

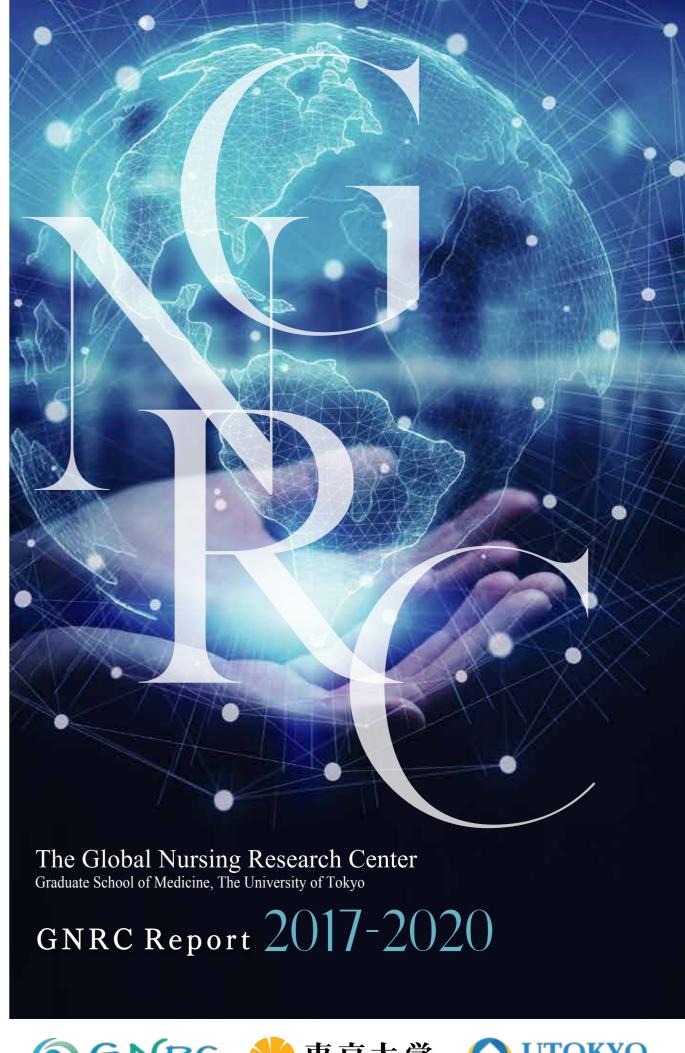
Center arch Φ e S Global Nursing



The Global Nursing Research Center Graduate School of Medicine, The University of Tokyo

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Global Nursing Research Center

Graduate School of Medicine, The University of Tokyo

Activity Report

April, 2017 to March, 2021

For the preparation of the Global Nursing Research Center activity report

Four years have passed since the Global Nursing Research Center (GNRC) opened as part of the Graduate School of Medicine of The University of Tokyo in April 2017. With the declining birthrate and super-aging society of Japan, there is a need for a major shift from "curing care" to "curing and supporting are". There are great expectations for nursing practice, which plays a central role in this care. Against this background, the GNRC was established with the mission of carrying out transddisciplinary innovative nursing practices, disseminating them overseas, and fostering young researchers who can lead the practices into the future.

In four years, we invited 11 foreign professors and researchers to visit the GNRC, hosted numerous lectures by more than 20 foreign researchers, and educated 9 postdoctral fellows. In addition, we have disseminated the results of our transdisciplinary innovative nursing research to the world through 254 English original articles, exceeding our target number. We evaluate that we have established a foundation for executing transdisciplinary innovative nursing research and educating young researchers these four years of efforts.

On the February 14, 2021, we introduced the past, present, and future of the GNRC, as well as our initiatives in each department. At the time of establishment, we worked under a five-year budget request set to end in March 2021. However, in March, 2021, we were notified by the Administration office of The University of Tokyo that the GNRC was designated as one of core projects of The University of Tokyo under a permanent budget.

This appointment is an indication that nursing is needed in Japanese society beyond the framework of The University of Tokyo and marks a very significant milestone in the history of Japanese nursing.

The role of nursing is becoming more and more important as the world is at the mercy of the corona pandemic. Nursing research that truly contributes to clinical practice is required as we consider the future.

We have compiled a report of our activities across the past four years. A part of the lectures from the GNRC Conference held in February is also posted. We would like to express our deep gratitude to the many people who have supported the activities of this center. We will continue to make further efforts for to develop nursing practices. We would appreciate your continued understanding, guidance, and cooperation in the GNRC activities.

March, 2021

Director Hiromi Sanada
Deputy Director Kiyoko Kamibeppu

Noriko Yamamoto-Mitani

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Preparation for opening

Visit to overseas nursing universities

In the face of a declining birthrate and a super-aging society, there is a need for a major shift from "curing care" to "curing and supporting care." In extending the healthy life expectancy, the challenge is to alleviate difficulties of daily life and to realize a care society in which people can live autonomously. To realize a care society in a globally diverse society with an unprecedented population structure, it is essential that nursing practice, which plays a central role in care, be established as a new academic discipline. On the other hand, the rapid increase in nursing universities has led to a serious shortage of teachers. This shortage means that time is spent on daily clinical training guidance and academic affairs over research activities. Reduced research is hindering the growth of the nursing science field. To develop the future of the nursing field, it is now necessary to renew the system for training young researchers and educating students at nursing universities.

From February to March 2016, with the support of the 2015 University of Tokyo Outstanding Graduate School Concept Budget (Vice President's Discretionary Expenses) and the 2015 University of Tokyo Undergraduate Education Comprehensive Reform-related Expenses at Overseas Nursing Universities, we had the opportunity to observe similar pioneering efforts at other universities. We visited the University of Pennsylvania, the University of Johns Hopkins, the University of California, San Francisco, and the University of Misuri, Columbia, which have training systems for young researchers and are in the top five of the US News & World Report rankings. We also visited British Columbia University, Sally University, Middle Sex University, Australian Catholic University, Sydney University, Queensland Institute of Technology, Griffith University, Sunshine Coast University, and American National Hygiene Studies to learn about British and Australian graduate and undergraduate education systems. We also observed the National Institute of Nursing Research (NINR) at the National Institutes of Health (NIH) in the United States. This report describes aspects of the University of Pennsylvania and the NINR, which majorly impacted the concepts behind the GNRC.

University of Pennsylvania

The University requires a minimum of two years of postdoctoral fellowship experience when applying for an assistant professor position. Normally, in the United States there is typically minimal financial support during the postdoc period. However, the University has a system for hiring postdocs which is subsidized by the T32 grant from the National Institutes of Health. The T32 is not subsidized for postdocs, but is subsidized for institutions to hire postdocs, and is a common young researcher training support system in the United States.

It also has a program of mentoring which includes a dynamic process of providing advice and counseling to mentees in all situations across their academic career. This mentorship is a high priorety for the Faculty of Nursing.

Grants of the NIH support several research centers and professors of the Faculty of Nursing. While collaboration with different fields is indispensable in nursing research, the operation of laboratories has become an issue in terms of funding, especially when collaborating with biotechnology systems.

National Institute of Nursing Research

Within the NIH, the NINR houses 4 divisions, Division of Management Services, Division of Intramural Research (DIR), Division of Extramural Activities (DEA) and Division of Science Policy and Public Liaison. Of these, the DIR oversees in-house research, and the DEA functions as a granting institution for nursing researchers at universities across the United States.

