

# DISTANCES DISTANCES DISTANCES

RCAST CROSS-DISCIPLINARY WORKSHOP - 8th EDITION

ISEAS AGEING SOCIETY IN ITALY AND JAPAN  
MULTIDISCIPLINARY WORKSHOP - 2nd EDITION

## November 12-13, 2021

### Online Event from Kyoto

For details and the meetings link:  
<https://iseas-kyoto.org/eventi/workshops>

The global emergency due to the COVID-19 pandemics strongly impacted on the perception and management of distances. Social, economic, logistic and psychological consequences of distancing procedures affected many aspects of our life and interactions, allowing rethinking and reshaping spaces both physical and virtual, and involving new forms of theoretical and practical thoughts and studies. Within this scenario, the dynamic interplay between physical and virtual distances has assumed new forms, forcing innovative cross-disciplinary attitudes as well as the design of new perspectives for future research.

The workshop focusses on Japan and Italy, and combines multidisciplinary research to discuss the notion of distance, along the line traced by a previous event held in 2020. This second meeting has been organized in cooperation with the Research Center for Advanced Science and Technology (RCast) of the University of Tokyo (the 8th cross-disciplinary workshop in their series). As before, scholars and experts from different disciplines will share their knowledge on the common discussion platform of how the perception of distance is addressing new research trends in scientific and humanistic studies.

## NOVEMBER 12

18:00-20:00 (Japan time) - 10:00-12:00 (CET time)

### OPENING ADDRESS

18:00-18:10

*Gianluigi Benedetti*

Ambassador of Italy in Japan

*Giorgio Amitrano*

Università di Napoli L'Orientale, ITALY

### GREETINGS AND OPENING REMARKS

18:10-18:20

*Silvio Vita*

Kyoto University of Foreign Studies, JAPAN

Italian School of East Asian Studies, JAPAN

*Stefania Bandini*

Università di Milano-Bicocca, ITALY

RCAST – The University of Tokyo, JAPAN

### INVITED LECTURERS

18:30-18:45

*Katsuhiro Nishinari*

RCAST - Research Center of Advanced Science and Technology, The University of Tokyo.

### JAPAN CONGESTION AND DISTANCE. A ROUTE TO IG NOBEL PRIZE

18:45-19:00

*Francesca Gasparini*

University of Milano-Bicocca,

### ITALY PROXEMIC DISTANCES AT THE LIGHT OF PANDEMICS: MEASURING EMOTIONAL STATES THROUGH MULTIDIMENSIONAL EXPERIMENTS

19:00-19:15

*Ryohei Kanzaki*

RCAST - Research Center of Advanced Science and Technology, The University of Tokyo,

### JAPAN ADVANCED ART AND DESIGN LAB @ RCAST

19:15-19:30

*Roberta Albiero*

IUAV, Venice, ITALY

### THE CRITICAL DISTANCE AS A RELATIONAL MEASURE

19:30-19:45

*Tomoo Matsuda*

Platinum Society Center, Mitsubishi Research Institute, Tokyo, JAPAN

### NEW NORMAL LIFESTYLE OF THE ELDERLY IN THE COVID-19 ERA

### GENERAL DISCUSSION

19:45-20:00

### DISCUSSANT

*Paola Cavaliere*

School of Human Sciences, Osaka University, JAPAN

## NOVEMBER 13

17:00-19:00 (Japan time) - 9:00-11:00 (CET time)

### OPENING ADDRESS

17:00-17:05

*Stefania Bandini*

Università di Milano-Bicocca, ITALY

RCAST – The University of Tokyo, JAPAN

### INVITED LECTURERS

17:05-17:15

*Florian Coulmas* (video)

Institute for East Asian Studies, University of Duisburg-Essen, GERMANY

### ALGORITHM AT A DISTANCE

17:05-17:15

*Yukio Osawa*

Department of Systems Innovation, The University of Tokyo, JAPAN

### RETHINKING COMMUNITY LIFE WITH THE DYNAMIC CHANGES IN DISTANCES

17:30-17:45

*Giovanni Occhipinti*

Institut de Physique du Globe de Paris, Institut Universitaire de France, FRANCE

### IONOSPHERIC SEISMOLOGY: EVERYTHING YOU WISH TO KNOW ABOUT EARTHQUAKES, TSUNAMIS AND VOLCANIC EXPLOSIONS TAKING DISTANCE FROM THE EARTH

