Several years ago, our group proposed a practical synthesis of interlocking rings, the approach being derived from earlier work in the field of inorganic photochemistry and water splitting. This scientific adventure tends to demonstrate that moving from one field of research to a relatively distant one can be highly beneficial. In biology, motor proteins are of vital importance in a wide

variety of processes essential to life (ATP synthase, a rotary motor, or the myosin-actin complex of striated muscles behaving like a linear motor responsible for contraction or elongation). These examples have inspired a great deal of research in the molecular sciences. Many examples published by highly creative research groups are based on complex rotaxanes or catenanes acting as switchable systems or molecular machines. Particularly significant examples include "molecular shuttles" (Stoddart et al.) and multiple rotaxanes reminiscent of muscles, capable of contracting or elongating un-

der the action of a chemical signal. The molecules are set in motion by electrochemical, photonic, or chemical signals. Ben Feringa's team has created some particularly impressive light-driven rotary motors which will also be briefly discussed.

Although the field of molecular machines has not yet produced any major application, it is likely to play a significant role in the future, mainly in medicinal chemistry. This field, which is well represented in Japan, is very special not least because it can easily stimulate the imagination of molecular chemists and thus lead to highly innovative research.



Sandra Schaal

GEO-UR1340, Department of Japanese Studies, University of Strasbourg

講演者紹介

EDUCATION

- MA in Japanese Studies, INALCO (France, 1999)
- Dr. in Letters (major: Sociology), Graduate School of Letters, Kyoto University (2006)
- Associate Professor, Department of Japanese Studies, University of Strasbourg (2007-2020)
- Dr. Habil. in Japanese Studies, Lyon 3 University (2018)
- Professor, Department of Japanese Studies, University of Strasbourg (2020-now)
- Director of GEO-UR1340 (Oriental, Slavic and Neo-Hellenic Studies Research Unit) (2022-now)

SCIENTIFIC INTEREST

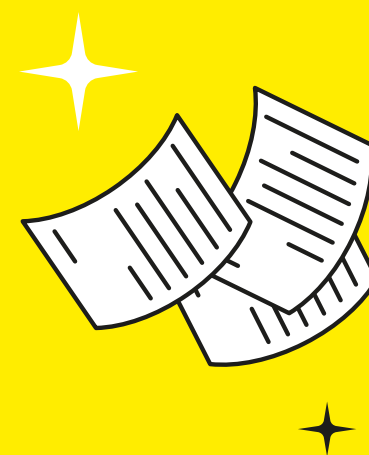
- Gender relations in modern and contemporary Japan, particularly in relation to salaried work, the family and the state
- Japanese modernism (modan)

LATEST PUBLICATIONS OF INTEREST TO THE SYMPOSIUM

- SCHAAL Sandra, *Discovering Women's Voices. The Lives of Modern Japanese Silk Mill Workers in Their Own Words* (Brill, 2022)
- SCHAAL Sandra (dir.), *Modan. La ville, le corps et le genre dans le Japon de l'entre-deux-guerres* (Picquier, 2021)
- サンドラ・シャール『「女工哀史」を再考する 失われた女性の声を求めて』(Reconsidering 'The Pitiful History of Women Workers'. In *Search of Lost Women's Voices*, Kyoto University Press, 2020). Watsuji Tetsurō Award for Culture - 2021
- BIZAIS Marie – SCHAAL Sandra (dir.), *Éductions sentimentales. Normes et représentations des relations amoureuses et sexuelles en contextes orientaux* (PUS, 2019)

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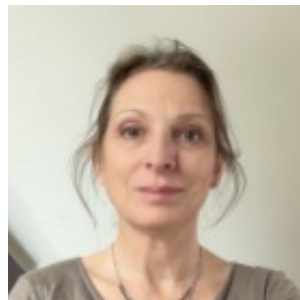
'Making Women Shine?' Gender Policy and Managerial Inequality in Contemporary Japan

SANDRA SCHAAL
schaals@unistra.fr

The position of women in contemporary Japan, particularly in the workplace, has gained a certain degree of visibility abroad over the past few decades. Japan's poor ranking in the Global Gender Gap Index (GGGI) is a particular focus of the French media. Created by the WEF in 2006, the index measures the evolution of gender disparities across four main dimensions: economic participation and opportunity, educational attainment, health and survival, and political empowerment. In 2025, Japan ranked 118th out of 148 countries in the GGGI (112th, 66th, 50th and 125th respectively), which, according to political scientist Miura Mari, places it among the nations least advanced in terms of gender equality.