Intramural research is being conducted in three laboratories, the Bio-Behavioral Branch, the Symptom Management Branch, and the Tissue Injury Branch. The studies conducted at DIR will be selected to complement the research agenda that the NINR allocates to external universities. Since is difficult to set up a high-level biotechnology lab in the general university nursing department, the DIR budgets biotechnology research at the NIH.

In addition, the DIR offers Intramural Research Training, a training program for graduate students and faculty.

Concept of Global Nursing Research Center

Based on the above global background and visits to overseas nursing universities, we aimed to establish an innovative nursing research center through transdisciplinary integration and cutting-edge research while fosterring young academic-oriented researchers. The GNRC was built to achieve this while disseminating out work globally.

The purpose of the GNRC is to train young researchers and develop the nursing field for the next 10 years, based on the key concepts of developing innovative nursing technology and disseminating Japanese nursing theory and care systems to the world. We will use specific strategies including building programs for postdoctoral fellowships, providing short-term research method training for young researchers at other universities, establishing laboratories, and inviting prominent researchers from overseas.

Based on these concepts, and with the grant from the Minitstry of Education, Culture, Sports, Science and Technology, the GNRC was established in April 2017.

Opening of the GNRC

The global Nursing Research Center was established in April 2017, as the third research center in the Graduate School of Medicine of The University of Tokyo, following the International Research Center for Medical Education, and the Center for Disease Biology and Integrative Medicine.

Vision · Mission

Vision

· To foster young nursing scientists in order to establish care science and disseminate it globally.

Mission

- · To establish an innovative nursing research field by transdisciplinary integration.
- To conduct cutting-edge research with young academic-oriented researchers and disseminate information internationally.
- · To develop an academic education system and establish a foundation for a new field.

Members

Director Hiromi Sanada

Deputy Directors Kiyoko Kamibeppu, Noriko Yamamoto-Mitani

Project Professor Claudia K. Y. Lai (April 2017)

Edward Ko Ling Chan (February 2018)

Ardith Doorenbos (August 2020-February 2021)

Project Associate Professor Makoto Oe (April 2017-March 2020)

Project Assistant Professor Mami Takahashi (October 2016 (Preparation Room) -August 2018)

Hiromi Tobe (September 2018-present)

Clerk Akiko Katano (April 2017-present)

Division of Care Innovation

Hiromi Sanada (Professor, Department of Gerontological Nursing / Wound Care Management,)

Taketoshi Mori (Project Professor, Department of Life Support Technology, April 2017-March 2020)

Gojiro Nakagami (Associate Professor, Department of Gerontological Nursing / Wound Care Management,)

Takeo Minematsu (Project Associate Professor, Department of Skin Care Science)

Koichi Yabunaka (Project Associate Professor, Department of Imaging Nursing, April 2017-March 2019)

Nao Tamai (Project Associate Professor, Department of Imaging Nursing

Ryoko Murayama (Project Associate Professor, Department of Advanced Nursing Technology,)

Makoto Oe (Project Associate Professor, April 2017-March 2020)

Mayu Fukuda (Postdoctoral Fellow, April 2017-March 2018)

amae Urai (Postdoctoral Fellow, April 2018-March 2019)

Yohei Okawa (Postdoctoral Fellow, May 2018-January 2019)

Sofoklis Koudounas (Postdoctoral Fellow, April 2019-March 2021)

Division of Nursing Systems

Kiyoko Kamibeppu (Professor, Department of Family Nursing)

Noriko Yamamoto-Mitani (Professor, Department of Gerontological Home Care and Long-term Care Nursing)

Megumi Haruna (Professor, Department of Midwifery and Women's Health)

Yuki Miyamoto (Associate Professor, Department of Psychiatric Nursing)

Yukie Takemura (Associate Professor, Department of Nursing Administration)

Ayumi Igarashi (Associate Professor, Department of Gerontological Home Care and Long-term Care Nursing)

Mariko Sakka (Postdoctoral Fellow, April 2017-May 2018)

Zhang Fengying (Postdoctoral Fellow, April 2018-February 2019)

Hiromi Tobe (Postdoctoral Fellow, May 2018-August 2018, Project Assistant Professor, September 2018-present)

Mayumi Morisaki (Postdoctoral Fellow, April 2019-March 2021)

Sameh Eltaybani (Postdoctoral Fellow, April 2020-March 2021)

Invited Professors from abroad

Pamela S Hinds

The William and Joanne Conway Chair in Nursing Research, Executive Director, Department of Nursing Science, Professional Practice, and Quality, Professor, Department of Pediatrics, George Washington University, USA March 2018

Sarah Hope Kagan

Lucy Walker Honorary Team Professor of Gerontological Nursing University of Pennsylvania, USA July 2018

Margaret Ingrid Wallhagen

Professor of Department of Physiological Nursing Director of UCSF John A. Hartford Center of Gerontological Nursing Excellence Nurse Senior Scholar of San Francisco VA Quality Scholars Fellowship Progra University of California, San Francisco, USA September 2018

Sally Thorne

Associate Dean, Faculty Affairs, Faculty of Applied Science, The University of British Columbia, Canada February 2019

Joan E. Haase

Professor in Pediatric Oncology Nursing, Co-director Research in Palliative and End-of-Life Communication and Training (RESPECT) Center, School of Nursing, Indiana University, USA June 2019

Carolina D. Weller

Professor, Nursing and Health Sciences, Faculty of Medicine, Monash University, Australia June-Dec 2020(Online)

Sonae Yo

Professor, Public Health and Community Practice, Women's Health, School of Nursing, The University of North Carolina at Chapel Hill, USA July 2020(Online)

The Organizing Committee

Members

April 2017 - March 2018

Hiromi Sanada Director, Global Nursing Research Center

Kiyoko Kamibeppu Deputy Director, Global Nursing Research Center Noriko Yamamoto-Mitani Deputy Director, Global Nursing Research Center

Kohei Miyazono Dean, Graduate School of Medicine

Nobuhito Saito Director, The University of Tokyo Hospital
Norito Kawakami Vice Dean, Graduate School of Medicine
Masahiro Akishita Professor, Graduate School of Medicine
Hiroshi Yasuhara Professor, Graduate School of Medicine

Makoto Oe Project Associate Professor, Global Nursing Research Center

April 2019 – March 2020

Hiromi Sanada Director, Global Nursing Research Center

Kiyoko Kamibeppu Deputy Director, Global Nursing Research Center Noriko Yamamoto-Mitani Deputy Director, Global Nursing Research Center

Nobuhito Saito Dean, Graduate School of Medicine

Yasuyuki Seto Director, The University of Tokyo Hospital
Norito Kawakami Vice Dean, Graduate School of Medicine
Masahiro Akishita Professor, Graduate School of Medicine

Akira Oka Professor, Graduate School of Medicine (-March 2020)

Makoto Oe Project Associate Professor, Global Nursing Research Center (-March 2020)

Event dates

2017 The 1st Organizing Committee, April 14, 2017

2017 The 2nd Organizing Committee, July 20, 2017

2017 The 3rd Organizing Committee, March 13, 2018

2018 The 1st Organizing Committee, May 21, 2018

2018 The 2nd Organizing Committee, October 15, 2018

2018 The 3rd Organizing Committee, March 4, 2019

2019 The 1st Organizing Committee, May 7, 2019

2019 The 2nd Organizing Committee, October 3, 2019

2019 The 3rd Organizing Committee, February 21, 2020

2020 The 1st Organizing Committee, July 6, 2020

2020 The 2nd Organizing Committee, November 16, 2020

2020 The 3rd Organizing Committee, March 1, 2021

Division and Departments

Division of Care Innovation

This Division carries out research in the following five fields with the aim of developing and disseminating care products that alleviate the disadvantages of daily life due to individual health problems.

