#### FY 2019

## "International Graduate Program of Innovation for an Intelligent World" Course Student Recruitment

#### 1. Aim of the Program

With the advancement of the ICT industry which has become a major industry in the society, there are many trends within each industry segment to revolutionalize their schemes using ICT technologies. In Japan there is a scheme called Society 5.0 which aims to implement an inclusive society making use of the value created by ICT technology which would take advantage of the activeness created by diversity. In order to achieve this goal, it is necessary nurture personnel who can realize a new academic area/application area which tries to fuse various diverse research fields with ICT Technologies and can create new value based on the application of this newly created research field. The ultimate goal of this program is to educate PHD students who can grow up to be such researchers and revolutionalize the academic and the industrial world.

# Abilities Needed for New People Who Can Create Society 5.0

Create a New Field Combining Informatics and Various Fields

- "Agriculture and Informatics" New Smart Agriculture
- "Education and Informatics" Innovative Mental Care System Using IT
- "Medicine and Informatics" Al Based Diagnosis, Nursing Robots
- "Humanities and Informatics" VR Based Tourism
- Law and Al Copyright Informatics has already Contributed to new development of various fields. In the future, there will be demand for people who can create new fields for their expertise.
- The current society is driven by industries who have collected super intelligence such as Google, Amazon, Facebook, Apple.
- There will be new value creation using Informatics such as Virtual currency based on block-chain, Al based autonomous vehicles. New fields have potential to create new social value through social changes. The project will contribute to new social value creation in leading to new industry creation and job creation, and economic growth.

The two abilities are closely related for the new era.

Create a new Social Value through Informatics

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#### 2. Requirements for Application

Students who aim to participate in the program must fulfill all conditions below.

- Applicant must be a Master's course student who enrolled in April 2019 or in September 2019
- Understands adequately the general concept and rules (e.g. requirements in the curriculum) of the program.
- · Aspires to go on to the Ph.D. course
- Is Interested in cutting-edge ICT and its application to society in a broad sense or in the creation of a new research field fusing various academia fields with ICT technology.
- Understands that the completion of the program will be additionally stated in the certificate of Ph.D. degree.
- Note that a student cannot belong to more than one leading graduate programs or Innovative & Smart Education Program.

### **Education Program**

To promote students to have the ability and leadership with a higher perspective and to integrate different fields, create new academic fields and new social value.

### Creation of Intelligent World Projects=Phd theme

Joint research where students become the principal investigator



Supported by an Angel Team of experts

To nurture the project result into a phd thesis and give advice for joint research

### Phd system to promote Creativity · A new method of research

• A new method of research
Create a new field by
combining ICT and other fields
by having students of all the
graduate schools

Different Field Internship

· Major/Minor degree

"XX study and Informatics"

Dual effect of combining new education systems

### Society combined Education to create new value

Support to realize social application of ideas

Be evaluated by society (enterprises)

- Venture system in the university Support of venture startup
- Fund for an Intelligent World Creation Projects
   System to introduce risk money.

### 3. Summary and quorum of each year (see Figure 2)

In the first two years (Master's course): Students will acquire and strengthen basic specialist skills and practical skills of the department to which they belong. Meanwhile, they also acquire basic knowledge and viewpoints of social innovation and ICT, and cultivate problem consciousness, through the original class / subjects provided by this program. In addition, they should master basic skills through training camps and internship in a foreign application field to gain experience to prepare for the doctor's course. The internship should be at least

three months long and can be conducted in firms outside the university, medical institutes, research institutes, or university in foreign countries. Those students who aspire to do a research of fusing various application fields with ICT technologies can conduct an internship within the university of Tokyo but outside of their main research fields. For the latter case, they must submit an internship plan and get approval.

After the first semester of the second year, the students must submit a research plan of their PHD courses. This will be conducted as a qualification examination (QE) of the Creation of Innovation for an Intelligent World Program. IN the QE the students will be evaluated based on their ability to work as a Principal Investigator to conduct the research.

After they have passed the QE, the students will be supplied with the subsidy of 180,000 Yen per month.

In their Phd courses (after the third year,) the students are expected to take the original class subjects and conduct research on Program of Innovation for an Intelligent World

. Those who had not taken the intern ship in the master course must conduct the internship as well. They will compile their research fruits as a PHD thesis for the Program of Innovation for an Intelligent World. The result will be examined by a special examination committee and if the result is satisfactory, a certification of completion of the course will be given.

### 4. Selection and employment period

Selection of course students is based on the prescribed application documents.

- Number of students: about 20. However a balance among the various departments might be considered.
- Documents to submit: (1) Application Form and (2) Application Sheet.
- Period for submission: From 10:00, Dec. 2<sup>nd</sup> (Mon), 2019 to 15:00, Dec. 26 (Thur), 2019.
- Place to be submitted: Application Form and Application Sheet should be submitted to GCL program office via e-mail. (The e-mail address is shown in the last.) The office will send an e-mail at receipt of each application. If you do not get email within 24 hours from your application, ask the office.
- Period of employment: From Feb. 1, 2019 to Mar. 31, 2024 (for those who enrolls in Apr. 2019. It is to Sep., 2024 for those who enrolled in Sep. 2019). For continuing the enrollment on and after summer of 2020, students must pass the Qualifying Examination.
- The result of the selection: The result of the selection will be announced on GCL web site. Planned on Jan. 13, 2020.
- The prescribed format and the most recent schedule are available at the GCL program

homepage (URL is listed in the last).