The 2010s saw significant efforts to improve women's status in the workforce. In 2013, Prime Minister Shinzō Abe adopted an action plan for 'a society where women shine' (josei ga kagayaku shakai), and in 2014 he launched the 'Womonomics' initiative, aiming to achieve 30% female representation in leadership positions by 2020. Although this resulted in numerous national and local initiatives, only 7.8% of such positions were held by women at that time, prompting the government to postpone the target by ten years. Forty years after the adoption of the Equal Employment Opportunity Law (1985), how can we account for the limited progress that has been made? Why have the various public policies intended to improve

the situation of women resulted in only modest and incremental change? This presentation will first provide an overview of public policies aimed at improving women's inclusion in the labour market since the mid-1980s. It will then examine how 'inequality regimes' affecting women are implemented, particularly with regard to access to managerial positions. Focusing on selected examples from the public sector, it will challenge the idea that this area is more directly influenced by public policies that promote gender equality in the workplace than the private sector.



Veronique Schaeffer
Professor in Management Science, BETA, Deputy director of BETA, University of Strasbourg

介

EDUCATION

- Habilitation to Supervise Research, Université Côte d'Azur
- PhD In Management Science, Université de Strasbourg
- Master in Economics and Management, École Normale Supérieure de Cachan, Université Panthéon-Sorbonne Paris

SCIENTIFIC INTEREST

- University-society transfer and co-creation of knowledge
- Academic and student entrepreneurship
- Social innovation and social entrepreneurship

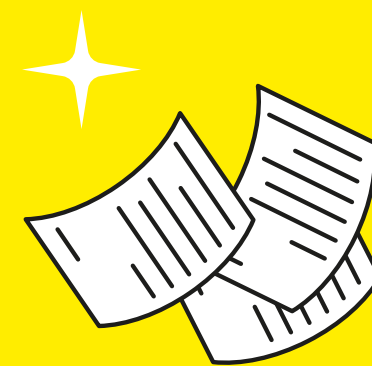
LATEST PUBLICATIONS OF INTEREST TO THE SYMPOSIUM

- Brunner, P., Schaeffer, V., 2024, The Features of Student Entrepreneurs as Leaders of Social, Environmental and Sustainable Entrepreneurial Projects, Journal of Innovation Economics and Management, 43(1), 69-101.
- Lecorche, V., Schaeffer, V. 2021. The role of entrepreneurship education in MBA programs: a lexicometric analysis of communication materials, Entrepreneurship Review/Revue de l'Entrepreneuriat, 20(2), 17-43.
- Schaeffer, V., Öcalan-Özel, S., Pénin, J., 2020. The Complementarities Between Formal and Informal Channels of University-Industry Knowledge Transfer: A Longitudinal Approach, The Journal of Technology Transfer, 41(5), 31-55
- Schaeffer V. 2019. "The use of material transfer agreements in academia: a threat to open science or a cooperation tool?", Research Policy, 48(9)

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Student Entrepreneurs as Leaders of Social and Environmental Entrepreneurial Projects

VÉRONIQUE SCHAEFFER & PAULINE BRUNNER
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This research aims to identify the characteristics of business, social, environmental, or sustainable entrepreneurial projects led by student entrepreneurs. We analyze the specificities of the projects based on a business and/or social and/or environmental orientation, regarding the profile of student entrepreneurs and the features of their projects. We built and use a database of 210 responses of student entrepreneurs involved in the French entrepreneurial program PEPITE between 2014 and 2021. We propose a typology of student entrepreneurs that highlights the specific features of students leading business, social and environmental projects. We show that student entrepreneurs are agents of change that can contribute to change the world through the social

and/or environmental impact of their entrepreneurial projects. We explore the motivation of student-entrepreneurs and identifies the profile of those who wish to become involved in social and/or environmental impact projects. We highlight the importance of entrepreneurial projects based on web applications in social entrepreneurship. Students seeking a societal impact and coming from scientific and technical fields are significantly less involved in social entrepreneurship. They tend more towards environmental entrepreneurship. These results lead us to formulate managerial recommendations to improve the contribution of universities to the emergence of sustainable innovation in society through entrepreneurship education programs.