Department of Robotics Nursing

In Department of Robotics Nursing, we are conducting various research projects based on engineering ideas to establish robotics nursing as a new nursing science. In particular, we are investigating effective monitoring devices and prevention equipment which will help elucidate causes of diseases and prevent injuries caused by common daily activities. This nursing engineering project includes the development of devices that watch over or measure human behavior. We are advancing the development of a new field where nursing science and robotics are integrated based on principles from computer science, mechatronics, and robotics.

Department of Biological Nursing

This department aims to establish biological nursing, which is a new methodology of nursing science based on basic biological research. Biological nursing study includes the following steps.

- 1) Reproduction of clinical problems in experimental animals or cell cultures.
- Detailed observation from macroscopic to microscopic level. In this step, research hypotheses are generated.
- 3) Testing these hypotheses by molecular, biological and biochemical methods.
- 4) Translation of findings into clinical studies to show applicability, validity, and efficacy.

Department of Visualized Nursing

The goal in Visualized Nursing is "The realization of 'safe, secure, and comfortable nursing care through the technique of imaging nursing science." There are several projects underway in visualized nursing including the utilization of imaging technologies, such as ultrasonography for the standardization of nursing assessment, the development of educational programs for nurses, and the evaluation of nursing care using new imaging technologies. We hope to increase the social implementation of nursing care using our new imaging technologies.

Department of Clinical Nursing Technology

Nursing skill development and implementation are expected to accompany the progress of medical diagnostic technologies and treatments. Although university nursing researchers have grasped clinical issues and have found measures that improve the quality of nursing, they have not been able to smoothly proceed through the translational research cycle and implement their findings in clinical settings. This has led to an evidence-practice gap. Our department has set up a laboratory in a hospital, and we are able to observe the on-site needs in real time and consider them from a scientific point of view. We are developing nursing technologies and devices with the researchers not only in hospitals and universities, but also in collaboration with industry and across various fields. Through the clinical evaluation and implementation of our work, we are making translational nursing research fast-paced.

Department of Reverse Translational Research

In the field of reverse translational research, we will not only perform translational research wherebasic research is clinically applied, but we will also elucidate clinical needs through clinical fact-finding research. After this identification, we will create need-oriented care products. Diabetic food ulcer wound research is an example of where we will practice reverse translational research. Our work on diabetic good ulcers is a model of reverse translational research in nursing practice.

Division of Nursing Systems

We will strongly promote research activities in the following two fields. Here we will aim to clarify Japanese nursing theories and high quality nursing practices that can inform social and cultural policy recommendations.

Department of Health Quality and Outcome Research

At the Department of Care Quality Management, research is conducted to contribute to the super-aged society by promoting continuous quality improvement and extending the knowledge base for healthcare and nursing policy. We explore innovative research methodologies, taking both micro (e.g., case study research, community based participatory research) and macro (e.g., big data analysis) perspectives. At its core, nursing is a caring profession in which highly contextual, individualized and integrated service is provided. The conventional scientific approach often fails to capture this essential core; an innovative approach, combining conventional science and humanity, should be explored to further develop nursing knowledge. At the same time, nursing is not provided in a vacuum. Improving the environment and social system in which nursing is provided is an important aspect of managing care quality. The macro approach allows us to address significant issues that would contribute to policy decisions in healthcare and nursing.

Department of Care Quality Management

We aim to improve the quality of life in patients receiving care by investigating life and death from an intimate patient based research perspective. Health quality assessment requires methods that reflect systematic effects that go beyond the individual care recipient. We identify a need for strategies that improve the health quality of the entire family and ways to evaluate that level of care throughout the nursing system. We have developed a methodology that can better evaluate health quality and incorporates patient assessments as outcomes. Our research incorporates these optimal outcomes to develop effective outcome-based nursing systems.

Three groups are conducting research on each of these pertinent outcomes.

Activity Content

April 2017 – March 2018

1. Fostering Young Researchers

1) Postdoc Seminar

Title (Instructor)	Dates	Participation
How to write a research paper and how to make a powerful presentation in English (Lai Kam Yuk Claudia)	April 1, 8, 15, and 22, 2017	21
Leadership in Nursing Research (Lai Kam Yuk Claudia)	April 1, 8, 15, and 22, 2017	19
Health Quality and Outcome Research seminar	I: February 8, 12, 20, and 27, 2018	64
(Kiyoko Kamibeppu, Edward Chan Ko Ling, Pamela Hinds)	II: March 12 – 15, 2018	33
Introduction seminar to Nursing Science and Engineering (Hiromi Sanada)	July 16 – 17, 2017	120
Nursing Science and Engineering Hands-on seminar (Hiromi Sanada) Skin assessment course Ultrasonography course Qualitative sketch techniques course Biological Nursing course 3D measurement and modeling course	February 17 or 18, 2018 February 3 or 4 or 24, 2018 February 19 or 20, 2018 February 15 or 16, 2018 February 27 or 28, 2018	81

2) Trainings

Trainee / Affiliation	Topic (Assigned Teacher)	Dates
Junko Shida / Miyagi University	Visualized Nursing (Koichi Yabunaka)	June 15, 2017
Hiroko Tadaura / International University of Health and Welfare	Visualized Nursing (Koichi Yabunaka)	August 3, 2017
Defa Arisandi/Kanazawa University	Biological Nursing (Nao Tamai)	September 16, 2017
Aya Sato/Fukui Prefectural University	Visualized Nursing (Koichi Yabunaka)	November 2017 – March 2018
Masako Kase / Shukutoku University Graduate School	Visualized Nursing (Mikako Yoshida)	December 2017 – March 2019
Misako Dai / Kanazawa University	Biological Nursing (Takeo Minematsu)	January – March 2018

3) Special Lectures/ Study Sessions/ Seminars

① Special lectures

Cheng Kin Fong Karis (December 6, 2017)

Professor and Coordinator of Graduate Research Programs in Nursing, Alice Lee Centre for Nursing Studies, Director for International Relations (Allied Health), Yong Loo Lin School of Medicine, National University of Singapore, Singapore

(Professor Cheng Kin Fong Karis was invited as a guest speaker by the School of Integrated Health Sciences, Faculty of Medicine, The University of Tokyo.)

2 Study Sessions / Seminers

Title	Topic (Assigned Teacher)	Dates
DM Nurse Study Session	Reverse Translational Research (Hiromi Sanada, Makoto Oe)	120th April 24, 2017 121st May 8, 2017 122nd June 5, 2017 123rd July 10, 2017 124th August 28, 2017 125th September 25, 2017 126th October 25, 2017 127th November 22, 2017 128th December 27, 2017 129th January 17, 2018 130th February 28, 2018

2. International Activities

1) International Summer Program (University of Tokyo)

Dates: August 2-9, 2017

Participants: 7 international participants and 1 UTokyo undergraduate student Department of Nursing Administration was mainly in charge. GNRC supported the program.

2) Overseas Visit

Purpose: To visit Asian universities with high QS rankings to learn about their efforts. Dates: March 5-9, 2018

Destinations: National University of Singapore, National Taiwan University, The Chinese University of Hong Kong, The Hong Kong Polytechnic University
Achievements: We received suggestions for the future on promoting transdisciplinary nursing research, developing young researchers, conducting high quality research (collaboration with clinical practice, collaboration across different fields, overseas joint university projects), fostering students with a mind for research (instruction of nursing science and engineering), promoting international efforts (exchange programs), and actively disseminating globally (presentations at international nursing conferences).