17:45-18:00

*Laura Liverani*

Documentary Photographer, Milano, ITALY

### LONGEVICITY PHOTO STUDIO

18:00-18:15

*Francesco Zurlo*

Department of Design, Politecnico di Milano, ITALY

### DESIGNING SERVICES THAT TAKE CARE

### GENERAL DISCUSSION

18:15-19:00

### DISCUSSANT

*Andrea De Antoni*

Graduate School of Human and Environmental Studies, Kyoto University, JAPAN

### PATRONAGE



Ambasciata d'Italia Tokyo



ASSOCIAZIONE DEI RICERCATORI ITALIANI IN GIAPPONE

IUAV di Venezia



Associazione Italiana per l'Intelligenza Artificiale

### SUPPORTS



Longevity Social Innovation for the Elderly Through Technology



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Email [info.iseas@iseas-kyoto.org](mailto:info.iseas@iseas-kyoto.org)

## CONGESTION AND DISTANCE. A ROUTE TO IG NOBEL PRIZE

Pedestrians are clever enough to avoid collision between individuals by keeping their "distance". However, sometimes this fails due to the use of a smartphone when walking. We focus on the counterflow, and have done experiments in order to elucidate the condition of forming smooth flow without collisions or deadlock. This result was used in Tokyo Olympic 2021, and what is more, we have won the Ig Nobel prize this year although the study is serious! We will discuss the importance of mutual anticipation in crowd for avoiding collision.



Kazuhiro Nishinari is a professor at the Research Center of Advanced Science and Technology (RCAST), the University of Tokyo. His research elucidates the emergent behavior of complex systems in terms of mathematical physics, and considers real applications of emergent systems. He is especially interested in the interdisciplinary study of the collective dynamics of self-driven particles and its jamming phenomena, which we call "jamology," including vehicles, pedestrians, ants, packets in logistics and the Internet, and proteins in organisms. The jamming phenomenon in this study is considered as a kind of dynamical phase transition from a free to a congested state due to instability of flow. Our research is based on mathematical and physical analysis, followed by computer simulations and experiments in order to create better models that show emergent properties. The research includes the reduction of traffic jams on highways, the smooth evacuation of pedestrians, social animals and their emergent behaviors, and supply chain networks and granular flow.

## PROXEMIC DISTANCES AT THE LIGHT OF PANDEMICS: MEASURING EMOTIONAL STATES THROUGH MULTIDIMENSIONAL EXPERIMENTS

Human behaviors regarding proxemic distances can be influenced by a series of factors: for example, people tend to approach one another differently depending on their personal attitude, the relationship between them and the others, their cultural characteristics, and their gender. Given the spread of the Covid-19 pandemic, people all around the world were forced to change habits and routines, especially regarding the interaction with others. In particular, restrictive health measures and fear of contagion were two of the factors that played a main role in changing interpersonal distances. The perception of safety is strongly conditioned by the emotional state of the person, influenced by the surrounding situation, and therefore linked to the fear of infection induced by the recent COVID-19 pandemic. To study the effect of this pandemic on proxemic distances, we performed an online experiment to understand what kind of personal, psychological, and situational factors influenced people's behavior while distancing from others. We have also developed a protocol for real experiments to support our virtual findings, focusing in particular on emotional reactions, measured acquiring physiological signals (heartbeat, perspiration, muscle activities, etc...) through wearable devices.



Francesca Gasparini is Associate Professor at the Department of Informatics, Systems and Communication University of Milano-Bicocca. Since 2017, she is head of the Multimedia Signal Processing Laboratory ([www.mmsp.unimib.it](http://www.mmsp.unimib.it)), MMSP. Her research activity is focused on multimedia signal processing, analysis and understanding, with a strong experience in the field of image enhancement, image quality and image complexity assessment. She conducts research to integrate information from heterogeneous multimodal data with the aim of understanding user behaviors and emotional states through detecting and modeling emotions in human-computer interaction, aiming to bridge the gap between human emotions and computational technology, and the automatic detection of online offensive content in particular towards women. This research is mainly devoted to study the emotions, the stress and relaxation states induced by visual and acoustic stimuli, or related to the interaction with the environment, through the analysis of both physiological and psycho-physical data. From 2017 she enriched her research activity including affective computing, and brain computer interface, opening new fields of investigation in the Artificial Intelligence domain, and in 2019 she extended her research activity on affective computing on the field of the Ageing Society. She is currently coordinating several research activities in electroencephalogram data processing and classification, and physiological data analysis.