フランスと日本における仕事の変容



Kazutaka M. Takeshita
Laboratory of Ecological Risk Management, Department of Life Sciences, Faculty of Life Sciences, Toyo University

EDUCATION

- Ph.D., Tokyo University of Agriculture and Technology (March 2018)
- Research Associate, National Institute for Environmental Studies (April 2018 - March 2022)
- Associate Professor, Faculty of Life Sciences, Toyo University (April 2024 - Present)

SCIENTIFIC INTEREST

- Research focuses on the ecological risk assessment of chemical substances in riverine environments, specifically evaluating their potential impacts on aquatic organisms and broader ecosystems.
- Dr. Takeshita also has an interest in environmental data analysis utilizing statistical causal inference methodologies.
- Keywords: Ecological Risk Assessment, Environmental Toxicology, Statistical modeling, River Ecosystems

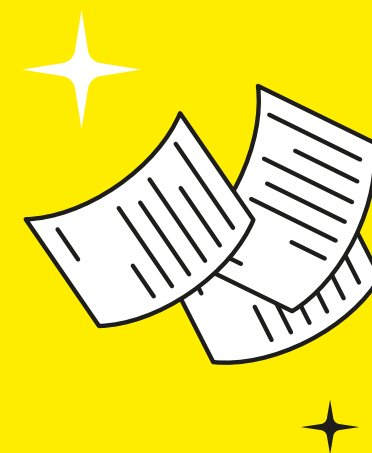
LATEST PUBLICATIONS OF INTEREST TO THE SYMPOSIUM

- Takeshita, K. M., Iwasaki, Y., Sinclair, T. M., Hayashi, T. I., Naito, W. (2022). Environmental Toxicology and Chemistry, 41(4), 954-960.
- Takeshita, K. M., Hayashi, T. I., Yokomizo, H. (2021). Integrated Environmental Assessment and Management, 18(5), 1414-1422.
- Takeshita, K. M., Hayashi, T. I., Yokomizo, H. (2020). Science of the Total Environment, 743, 140627.
- Takeshita, K. M., Hayashi, T. I., Yokomizo, H. (2020). Environmental Pollution, 265, 115059.

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Ecological Risk Assessment of Chemicals Based on Data from Field Surveys

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Assessing ecological risks from chemical contamination in aquatic environments is a complex yet crucial endeavor. While laboratory studies provide fundamental insights, field surveys are essential for capturing the realities of exposure and effects in diverse natural settings. This presentation explores methodological advancements in ecological risk assessment (ERA), focusing on how data obtained from field surveys can be effectively integrated with advanced statistical causal inference techniques to address contemporary environmental challenges. The primary focus of this talk will be on the importance of causal inference in field survey-based ERA, particularly in evaluating the efficacy of management interventions for trace metals. Observational

datasets often present challenges due to confounding factors, which can lead to misleading associations and biased estimates of intervention impacts. Our research demonstrates that overlooking these confounders may result in an overestimation of management effectiveness, potentially influencing decisions regarding the regulation of anthropogenic chemical substances. We will present an analytical framework, utilizing causal diagrams and the backdoor criterion, to statistically control confounders and derive less biased estimates of intervention effects. An example from our study on nickel concentrations and aquatic insect richness in Japanese rivers illustrates how analyses that do not account for confounders can overstate the apparent effect

of nickel management. This work emphasizes the importance of explicitly identifying and statistically controlling for confounders to achieve a more comprehensive and accurate ERA. This presentation aims to offer an overview of current approaches in field-based ecological risk assessment, emphasizing the application of rigorous statistical methods and advanced statistical causal inference. I will also present our work on developing a hierarchical Bayesian model for hazard assessment of nano- and microplastic particles, which considers various particle characteristics quantitatively. These analytical techniques are valuable for developing more accurate and reliable assessments of chemical impacts on aquatic ecosystems.

フランスと日本における仕事の変容



Takeshi Yashiro
Faculty of Information Networking for Innovation and Design (INIAD), Toyo University
Researcher, VRP Ubiquitous Networking Laboratory, Tokyo

EDUCATION

- Ph.D. (Interdisciplinary Information Studies), the University of Tokyo, 2014.
- Master of Interdisciplinary Information Studies, the University of Tokyo, 2008.