3) Accepting visits from International Universities

Sukhee Ahn, Professor, Chungnam National University (March 28, 2016)

Maurice Yap, Professor, The Hong Kong Polytechnic University (March 29, 2016)

Janita Chau, Professor, The Chinese University of Hong Kong (May 15, 2017)

Chia-Chin Lin, Professor, The University of Hong Kong (July 12, 2017)

Wen-Yu, Hu, Professor, National Taiwan University (November 7, 2017)

Karis Kin-fong CHENG, Professor, National University of Singaore (December 6, 2017)

Ms. Shintha Silaswati, Stikes Bani Saleh Health Institution (January 7, 2018)

Keryln Carville, Professor, Curtin University (February 9, 2018)

Dr. Suriadi, The Nursing Institute of Muhammadiyah Pontianak (February 19, 2018)

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3. Public Relations

1) Website

We opened the GNRC website

Japanese: http://gnrc.m.u-tokyo.ac.jp/

English: http://gnrc.m.u-tokyo.ac.jp/en/

2) Promotion Video

We created the GNRC Promotion Video in Japanese, English, and English with Japanese subtitles.

3) Pamphlet

We created the GNRC Pamphlet in Japanes and English.

4) Domestic visitors

- · Masahiro Ishida, Member of Parliament (April 10, 2017)
- · Yae Zakura no Kai, Gerontological Nursing Class Alumni Association (April 22, 2017)
- · Yoko Shimada, Chief of Nursing Division, Ministry of Health, Labor and Welfare (June 8, 2017)
- · Mr. Kunimasa Yagi, Associate Professor, Center for Medical Education and Research, Kanazawa University Medical Health Research Area (June 28, 2017)
- · Participants in the Nursing Science and Engineering Introductory Seminar (July 16, 2017)
- Shinobu Saito, Nursing Education Specialist, Medical Education Division, Bureau of Higher Education, Ministry of Education, Culture, Sports, Science and Technology (August 2, 2017)
- Yumiko Shuda and 3 others, the Ministry of Health, Labor and Welfare, Suginami Ward Health and Welfare Department (August 25, 2017)

4. Achievements

- 1) Peer-Reviewed English Papers (listed together at the end)
- 2) Joint Research with Foreign Researchers

Researchers from U-Tokyo	Researchers from other institutions	Research Subject	Starting date
Hiromi Sanada, Gojiro Nakagami, Makoto Oe	Suriadi (Kitamura Clinic, Indonesia), Junko Sugama (Kanazawa University), Defa Arisandi (Kanazawa University), Imran (Kanazawa University)	Development of diabetic foot ulcer evaluation scale	August 2014
Kiyoko kamibeppu, Takahumi Soejima	Rich Tedeschi (University of North Carolina, US) Jane Shakespeare-Finch (Queensland University of Technology, AU)	Posttraumatic Growth / Depreciation Study 2016	July 2016
Noriko Yamamoto-Mitani, Naoko Mikoshiba	Enid Kwong (Hong Kong Polytechnic University), Claudia Lai (Hong Kong Polytechnic University), Mi-Sook Song (Asia University)	Intention Survey on Advanced Care Planning for the Elderly in the Community-Comparative Survey of 3 Countries (China, Hong Kong, South Korea, Japan)	November 2016 – March 2018
Kiyoko Kamibeppu, Sachiko Kita	Denise M. Saint Arnault (University of Michigan)	Identifying Recovery process after gender-based violence and effects of Clinicel Ethnographic Narrative Interview (CENI) on psychological recovery: An international joint study in Japan and the United States	April 1, 2017
Hiromi Sanada	Christine Moffatt (University of Nottingham), Judith Tanner (University of Nottingham), Eleanor Dring (Nottingham University Hospitals), Sarah Pankhurst (Nottingham CityCare), Rebecca Gaskin (University of Nottingham)	A study to evaluate patients with pressure injuries, (Stages 2-4) in Nottingham University Hospital (Queens Medical Centre) using skin ultrasound and thermography	September 1, 2017
Emi Sasagawa	Takeda Norihiko(The University of Tokyo, Japan), Kiuchi Fumiyuki(Keio University, Japan), Yuji Narukawa (Keio University, Japan), Yasutoshi Kido (Oita Universit, Japany), Yoko Onizuka (Gunma University, Japan), Hiroyuki Yamada (Nippon Dental University, Japan), Genji Iwasaki (Takasaki University of Health and Welfare, Japan), Yutaka Suto (Takasaki University of Health and Welfare, Japan), Akiko Itai (Institute of Medicinal Molecular Design,Inc., Japan), Erlinda Handal Vega (Ministry of Education, El Salvador), Santa Romero Jovel (Ministry of Education, El Salvador)	Research and development of integrated understanding on chagas disease and its treatment	October 10, 2017
Kaori Yonezawa	Robert Boyle (Imperial College London, UK), Maeve Kelleher (NIHR Transitional Research Fellow), etc.	Moisturizers for preventing eczema and food allergy: A prospectively planned Individual patient data meta-analysis.	November 1, 2017

3) Patent Applications

Inventor	Filing Date	Invention Name	Applicant	Country	App. No.
Sanada H, Minematsu T, Gojiro N.	September 22, 2017	Method and kit to evaluate the skin barrier function.	The Unviersity of Tokyo	PCT	PCT/JP2017/ 034390
Minematsu T, Isomura T, Sanada H.	October 10, 2017	Method and kit using anion exchange membrane to evaluate the skin osmolality.	The Unviersity of Tokyo Tokuyama, Co, Ltd.	Japan	Japanese Patent Application 2017-196598

4) Industry-Academia Joint Research

Researcher	Collaborator	Subject Title	Starting date
Hiromi Sanada	Yoshihiro Tsumura (Aderans Company Limited)	Scalp Care Science: Development of New Care Technology for Alopecia	April 2012
Ryoko Murayama	Hidenori Tanabe (Terumo Corporation)	Scalp Care Science: Development of New Care Technology for Alopecia	October 2013
Ryoko Murayama	Hidenori Tanabe (Terumo Corporation)	Development of peripheral vein indwelling needle to prevent infusion trouble.	September 2014
Hiromi Sanada, Gojiro Nakagami, Takeo Minematsu	Yoshihiko Hirata (Saraya Co., Ltd.)	Development of wound infection identification method by blotting.	July 2016
Megumi Haruna	Yumi Maeda (Mitsubishi Research Institute, Inc.)	A study on the health and lifeplan of working women	September 12, 2016 - September 11, 2017
Takeo Minematsu	Yoshihiko Hirata (Saraya Co., Ltd.)	Development of skin and wound assessment technology based on blotting technology	February 2017
Koichi Yabunaka	Takuya Tsutaoka (Fujifilm Corporation)	Development of ultrasonic technical support system to support nursing care.	April 1, 2017
Ryoko Murayama	Ken Kawase (PARAMOUNT BED CO., LTD.)	Effects of Peripheral Intravenous Catheter Placement on Sleep	April 2017
Taketoshi Mori, Hiroshi Noguchi, Hiromi Sanada, Maki Miyahara, Ryoko Murayama	Seiichi Yamazaki (CARECOM CO., LTD.)	Survey of the actual situation of nurse call usage by analyzing nurse call history data	April 1, 2017
Ayumi Igarashi, Noriko Yamamoto-Mitani, Hiroshige Matsumoto, Manami Takaoka	Miho Suzuki (The Cancer Institute Hospital of JFCR), Satoshi Murata (ASNA limited company), Shingo Aoki (Small-scale multifunctional home care, Home of Tagara), etc.	Building a collaborative model with convenience stores to support the elderly in a community-based society (Nerima Ward Community Building Project)	September 2017

5) Research Grant Aquired by Postdoctoral Fellow

Mariko Sakka

JSPS KAKENHI Grand-in-Aid for Research Activity Start-up. Grant Number 17H06649. Work-life balance among family caregivers of persons with dementia: A longitudinal study.

