Program Information Sheet (1) Shanghai Jiao Tong University Online Summer Program

1. Program Objectives

This program includes Chinese language studies based on proficiency levels, introduction to Chinese culture and academic interaction sessions with students of Shanghai Jiao Tong University. The objectives of this program are to achieve the followings:

-Participants improve their Chinese language ability.
-Participants deepen their understanding of the culture and society of China.
-Participants foster communication skills, flexible and critical perspective to recognize the diversity.
-Participants acquire a cosmopolitan way of thinking.
-Participants began to think about practical actions to take in order to improve China-Japan relations taking in the long-standing grudge regarding their history and territories.

*Shanghai Jiao Tong University: One of the universities with a long history in China and has its strength in the science and engineering fields. However, Shanghai Jiao Tong University has recently been putting its effort into humanities and language studies. The University is located in Shanghai, China and has six campuses.

2. Program Content

This is a one-week online program organized for UTokyo students and includes Chinese language study, cultural introduction and academic interaction sessions on "electronic/electrical engineering", "medical glycomics", law", "leisure and tourism studies", "proposal to utilize digital transformation (DX) to promote gender equality" with students of Shanghai Jiao Tong University.

For the Chinese language study section, there will be 17 classes (45 minutes/class) and students will be divided by their proficiency level of Chinese based on the online interview prior to the program. There will be courses for students who will be learning Chinese for the first time to those who are at an advanced level.

Additionally, this program includes special activities for UTokyo students: academic interaction sessions with students of Shanghai Jiao Tong University, auditing of lectures from Japanese companies in Shanghai. For the academic interaction sessions, students will be divided into five groups based on their choice (preference) upon application. Applicants are required to specify first, second and third choices out of the five themes (please refer to the Program Sheet for details) in the Comment Field on UTAS.

For more details, refer to the tentative schedule (subject to change and will be modified later).

3. Program Period

Aug 23 (Mon) – 29 (Sun), 2021 (JST 9:30-16:50)

4. Number of Students Accepted

20 undergraduate students (if the number of participants is small, the program will be canceled.)

5. Program Schedule (Planned)

July 20 (Tue) Noon	Deadline for submission of applications
Late July	Internal Selection・Announcement of Selection Results
Mid-August	Preliminary information session (orientation meeting)
Aug 23 (Mon) - 29 (Sun)	Program
Sep 12 (Sun)	Deadline for submission of reports

6. Program Eligibility Criteria and Requirements

Applicants must meet all of the following requirements in addition to those listed in the guidelines.

(1) Any level of Chinese language is acceptable (from beginner to advanced level). However, students are expected to be interested in learning Chinese language and different cultures.
(2) Beginner classes will be conducted in English. Therefore, students are expected to submit a document to prove their English proficiency, but those who do not have an English test score are still eligible to apply.

7. Program Costs
Free (The University of Tokyo will be covering the program fees)

8. Orientation
All students who pass the screening process are required to attend the preliminary information session (orientation meeting) regarding this program that will be held online in mid-August.

9. Contact for Inquiries Regarding this Program
International Exchange Group: **go-gateway.adm@gs.mail.u-tokyo.ac.jp**
(Please make sure to thoroughly read the application guidelines before making any inquiries.)

Researching tourism amidst COVID-19 / コロナ禍で観光について研究する

Sho Shimoyamada / 下山田 翔 (PhD)
Project Assistant Professor / 特任助教
The University of Tokyo / 東京大学
Expertise / 専門
- Leisure and tourism studies / レジャー・ツーリズムスタディーズ
- International Education / 国際教育
- Online education / オンライン教育

The pandemic caused by the novel coronavirus has triggered unprecedented travel restrictions. According to the World Tourism Organisation, the year of 2020 witnessed a drastic downward trend in international tourism with international arrivals plummeting by 74%[1]. Japan is no exception. Domestic tourism consumption in Japan dropped by 39.0% from the first quarter of 2019 to that of 2021[2]. However, an ongoing surge in Chinese domestic tourism[3] implies an imperative need to think about strategies to reboot the tourism in East Asia. The goal of this research project is to propose a bilateral campaign that promotes tourism between China and Japan in a post-corona world. SJTU and UTokyo students will collaborate to attract visitors to Chinese and/or Japanese destination(s). As an outcome of this collaborative project, participants in this research group will give a presentation on the final day of the programme. In addition, this project is designed for SJTU and UTokyo students to establish a rapport, deepen mutual understanding and form a lasting friendship.