SCIENTIFIC INTEREST

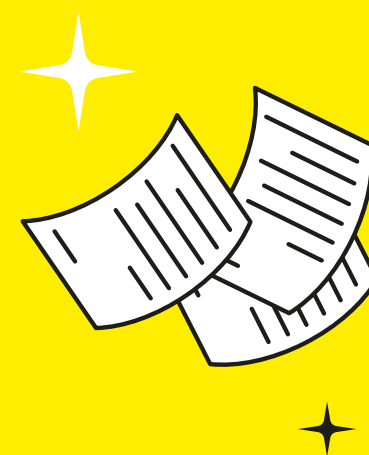
Takeshi Yashiro is a professor at INIAD (Interfaculty Initiatives in Information Studies), Toyo University. He has mainly engaged in real-time operating systems based on TRON project for long, and has played an leading position in developing the new platform based on TRON, including T-Kernel 2.0, μ T-Kernel 2.0, T2EX (T-Kernel 2.0 Extension), and ucode 2.0. His current interest is to build up a total platform for the Internet of Things, named IoT-Aggregator.

LATEST PUBLICATIONS OF INTEREST TO THE SYMPOSIUM

- Kawamoto, Naoki, and Takeshi Yashiro. "One-Dimensional CNN Model for Intrusion Detection in Industrial IoT Networks." 2024 IEEE 13th Global Conference on Consumer Electronics (GCCE). IEEE, 2024.
- Izumikawa, Kanata, and Takeshi Yashiro. "DynaMap: A Flexible UI Framework for Dynamic Smart Building Environment." 2024 IEEE 13th Global Conference on Consumer Electronics (GCCE). IEEE, 2024.
- Yashiro, Takeshi, Masato Kamio, and Ken Sakamura. "u2DA: Heterogeneous Distributed Database for Ubiquitous Computing Based on ucode 2.0 Architecture." 2023 TRON Symposium (TRONSHOW). IEEE, 2023.
- Nakamura, Keiichi, et al. "The Building Operating System (BOS): IoT Devices and Systems Aggregator." 2022 TRON Symposium (TRONSHOW). IEEE, 2022.

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Higher Education in the Age of Generative AI and IoT

TAKESHI YASHIRO

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Recent advances in generative AI are changing the education scenes in universities. As students use ChatGPT and other large language models for writing reports and solving assignments, the education effect of such traditional methods can be severely damaged unless no measure is taken. To counter this problem, we propose a new way of conducting higher education in the age of generative AI and IoT, to maximize education effect of higher education in universities. First, we have resigned our curricula of the whole faculty to suit the needs in the age of generative AI and IoT. There we have changed our learning methods under the premises that large language models are available to students and teachers, and that students can even get deeper understandings on subjects by using large

language models appropriately. To achieve our goals effectively, we have developed INIAD AI-MOP, AI Management and Operation Platform for university students, teachers, and faculty staffs. It provides access to many different cutting-edge generative AIs, including GPT and Claude, without extra charge to students. In addition, as the AI-MOP functionalities are provided not only in the form of chat application but also in the form of API, like we already did in the IoT services, students and even teachers and faculty staffs can integrate AI-MOP functionalities to prototype the ideal service, which naturally guides students into an active, self-motivated learning, which plays an essential role in filling the gap between education and research.

LOCAL ORGANIZING COMMITTEE

- **Caroline Blatz**, Assistant, Maison Universitaire France-Japon (MUFJ)
- **Michèle Forté**, Associate Professor, Economics, Director of MUFJ
- **Yoichi Nakatani**, Emeritus Professor, Chemistry, Chairman of the Japan Committee
- **Sandra Schaal**, Professor, Japaneses studies, Director of Groupe d'Études Orientales, Slaves et Néo-helléniques (GEO), UR1340

CHAIRPERSONS, UNIVERSITY OF STRASBOURG

- **René Carraz**, Associate Professor, Department of Global Innovation Studies, Toyo University
- **Michèle Forté**, Associate Professor, Labour Institute, Beta UMR 7522 CNRS
- **Herrade Igersheim**, Research Director CNRS, Economics, Director of Beta UMR 7522 CNRS
- **Marie-Claire Lett**, Emeritus Professor, Microbiology
- **Yoichi Nakatani**, Emeritus Professor, Chemistry, Chairman of the Japan Committee
- **Sandra Schaal**, Professor, Japaneses studies, GEO, UR1340



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