5. Opening of the GNRC Fund

The GNRC Fund was opened within The University of Tokyo Fund. (December 2017) https://utf.u-tokyo.ac.jp/project/pjt91

6. Inaugural Symposium

Date and Time: 14:00, October 11, 2017

Location: Gakushi Kaikan Participation: 186 Overseas Invitees:

> Patricia Grady, National Institute of Nursing Research: Video Message Lai Kam Yuk Claudia, Hong Kong Polytechnic University: Special Lecture Christine Moffatt, University of Nottingham: Special Lecture



Inaugural Symposium October 11, 2017 at: Gakushi Kaikan

April 2018 – March 2019

1. Fostering Young Researchers

1) Postdoc Seminar

Title (Instructor)	Dates	Participation
How to write a research paper in English seminar (Noriko Yamamoto-Mitani, Sarah H. Kagan, Margaret I. Wallhagen, Sally E. Thorne)	July 19, 21, September 6, 13, 2018, and February 21, 2019	64
Leadership in Nursing Research seminar (Noriko Yamamoto-Mitani, Sarah H. Kagan, Margaret I. Wallhagen, Sally E. Thorne)	July 17, September 5, 7, 12, 14, 2018, and February 19, and 22, 2019	56
Qualitative research methods seminar (Noriko Yamamoto-Mitani)	October 4, November 1, 22, December 6, 20, 2018, and January 10, February 7, 2019	13
Health Quality and Outcome Research seminar (Kiyoko Kamibeppu)	April 13, 20, 27, May 11, 18, 25, and June 1, 2018	17
Introduction seminar to Nursing Science and Engineering (Hiromi Sanada)	July 15 - 16, 2018	154
Nursing Science and Engineering Hands-on seminar (Hiromi Sanada) Skin assessment course 3D measurement and modeling course Qualitative sketch techniques course Biological Nursing course Ultrasonography course	February 2 - 3, 2019 February 8 - 9, 2019 February 13 - 14, 2019 February 18 - 19, 2019 February 22 - 23, 2019	62

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2) Trainings

Trainee / Affiliation	Topic (Assigned Teacher)	Dates
Yuka Miura/Kanazawa University	Assessment of swallowing / pharyngeal residue using echo Visualized Nursing (Koichi Yabunaka)	November 2017 – March 2019
Aya Sato/Fukui Prefectural University	Assessment of chronic edema using echo Visualized Nursing (Koichi Yabunaka)	November 2017 - March 2019
Masako Kase/Shukutoku University Graduate School	Effectiveness verification study of urination independence guidance Visualized Nursing (Koichi Yabunaka, Mikako Yoshida)	December 2017 – March 2019
Misako Dai / Kanazawa University	Development of a risk assessment scale for the onset and recurrence of cellulitis associated with lymphedema Biological Nursing (Takeo Minematsu)	January 2018 – March 2019
Robyn Rayner/ Curtin University (Australia)	DPrediction of skin tear occurrence Biological Nursing (Hiromi Sanada, Takeo Minematsu)	August 27 – September 21, 2018
Shu-Yun Huang / Taichung Veterans General Hospital (Taiwan)	The practice of translational research on pressure ulcers Reverse Translational Research (Hiromi Sanada, Makoto Oe)	August 27 – September 21, 2018
Tomoe Yokono / Niigata University	Diversity Research Environment Realization Initiative Shadowing Training for Senior Positions GNRC (Hiromi Sanada)	August 27 – 29, October 4 and 5, 2018
Su-Chen Wu / Ren Ci Hospital (Singapore)	Translational research practice Robotics Nursing (Taketoshi Mori, Hiroshi Noguchi) Visualized Nursing (Koichi Yabunaka) Biological Nursing (Takeo Minematsu)	September 3 and 4, 2018
Sermsri Santati and 7 others / Mahidol University (Thailand)	Translational research practice Reverse Translational Research (Hiromi Sanada, Makoto Oe)	November 26 and 27, 2018
Ayumi Amemiya/ Chiba University	Assessment of stool retention during colonoscopy pretreatment using echo Visualized Nursing (Koichi Yabunaka)	February – March, 2019
Erina Matsushima / Chiba University	Assessment of stool retention during colonoscopy pretreatment using echo Visualized Nursing (Koichi Yabunaka)	February – March, 2019
Makoto Tanaka / Tokyo Medical and Dental University	Pilot study on detection of inflammatory cytokines from anal mucosa Biological Nursing (Takeo Minematsu)	December 2018 – March 2022
Tetsuharu Kawashima / Tokyo Medical and Dental University	Pilot study on detection of inflammatory cytokines from anal mucosa Biological Nursing (Takeo Minematsu)	December 2018 – March 2022

3) Special Lectures/ Study Sessions/ Seminars

① Special lectures

Anthony G Tuckett (September 21, 2018)

Director of Postgraduate Coursework Programs, The University of Queensland

Caroline Homer (December 17, 2018)

Co-Program Director Maternal and Child Health, Burnet Institute

Distinguished Visiting Professor of Midwifery, Faculty of Health, University of

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Technology Sydney

(She was invited by The Japanese Society of Nursing Science to Japan and introduced to GNRC by one of its members.)

Sek-Ying Chair (December 18, 2018)

Director and Professor of The Nethersole School of Nursing,

The Chinese University of Hong Kong

(Professor Sek-Ying Chair was invited as a guest speaker by the School of Integrated Health Sciences, Faculty of Medicine, The University of Tokyo.)

Susan Bogels (January 9, 10, and 12, 2019)

Professor of Developmental Psychopathology & Mindfulness at the University of Amsterdam

(Professor Susan Bogels was invited as a guest speaker by the School of Integrated Health Sciences, Faculty of Medicine, The University of Tokyo.)

② Study Sessions / Seminers

Title	Topic (Assigned Teacher)	Dates
Ultrasonography seminar for university faculties	Visualized Nursing (Hiromi Sanada, Koichi Yabunaka)	1th June 2 - 3, 2018
DM Nurse Study Session	Reverse Translational Research (Hiromi Sanada, Makoto Oe)	132th April 6, 2018 133th May 14, 2018 134th June 18, 2018 135th July 30, 2018 136th August 2, 2018 137th September 5, 2018 138th October 11, 2018 139th November 29, 2018 140th December 27, 2018 141st January 17, 2019 142nd February 7, 2019 143rd March 7, 2019

2. International Activities

1) International Summer Program

International Summer Program for Skin Integrity in Japan 2018

Objective: To focus on chronic edema and wounds and master new research methods, that is, to promote the research activities of young researchers and graduate students and lead to international joint research.

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Dates: August 27-31, 2018

Place: Ito International Research Center, The University of Tokyo

President: Hiromi Sanada, Director of the Global Nursing Research Center, Graduate School of Medicine, The University of Tokyo

Organized by Global Nursing Research Center, Graduate School of Medicine, The University of Tokyo

Co-sponsored by Japanese Society of Wound, Ostomy & Incontinence Management

Number of participating countries 13 countries and regions (Australia, China, Denmark, France, Hong Kong, Indonesia, Mexico, Saudi Arabia, Taiwan, Thailand, United Kingdom, Vietnam, Japan)

Vietnam, Japan) 48 participants

29 instructors and chairs

 $\begin{array}{c} \hbox{International Summer Program for Skin Integrity in Japan 2018} \\ \hbox{August 27} - 31,\,2018 \ \ \hbox{at The University of Tokyo} \end{array}$



2) Overseas Visit

Purpose: To visit Australian universities with high QS rankings to learn about their efforts. In particular, learn about education, research, and clinical efforts using Information and Communication Technology.