- Characteristics of the course and requirements for program completion
   In order to complete the course the students must satisfy the following requirements
  - Gain two credits in the selective subjects of the program during the masters course and gain altogether 6 credits of the selective subjects.
  - The selective subjects of the course consist of Information Science Lecture I-X, Intelligent World Lecture I ~ X , Information Science Exercise I ~ V, Intelligent World Exercise I ~ V and are mapped to various curriculum courses. Note that students in the Graduate School of Information Science and Technology will not be granted credits for Information Science Lecture and Exercises.
  - · Participate in various camps and other activities.
  - · Conduct an Internship
  - Pass the Qualification Examination
  - Conduct research on Innovation for an Intelligent World Society Projects and pass the qualification.

Students who belong to schools other than the Graduate School of f Information Science and Technology and GSII and who have received more than 8 credits of Information Science Lectures/ Exercises will also be awarded a minor degree of Information Science.

### 6. Contact information for the program

• GCL program office: Room #621, Eng. Bldg. 8, 7-3-1, Hongo, Bunkyo-ku, Tokyo, JAPAN 113-8656

Tel: 03-5841-8746

E-mail: gcl\_gakumu@gcl.i.u-tokyo.ac.jp

International Graduate Program of Innovation for an Intelligent World. homepage: (Temporary)

http://www.gcl.i.u-tokyo.ac.jp/takuetsu

### 7 Program appointees

Name	Affiliation etc.
Masatoshi Ishikawa	Department of Creative Informatics, Graduate School of
	Information Science and Technology, Professor
Masami Hagiya	Department of Computer Science, Graduate School of
	Information Science and Technology, Professor
Yoshimasa Tsuruoka	Department of Information & Communication Engineering,

	Graduate School of Information Science and Technology,
	Professor
Hiroshi Esaki	Department of Creative Informatics, Graduate School of
	Information Science and Technology, Professor
Makoto Naruse	Department of Information Physics & Computing, Graduate
	School of Information Science and Technology, Professor
Takayasu Matsuo	Department of Mathematical Informatics, Graduate School of
	Information Science and Technology, Professor
Yoshihiko Nakamura	Department of Mechano-Informatics, Graduate School of
	Information Science and Technology, Professor
Reiji Suda	Department of Computer Science, Graduate School of
	Information Science and Technology, Professor
Kunihiko Sadakane	Department of Mathematical Informatics, Graduate School of
	Information Science and Technology, Professor
Hiroshi Saruwatari	Department of Information Physics & Computing, Graduate
	School of Information Science and Technology, Professor
Hitoshi Iba	Department of Information & Communication Engineering,
	Graduate School of Information Science and Technology,
	Professor
Masayuki Inaba	Department of Creative Informatics, Graduate School of
	Information Science and Technology, Professor
Rie Yamaguchi	Social ICT Research Center, Graduate School of Information
	Science and Technology, Project Associate Professor
Akihiro Nakao	GSII, Professor
Kazutoshi Kudo	GSII, Associate Professor
Hitoshi AIda	Department of Electrical Engineering and Information Systems,
	Graduate School of Engineering, Professor
Yoshihiro Kawahara	Department of Electrical Engineering and Information Systems,
	Graduate School of Engineering, Professor
Yutaka Matsuo	Department of Physics, Graduate School of Science, Professor
Kenji Fukushima	Department of Physics, Graduate School of Science, Professor
Hiroyuki Shinoda	Department of Complexity Science and Engineering, Graduate
	School of Frontier Sciences, Professor
Haruhiko Shimoyama	Graduate School of Education, Professor
Shigeki Aida	Graduate School of Mathematical Sciences, Professor

Kyoko Haga	Center for Evolving Humanities, Graduate School of Humanities
	and Society, Associate Professor
Takeshi Imai	Department of Social Medicine, Medical Science Graduate
	Program, Associate Professor
Hiroshi Oyama	School of Public Health, Professor
Masanobu Uchiyama	Graduate School of Pharmaceutical Sciences, Professor
Daiju Kitagawa	Graduate School of Pharmaceutical Sciences, Professor
Yasuhiro Omori	Graduate School of Economics, Professor
Daiji Kawaguchi	Graduate School of Public Policy, Professor
Dai Yanagihara	Graduate School of Arts and Sciences, Professor
Yasushi, Yamaguchi	Graduate School of Arts and Sciences, Professor
Masaru Mizoguchi	Department of Global Agricultural Sciences, Graduate School of
	Agriculture, Professor
Hidefusa Iida,	Graduate Schools for Law and Politics, Associate Professor