新型コロナウィルスによって引き起こされたパンデミックは、私たちがこれまで経験したことがないほどの移動の制限をもたらした。UNWTO（世界観光機関）によると、2020年の海外旅行者数は前年比で74%減少し[1]、世界規模での観光の衰退を裏付けた。日本も例外ではない。2021年1〜3月期の国内旅行消費額は、2019年の同時期と比べて39.0%減少した[2]。しかし、中国では国内旅行者数がコロナ禍以前の水準に戻っており[3]、東アジアにおける観光復興の戦略について早急に検討する必要性を示唆している。そこで、この研究グループではポストコロナ禍を見据えて、中日間の観光を促進する国際的なキャンペーンの提案を目標とする。日本と中国、もしくはそのいずれかの観光地に訪問客を誘致するために、上海交通大生と東大生が協働する。協働の成果として、本研究グループの参加者はプログラムの最終日にプレゼンテーションを行う。また、共修する過程で両大学生の信頼関係を構築し、相互理解を深め、両校間の友好に寄与することを目的とする。

1. https://www.unwto.org/news/2020-worst-year-in-tourism-history-with-1-billion-fewer-international-arrivals
2. https://www.mlit.go.jp/kankocho/siryou/toukei/shouhidoukou.html
3. http://www.gov.cn/xinwen/2021-04/06/content_5597895.htm

Proposal to utilize digital transformation to promote Gender Equality /
デジタルトランスメーション（DX）で社会をジェンダー平等にする

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Project Researcher　/ 特任研究員
The University of Tokyo / 東京大学

The increasing use of digital technology and data (furthermore AI) is fundamentally reshaping our society, industries, and lifestyles. This transition is known as digital transformation (DX), and many countries are implementing major changes in their industries, organizations, and individuals[1].

However, does DX bring equal benefits to everyone? The Women20 (W20), one of the official engagement groups that proposes policy recommendations for the G20 leaders, has warned that digital technologies may exacerbate gender inequalities rather than help to reduce them, if the digital gender gap is not addressed[2]. W20 also states structural inequalities such as those in income, education and employment opportunities increase barriers to access and use of digital technology in many countries, including G20[3]. On the other hand, one of the targets in the fifth Sustainable Development Goal (UN SDG5) calls on the international community[4] 'to enhance the use of enabling technology, in particular information and communication technologies (ICTs), to promote women's empowerment.'

Thus, digital technology can become either a friend or a foe in promoting gender equality, depending on how it is used. The goal of this research group, therefore, is to propose digital policy to promote gender equality based on the positive view of DX as a great opportunity to eliminate inequality. As an outcome of the collaboration, a presentation will be made on the last day of this program.

In addition to deepening mutual understanding between SJTU and UTokyo students through the discussion of gender equality, which is a common challenge worldwide, the program aims to provide an opportunity for both students to think about diversity and gender-free life courses, and raise awareness of the inequalities and poverty that exist around us.

デジタル技術とデータ（そして AI）の活用が進むことで、私たちの社会・産業・生活のあり方は根本から革命的に変わろうとしている。そして、このような時代の変わり目をデジタルトランスメーション（DX）とよび、各国で産業・組織・個人の大転換が図られている[1]。

だが DX は誰にでも平等にメリットをもたらすのだろうか。G20（先進国首脳会議）に提言を行うエンゲージメントグループのひとつ W20（Women20）は、デジタル・ジェンダー・ギャップに取り組まなければ、デジタル技術はジェンダーの不平等を解消するどころか、むしろ悪化さ

せる可能性があると警告している[2]。そして G20 を含む多くの国では、所得、教育、雇用機会などの構造的な不平等が、デジタル技術へのアクセスと利用の障壁となっていると主張している[3]。だが、その一方で国連の世界目標 SDGs のゴール 5（ジェンダー平等）では、ICT 等の活用は女性のエンパワメントを促進するとある[4]。