Dates: March 11-15, 2019

Destinations: Monash University, The University of Queensland, Deakin University, The University of Adelaide, Western Sydney University

Achievements: Regarding the promotion of interdisciplinary nursing research and the training of young researchers, we observed the actual situation of education using Information and Communication Technology and simulation, obtained future suggestions, and summarized it as a report. We discussed future joint research and personnel exchanges.

3) Visits from overseas universities

Alex Molasiotis, Chair Professor & Head, and 5 persons, The Hong Kong Polytechnic University (June 4, 2018)

Dr. Somporn Rungreangkulkij, Dr. Marisa Krairiksh and 13 persons, Khon Kaen University of Thailand (June 7, 2018)

Dr.Sarah H. Kagan, The University of Pennsylvania of USA (July 18, 2018)

Dr. Tai, Dr. Nai-chen and 4 persons, National Taiwan University (August 6, 2018)

Dr.Margaret I. Wallhagen, University of California, San Francisco of USA (September 7, 2018)

Dr.Anthony G Tuckett, The University of Queensland of Australia (September 21, 2018)

Dr.Lauren Hunt, University of California, San Francisco of USA (October 12, 2018)

Dr.Sermsri Santati and 8 persons, Mahidol University of Thailand (November 26, 2018)

Dr.Sek-Ying Chair, The Chinese University of Hong Kong (December 17, 2018)

Dr.Caroline Homer, University of Technology Sydney of Australia (December 17, 2018)

Dr.Sally Thorne, The University of British Columbia of Canada (February 19, 2019)

3. Public Relations

1) Accepting Domestic Inspection

Kiyoko Okuda, Ministry of Health, Labor and Welfare Medical Division, and 10persons (May 25, 2018)

Ms. Toshiko Ibe, Ms. Keiko Tokunaga, former St. Luke's International University) (July 12, 2018)

4. Achievements

1) Peer-Reviewed English Papers (listed together at the end)

2) Joint Research with Foreign Researchers

Researchers from U-Tokyo	Researchers from other institutions	Research Subject	Starting date
Hiromi Sanada, Takeo Minematsu	Keryln Carville (Curtin University) Robyn Rayner (Curtin University) Junko Sugama (Kanazawa University) Kazuhiro Ogai (Kanazawa University)	Study on prediction of skin tear occurrence in elderly patients using skin blotting	August 27, 2018
Kiyoko Kamibeppu	Joan E. Haase (Indiana University), Li-Min Wu (Kaohsiung Medical University, Taiwan), Chin-Mi Chen (Fu Jen Catholic University, Taiwan), Sungsil Hong (Kangwong National University, Republic of Korea), Celeste Phillips (Indiana University, USA)	Resilience in Illness Model Research: Potential for Guiding Asian Resilience Enhancement for Adolescents / Young Adults Studies	December 19, 2018

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Researchers from U-Tokyo	Researchers from other institutions	Research Subject	Starting date
Emi Sasagawa, Megumi Haruna	Masayo Matsuzaki (Osaka University), Chizuru Misago (Tsuda University), Adelaida Trejo de Estrada (Nacional Women's Hospital, El Salvador), Marcela Hernandez (Ministry of Health, El Salvador)	Humanized Childbirth based on Scientific Evidence in the National Women's Hospital in El Salvador	December 27, 2017 – December 26, 2022
Hiromi Tobe, Kiyoko Kamibeppu	Susan Bogels (University of Amsterdam)	Development of the Japanese version of Interpersonal Mindfulness in Parenting Scale: IM-P and evaluation of the efficacy of mindful parenting program in Japan	January 1, 2019

3) Patent Applications

Inventor	Filing Date	Invention Name	Applicant	Country	App. No.
Takeo Minematsu, Hiromi Sanada, Nao Tamai, Yoshihiko Hirata, Mizuyuki Ryu, Tomonori Yoneda.	April 19, 2018	Method and kit to assist diagnosing of skin diseases.	The Unviersity of Tokyo, Saraya, Co, Ltd.	Japan	Japanese Patent Application 2018-80666
Takeo Minematsu, Hiromi Sanada, Mizuyuki Ryu, Tomonori Yoneda.	August 24, 2018	Evaluation kit for a skin condition.	The Unviersity of Tokyo, Saraya, Co, Ltd.	Japan	Japanese Patent Application 2018-157572

4) Industry-Academia Joint Research

Researcher	Collaborator	Subject Title	Starting date
Megumi Haruna	Yumi Maeda(Mitsubishi Research Institute, Inc.), Yuka Ikeda (Mitsubishi Research Institute, Inc.), Emi Sasagawa (The University of Tokyo), Naoko Hikita (The University of Tokyo), Yuriko Usui (The University of Tokyo), Rina Matsubara(The University of Tokyo)	Survey on work style and health	July 1, 2018 – Match 30, 2019

5) Research Grant Aquired by Postdoctoral Fellow

Mayu Fukuda

JSPS KAKENHI Grand-in Aid for Research Activity for Young Scientists. Grant Number 18K17516. Development of a new vibration therapy to support the convalescent life of diabetic foot ulcer patients.

Tamae Urai

JSPS KAKENHI Grant-in-Aid for Research Activity for Young Scientists.

Grant Number 18K1745.

Care innovation for the evaluation of remodeling to prevent recurrent pressure ulcers.

Hiromi Tobe

JSPS KAKENHI Grand-in-Aid for Research Activity Start-up. Grant Number 19K21447. Development and evaluation of mindful parenting program: a randomized controlled trial.

April 2019 – March 2020

1. Fostering Young Researchers

1) Postdoc Seminar

Title (Instructor)	Dates	Participation
How to write a research paper in English seminar (Joan E. Haase, Carolina D. Weller)	June 13, November 5,6,7 and 11 – 14, 2019	71
Leadership in Nursing Research seminar (Joan E. Haase)	June 10, 2019	28
Qualitative research methods seminar (Noriko Yamamoto-Mitani)	June 29 – 30, 2019	23
Health Quality and Outcome Research seminar - Innovation to study systems (Kiyoko Kamibeppu)	April 19, 26, May 10, 17, 24, 31, and June 7, 2019	8
Introduction seminar to Nursing Science and Engineering (Hiromi Sanada)	July 20 – 21, 2019	87
Nursing Science and Engineering Hands-on seminar (Hiromi Sanada) Thermography course Wound blotting and skin blotting course Ultrasound Imaging Echo course Qualitative sketch techniques and Text mining cours	February 8, 2020 February 10, 2020 February 26, 2020 February 18, 2020	11

2) Trainings

Trainee / Affiliation	Topic (Assigned Teacher)	Dates
Suriadi · Kitamura Clinik Pontianak, Indonesia, Juliansyah · Kitamura Clinik Pontianak, Indonesia, Agus Supriyadi · RSUD Dr. SOEDARSO Pontianak, Indonesia	Reverse Translational Research (Hiromi Sanada, Makoto Oe)	September 25 – October 3, 2019
Miki Takenouchi, Kazuko Tedo	Reverse Translational Research (Hiromi Sanada, Makoto Oe)	November 7, 2019

3) Special Lectures/ Study Sessions/ Seminars

① Special lectures

Mimi Tse (July 11, 2019) The Hong Kong Polytechnic University

June Kyung-ja (July 30, 2019) Soonchunhyang University, Republic of Korea (Invited by Professor Hideki Hashimoto. Held a special lecture co-sponsored by GNRC.)

② Study Sessions / Seminers

Title	Topic (Assigned Teacher)	Dates
DM Nurse Study Session	Reverse Translational Research (Hiromi Sanada, Makoto Oe)	144th April 11, 2019 145th May 9, 2019 146th June 27, 2019 147th July 25, 2019 148th September 12, 2019 149th September 26, 2019 150th October 3, 2019 151st November 28, 2019 152nd December 5, 2019 153rd January 16, 2020 154th February 10, 2020 155th March 9, 2020
Case study seminars and presentations on the meaning of care	Development of Care Quality Management (Noriko Yamamoto-Mitani)	4 th November 3 - 4, 2019

2. International Activities

1) International Summer Program

Purpose : To promote the international collaborative activities among the graduate students and develop the foundation for future collaborative research

Session: July 31-August 7, 2019

Location: Hongo Campus, The University of Tokyo

Organizer: Department of Health Sciences and Nursing, Graduate School of Medicine,

The University of Tokyo

20 participants (11 from the Chinese University of Hong Kong, 4 from the University of Hong Kong, 3 from the University of Pennsylvania, 1 from the University of British Columbia, 1 from Mahidon University)



International Summer Program
July 31-August 7, 2019 at The University of Tokyo

2) Overseas Visit

Scheduled visits to the University of Southampton (UK), King's College London (UK), and Carolyn Scain Institute (Sweden) in February 2020, but postponed to prevent the spread of COVID-19 infection.

3) Visits from overseas universities

Martin Pallauf, Private University for Health Sciences, Medical Informatics and Technology, Australia (April 9, 2019)

Ben Stubbs, Director, Deakin University English Language Institute, Australia (June 4, 2019) Joan E Haase, School of Nursing, Indiana University (June 12, 2019) Hu Xiuying, Innovation Center of Nursing Research, West China School of Medicine / West China Hospital, Sichuan University, China (June 25, 2019)

Mary Cadogan and Janet Mentes, UCLA, USA (July 2, 2019)

20 students, International Summer program (August 1, 2019)

Carolina Weller, Monash University, Australia (November 11, 2019)

Patrea Andersen, University of Sunshine Coast, Australia (December 2, 2019)

4) Inducted as a Fellow of the American Academy of Nursing by the American Academy of Nursing Hiromi Sanada and Kiyoko Kamibeppu, Ocrober 2019

3. Public Relations

1) Website

GNRC website was renewed.

2) Pamphlet

New GNRC pamphlets were made in Japanese and English.

4. Achievements

- 1) Peer-Reviewed English Papers (listed together at the end)
- 2) Joint Research with Foreign Researchers

Researchers from U-Tokyo	Researchers from other institutions	Research Subject	Starting date
Hiromi Sanada, Makoto Oe	Suriadi (The Nursing Institute of Muhammadiyah Pontianak, Indonesia)	The introduction of diabetic foot care nursing in Indonesia and a verification of its effects on diabetic foot ulcer prevention	April 2019 – March 2022
Sachiko Kita, Kiyoko Kamibeppu	Chan Ko Ling (The Hong Kong Polytechnic University, Hong Kong), Emiko Kishi (Toho University, Japan)	Development of the Japanese version of Family Poly-victimization Scale and Identifying the rate and the related factors of family poly-victimization: An international joint study in Japan and Hong Kong	April 2019
Hiromi Sanada, Takeo Minematsu	Keryln Carville (Curtin University, Australia), Sharon Boxall (Curtin University, Australia)	Development of medical device-related pressure injuries in lymphedema patients	July 1, 2019

3) Patent Applications

Inventor	Filing Date	Invention Name	Applicant	Country	App. No.
Takeo Minematsu, Hiromi Sanada, Nao Tamai, Yoshihiko Hirata, Mizuyuki Ryu, Tomonori Yoneda.	April 2, 2019	Method and kit to assist diagnosing of skin diseases.	The Unviersity of Tokyo, Saraya, Co, Ltd.	Japan	PCT/JP 2019/014667
Takeo Minematsu, Hiromi Sanada, Mizuyuki Ryu, Tomonori Yoneda	August 20, 2019	Evaluation kit for a skin condition.	The Unviersity of Tokyo, Saraya, Co, Ltd.	РСТ	PCT/JP 2019/32439

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5) Research Grant Aquired by Postdoctoral Fellow

Yohei Okawa

JSPS KAKENHI Grant-in-Aid for Research Activity for Young Scientists. Grant Number 19K19701. Development of an evaluation method for diarrhea in elderly patients with deteriorated cognitive and motor functions using ultrasonography equipment.

Sofoklis Koudounas

JSPS KAKENHI Grant-in-Aid for Research Activity Start-up. Grant Number 19K24194. Incontinence-associated dermatitis by infected urine: biological mechanisms and prevention strategies.

Mayumi Morisaki

JSPS KAKENHI Grand-in-Aid for Research Activity Start-up, Grant Number 19K24224. Development of the effective transitional support system for patients with childhood-onset chronic diseases: Focusing on the parent-child relationships.

April 2020 – March 2021

1. Fostering Young Researchers

1) Postdoc Seminar

Title (Instructor)	Dates	Participation
How to write a research paper in English (Seonae Yeo, Carolina D. Weller)	July 8 – 28, April 2 – August 28, 2020	30
Leadership in Nursing Research seminar (Ardith Doorenbos)	September 24, 2020	45
Qualitative research methods seminar (Noriko Yamamoto-Mitani)	April 9, 23, May 7, 21, June 4, 18, July 2, 2020	23
Health Quality Outcome Research seminar - Innovation to study systems (Kiyoko Kamibeppu)	April 10, 17, 24, May 1, 8, 15, 22, June 7, 2020	8
Introduction seminar to Nursing Science and Engineering - Intensive Lecture (Hiromi Sanada)	May 2 – 5, 2020 (online)	1763 (Total number)

2) Trainings

Trainee / Affiliation	Topic (Assigned Teacher)	Dates
Makoto Tanaka / Tokyo Medical and Dental University	Biological Nursing (Takeo Minematsu)	December 2018 – March 2022 (On going)
Tetsuharu Kawashima / Tokyo Medical and Dental University	Reverse Translational Research (Hiromi Sanada, Makoto Oe)	December 2018 - March 2022

3) Study Sessions/ Seminar

1 Seminers

7th The University of Tokyo Family Care Forum

"Understanding families with elderly abuse-the connection between domestic violence and child abuse-"

Date: May 18, 2020 (Monday) 15: 00 -17: 45 Webinar

Lecture 1: "Characteristics of Elderly Abuse in Japan and Complex Problems in the Family" Emiko Kishi (Professor, Faculty of Nursing, Toho University)

Lecture 2: "Elderly Abuse and Neglect in Family and Institutions"

Dr. Wenche Karin Malmedal (Associate Professor, Norwegian University of Science and Technology) Chair: Kiyoko Kamibefu (Professor, Graduate School of Medicine, The University of Tokyo) Sachiko Kita (Assistant Professor, Graduate School of Medicine, The University of Tokyo)

② Seminer / Presentation

Title	Topic (Assigned Teacher)	Dates
Case study seminars and presentations on the meaning of care	Department of Care Quarity Management (Noriko Yamamoto-Mitani)	5th November 27 – 28, 2020

2. International Activities

1) GNRC Conference 2021

Purpose: Lecture to summarize the four years since the establishment and announce the results domestically and overseas

Date: February 14, 2021 Webinar

Participants: 664 from 5 countries



GNRC Conference 2021 February 14, 2021 webinar

2) Overseas Visit

The visit to the University of Southampton (UK), King's College London (UK), and Carolyn Scain Institute (Sweden) in November 2020 was planned but cancelled due to COVID-19 pandemic.