　つまり、デジタル技術は活用如何でジェンダー平等推進の敵にも味方にもなるはずである。そこでこの研究グループでは両大学の学生が協働し、DX による社会の転換を不平等を解消する絶好の機会と積極的に捉え、ジェンダー平等の推進に寄与するデジタル施策の提案を行う。協働の成果として、本プログラムの最終日にプレゼンテーションを行う。

　共修する過程で、世界的な共通課題であるジェンダー平等の議論を通じて両国の学生間の相互理解を深めるとともに、性別に捉われない多様な生き方や自らの周囲にある身近な格差や貧困について考えるきっかけになることも目的とする。

1. https://www.keidanren.or.jp/en/policy/2020/038_summary.pdf

2&3.https://www.gsma.com/mobilefordevelopment/wp-content/uploads/2019/02/Digital-Equity-Policy-Brief-W20-Japan.pdf

4. https://www.unwomen.org/en/news/stories/2017/7/reshaping-the-future-icts-and-the-sdgs

Instructor / 担当教員

Atsuko　Sano（DBA －equivalent to a PhD－in Social Design Studies）/ 佐野敦子

Expertise / 専門

・Social Design Studies / 社会デザイン学

・Gender Studies / ジェンダー

・Comparative education / 比較教育学

上海交通大学指導教員（三名）

上海交通大学
電子情報・電気工学学院
教授　鄒衛文

プロフィール：

　　Weiwen Zou, born in 1980, is a Full Professor and the Associate Dean of the School of Electronic Information and Electrical Engineering at Shanghai Jiao Tong University. He received the B.S. degree in physics and the M.S. degree in optics from Shanghai Jiao Tong University, Shanghai, China, in 2002 and 2005, respectively, and the Ph.D. degree in optoelectronics from the University of Tokyo, Tokyo, Japan, in 2008. He is the recipient of Excellent Young Scientists Fund of National Natural Science Foundation of China, the chief scientist of a key project by Science and Technology Commission of CMC. He is a senior member of OSA and IEEE. He was awarded the Shanghai Pujiang Talent Program in 2012. Prof. Zou had been working on intelligent microwave lightwave integration technologies and presided over more than a dozen research programs funded by the National Natural Science Foundation of China, the Ministry of Science and Technology, and other organizations. He has published more than 100 papers in SCI journals in optoelectronics and has been authorized 8 US patents, 3 European patents, and 27 Chinese patents.

研究テーマ：

Low-consuming nonlinear computation in all-optical neural networks

研究概要：

Neural networks are one of the key algorithms in artificial intelligence, and their intelligence depends on scale and computational power. However, electronic neural network chips are encountering the development bottleneck of von Neumann architecture and Moore's law slowdown. Photonics have the natural advantage of broadband and high speed, and their transportation without voltage drop provides a completely new way to build neural network chips with low power consumption, ultra-high frequency and high computational power. In recent years, several different photonic neural network architectures and computational methods have been proposed, based on, for example, the optical diffraction, optical interference, and wavelength division multiplexing. However, the existing photonic neural network architectures mostly show potential in linear computation, but the harsh conditions for triggering nonlinearity make nonlinear computation difficult to be implemented efficiently. So far, nonlinear computation in photonic neural networks is mostly done in the electronic domain or via electro-optic modulation after the optical-electrical conversion. Such process not only weakens the photonic low-power advantage, but also increases the computational delay and overhead. This project intends to explore new principles, materials and devices in photonics or optics to provide new approaches and methods for realizing low-power nonlinear photonic computing and all-optical neural networks.

上海交通大学
システム生物医学研究院
教授　張　延

プロフィール：

　　Yan ZHANG is a Professor of Shanghai Jiao Tong University. She also is the Director of SCSB(China)-AIST(Japan) Joint Medical Glycomics Lab in Shanghai Jiao Tong University. After received her PhD degree in 1996 from the University of Tokyo, she researched for 10 years in The National Institute of Advanced Industrial Science and Technology (AIST) & National Institute of Animal Health(NIAH) in Japan. She joined Shanghai Jiao Tong University in 2006，and was awarded Shanghai Pujiang Research Fellowship in 2007. Now she is the Vice Director of the Committee of Glycoconjugates in Chinese Society of Biochemistry and Molecular Biology, Standing Committee Member of Chinese Society of Biotechnology, and the member of Asian Communications of Glycobiology and Glycotechnology (ACGG).