3) Visits from overseas universities

Acceptance of overseas visits was discontinued to prevent the spread of COVID-19 infection.

3. Public Relations

1) The abstracts of the GNRC Lecture 2021 were sent to 430 domestic nursing universities and related organizations.

4. Achievements

1) Peer-Reviewed English Papers (listed together at the end)

2) Joint Research with Foreign Researchers

Researchers from U-Tokyo	Researchers from other institutions	Research Subject	Starting date
Hiromi Tobe, Kiyoko Kamibeppu	Craig H. Hart (Brigham Young University), Ai Shibasaki Lau (Brigham Young University)	Development of the Japanese version of Parenting Styles and Dimensions Questionnaire (PSDQ)	April 2020 – March 2022
Emi Sasagawa, Megumi Haruna, Kaori Yonezawa, Yuriko Usui	Terri Downer (University of the Sunshine Coast. Australia), Julie Hanson (University of the Sunshine Coast. Australia), Peter K Dunn (University of the Sunshine Coast. Australia), David Dixon (University of the Sunshine Coast. Australia), Michelle Gray (University of the Sunshine Coast. Australia), Patrea Andersen (Waikato Institute of Technology, New Zealand), Sarah McLeod (Waikato Institute of Technology, New Zealand)	Evaluation of learning efficacy of Virtual reality on midwifery education : Collaborative research among Japan, Australia and New Zealand	February 1, 2021

4) Industry-Academia Joint Research

Researcher	Collaborator	Subject Title	Starting date
Emi Sasagawa	Keiji Mochida (TA Networking Corp), Toru Sadamori (Samauma Consulting LLC), Chizuru Misago (Tsuda University), Emi Sasagawa (The University of Tokyo) Miho Suzuki (TA Networking Corp)	JICA service agreement for the project research on improving the quality of care to achieve "humanization of childbirth"	August 1, 2020 – February 26, 2021

5) Research Grant Aquired by Postdoctoral Fellow

Sameh Eltaybani

JSPS KAKENHI Grant-in-Aid for Research Activity Start-up. Grant Number 20K23127. COVID-19 in long-term care facilities: An international survey of the predictors, response, and outcomes.

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Summary

During 2016, preparation was completed and the GNRC was established in April 2017. This foundation trains young researchers and promotes transdisciplinary innovative nursing research based on nursing practices. Our key Performance Indicators (KPIs) are ① industry-government-academia joint research, ② new patent applications, ③ international joint research, and ④ publishing original English papers. All KPIs were achieved in 2017, 2018, 2019, and 2020 and the operation is running smoothly.

The GNRC has been funded by the Ministry of Education, Culture, Sports, Science and Technology (2016-2020). The following results of the GNRC have been recognized, the center was made a permanent facility in the Graduate School of Medicine in 2020.

Our Progress / Concrete Results to the Present

Global development of innovative nursing research that integrates different fields In terms of human resources, the GNRC has two full-time faculty members. In addition, a faculty member in the Department of Health Sciences and Nursing was approved to serve concurrently.

In terms of the research environment, laboratories for each department have been established to facilitate achievement of the KPIs. Technological innovations have been made through the fusion of different fields, such as the development of a robotic air mattress for the prevention of pressure injuries, software for the analysis of ultrasound images of swallowing and constipation using artificial intelligence, and a non-invasive real-time analysis method for dehydration in the elderly.

As for global development, we invited Dr. Moffatt from University of Nottingham and Dr. Lai from Hong Kong Polytechnic University to give special lectures in the inaugural symposium in 2017. This symposium was attended by 186 people, including members of the Diet and government ministries. In addition to the international joint research described below, an international summer program for young researchers was held with the University of Nottingham in 2017 and 2019. The University of Tokyo also hosted summer programs in 2018 and 2019, with 50 and 20 participants respectively.

As for public relations activities, we have received visits from nursing researchers and other professionals including doctors and engineering researchers from overseas universities including the University of California, Los Angeles, the University of Queensland, Sichuan University, and Hong Kong Polytechnic University. The GNRC website was created in Japanese and English to share our activities globally

As for the future directions, in order to carry out high-quality research and establish educational programs, in 2017, some GNRC members visited globally recognized Asia region institutions including the University of Singapore, National Taiwan University, Chinese University of Hong Kong, and Hong Kong Polytechnic University In 2018, some GNRC members visited the University of Western Sydney, the University of Queensland, the University of Adelaide, Deakin University, and Monash University in Australia, which have adopted ICT such as e-learning, to obtain initiative information.

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As for the training of young researchers to promote innovative nursing research that integrates different fields, two postdoctoral fellows were hired in 2017, three in 2018, two in 2019, and two in 2020 to conduct research under the guidance of mentors. In addition to the postdoctoral seminar on interdisciplinary innovative nursing research by the Center's faculty, we invited Dr. Lai (Hong Kong Polytechnic University) and Dr. Chan (Hong Kong Polytechnic University) as Project Professors to conduct seminars on leadership and how to write papers in English. In addition, we invited Dr. Hinds (George Washington University) in 2017, Dr. Wallhagen (University of California, San Francisco), Dr. Kagan (University of Pennsylvania), and Dr. Thorne (University of British Columbia) in 2018, and Dr. Haase (Indiana University) and Dr. Weller (Monash University) in 2019, and Dr. Yeo (University of North Carolina at Chapel Hill) and Dr. Weller (Monash University) in 2020 to give postdoc seminars. Dr. Doerenbos (University of Illinois at Chicago) was appointed as a Project Professor in 2020.

As for fostering young researchers outside the University: The postdoctoral seminar was opened to young researchers outside the university, with a total of 359 participants in 2017, 366 in 2018, 228 in 2019, and 1869 in 2020. We accepted 12 trainees from outside the university in 2017, 20 in 2018, 5 in 2019, and 2 in 2020, and trained them in research and laboratory skills.

Achievement Status of Key Performance Indicators (KPI)

Our KPI are (1) 1 industry-government-academia joint research / year, (2) 1 new patent application / year, ③ 1 international joint research project / year, and ④ publish 14 original papers in English / year. ① We began and are continuing two social collaboration courses that serve concurrently as classrooms and collaborative research projects with companies. ② Through the social collaboration courses, we completed the patent application for two inventions in 2017 (PCT / JP2017 / 034390, Japanese Patent Application 2017-196598). Two were also completed in 2018 (Japanese Patent Application 2018-80666, 2018-157572), and two more were filed in 2019 (PCT / JP2019 / 014667, PCT / JP2019 / 32439). ③ In 2016 and 2017, joint research projects were begun with the University of California, Los Angeles, the University of Nottingham, The Nursing Institute of Muhammadiyah Pontianak, Michigan University, North Carolina University, Hong Kong University of Science and Technology, Imperial College London, and the Ministry of Science. In 2018 we started multilateral joint research projects with Curtin University, Indiana University, and the University of Amsterdam. In 2019, the Nursing Institute of Muhammadiyah Pontianak, Hong Kong Polytechnic University, Curtin University, and in 2020, Brigham Young University and University of Sunshine Coast have started research collaborations with us.