　　Prof. Zhang's lab is a famous life science laboratory in China. Our main research interest focuses on the field of Glycobiology and Glycoproteomics, especially the role of O-GalNAc glycosylation of protein in various pathophysiological processes and the disease biomarker discovery based on omics' technologies. The three significant progresses on: 1) characterization and functional interpretation of novel glycosyltransferases; 2) development of new glycomics strategies for

enrichment and analysis of glycoproteins; and 3) discovery novel biomarkers based on multi-omics technologies.

研究テーマ：

Can the vaccine defeat the mutant coronavirus?

研究概要：

COVID-19, a contagious disease caused by a new coronavirus called SARS-CoV-2，has been spreading around the world for over one and a half years. With serious impacts on human health and the global economy, the COVID-19 pandemic has disrupted international exchanges and delayed the Tokyo Olympic Games. So far, most countries in the world have fully approved and authorized the mass vaccination against SARS-CoV-2. Despite the effect of the vaccine, SARS-CoV-2 continues to mutate and the epidemic has rebounded. It provides both a challenge and an opportunity. Our seminar will open a free discussion on COVID-19.

上海交通大学
日本研究センター
講師　朱翹楚

プロフィール：

　朱翹楚は現在上海交通大学日本研究センターにおいて講師を勤めている。2008 年から 2015 年の間は日本に留学し、ロッテ財団の支援を頂いて東京大学法学政治学研究科で法学博士号を取得した。卒業した後は、スタンフォード・フランコリン奨学金の支持下でスタンフォード・ロー・スクールの LL.M.課程に勉強し、ニューヨーク州司法試験に受かり、スタンフォード・コーポレート・ガバナンスセンターにおいて研究員を勤めていた。朱翹楚研究員は中日米の資本市場法律制度に専念し、三國の法学ジャーナルで論文を多数搭載する。現在は日本国際交流基金の助成のもと、中日米コーポレート・ガバナンスの比較法研究に携わっている。

研究テーマ：

デジタル時代の個人情報保護法

研究概要：

　デジタル技術の発展により、いかにデータを取り扱えばいいというのは今の時代に避けられない課題である。そして、法律を作る際に、個人の権利保護とデーター利活用の間にどうバランスを取るのかは考えなければならない難題である。日本は 1970 年代から個人情報保護規則を試みかけたが、2003 年に初めての「個人情報保護法」が制定された。2015 年に同法を改正して、「Society 5.0」の基礎法制度に欠けない存在となった。一方、技術の発展が先行する中国では、今現在「個人情報保護法」第二草案の検討段階に入っている状態である。このコースは個人情報保護法を作る際に考えなければならない要点と争議点を紹介し、学生たち自分の生活経験と趣味にあわせて、我々は今の時代にどんな法律が必要であるかを議論する。

プロフィール：

Qiaochu Zhu, who serves as an assistant research faculty in the Japanese Research Center of Shanghai Jiao Tong University, got her Ph.D. in corporate and securities law from Tokyo University under the sponsorship of the Lotte scholarship foundation. After she graduated from Todai, Prof. Zhu went to the law school of Stanford University for an LL.M. degree under the support of the Franklin family foundation. She passed her N.Y. bar and stayed within the law school as a research fellow of the Rock Center for Corporate Governance after graduation. Prof. Zhu's research focuses on the comparative study of the securities market regulation of China, Japan, and the U.S. She has published her work in many academic journals in China, Japan, and the U.S.

研究テーマ：

Act on the Protection of Personal Information in the Big Data Era

研究概要：

As big data technology develops, properly dealing with the data resource has become an unignorable question. We need to ponder how to balance the benefit of the data industry and personal privacy or right when trying to make the rule. Japan started to think about this question from the 1970s but have not enacted its first formal Act on the Protection of Personal Information until 2003. After the revision in 2015, this law has become an integral part of the legal framework of the "Society 5.0" plan. Although it has been said that the technology/economy goes first in China, the Chinese version of the "Personal Information Protection Act" has entered into the second draft phase asking for public opinions. This project is designed to encourage students to think about the relationship between technology/economic development and personal privacy/right and the kind of law we need in the big data era.