## ADVANCED ART AND DESIGN LAB @ RCAST

Research Center for Advanced Science and Technology, the University of Tokyo (the RCAST) established the Advanced Art Design Laboratory (Social Cooperation Research Departments) on January 1, 2021 in cooperation with its cooperation companies. Science and technology bring wonderful benefits. As our social framework shifts to a direction different from the past, it is crucial to stand face to face with and reflect on natural environments and sensibility nurtured there, take a renewed look at science and technology from the perspective of intrinsic humanity, and communicate the science and technology unique to Japan that will help create a sustainable, inclusive society. I am pleased that we can work with our cooperation companies toward achieving the goal through research activities at our Laboratory.



Director and Professor at the Research Center of Advanced Science and Technology (RCAST), The University of Tokyo. His research interests regards neurobiology of insects and their adaptive behavior. The brains of animals switch their processing mode in order to exhibit behaviors that adapt them to a diverse range of environments by dynamically modifying the neural system in response to internal and external conditions. The aim of our research is to clarify the basic neural mechanisms for generating adaptive behaviors (or intelligence) using the interdisciplinary approaches of informatics, engineering and biology. As a model for the brain system we use insect brains that consist of  $10^5$  neurons. We have taken a combined approach at various levels, from genes over single neurons to neural networks, behavior, modeling, and robotics, owing to their seamless accessibility to a wide variety of methodological approaches. To examine the neural basis of behavior, we implemented a model of the neural circuit and integrated it with a mobile robot. Moreover, in order to understand the dynamics of the neural circuitry, we have developed an "insectrobot hybrid system" in which the insect or an isolated insect brain controls a robot. By comparing the hybrid system and model of the neural circuit of the insect, we can continuously improve the insect-brain model until we obtain a full emulation and complete understanding of the mechanisms of adaptability in the insect brain. Our research will lead to investigating the bio-robot hybrid system, and also to establishing basic technologies for operating these behaviors by artificially controlling the brain functions.



ROBERTA ALBIERO

IUAV, Venice, ITALY

## THE CRITICAL DISTANCE AS A RELATIONAL MEASURE

Distance is a matter of measure and it is expressed through two different ideas of dimension: an absolute one and a relative one. The first one is a physical dimension univocally identified through a measurement system, which defines distance as a quantity, while the second one incorporates a relational and qualitative idea of dimension that is close to what Ernesto Nathan Rogers called greatness (*grandezza*). In Architecture, the critical distance is measured through the vacuum as a physical material, a volume of air, which determines the degree of tension between two buildings. In the same way we can find a range of measures that generates tensions and vibrations between two bodies or two objects. This interval of interaction, defined as critical distance, according to Edward T. Hall' s studies on the proxemics, is the subject of this intervention.



Roberta Albiero, architect and a professor of Architecture Design at the University IUAV of Venice and Phd in Urban and Architecture Design (Politecnico of Milan, 2000) discussing a thesis on the relationship between architecture and measure. She currently teaches in the Master degree of Architecture. She has given lectures and workshops in Italian and foreign universities. She is the author of studies on 20th century Italian architecture and has organized conferences, exhibitions and installations on these themes, as well as on Portuguese architecture. She has been studying the Mediterranean architecture and urban regeneration of historical villages. These researches have been accompanied by design activities and participation in competitions, recognized with prizes, reports and publications aimed to verify the relationship between theory and practice in architecture. At present she is working on the relationship between architecture, archaeology, art, and landscape.

# TOMOO MATSUDA

Platinum Society Center, Mitsubishi Research Institute, Tokyo, JAPAN

## NEW NORMAL LIFESTYLE OF THE ELDERLY IN THE COVID-19 ERA

With the elderly population making up 28 percent of the population in Japan and 23 percent in Italy, both countries are facing a super-aging society. Many people worldwide have experienced huge changes in their lifestyles due to the COVID-19 pandemic. This presentation will focus on the changing lifestyles of elderly Japanese. Covid-19 era has had a huge impact on the elderly lifestyle as they have lost direct communication with their families and friends. On the other hand, limited communications with social distances and online communications are rapidly increasing, which might be a new normal lifestyle. New survey data on the elderly in Japan about their lifestyle, behavior, communication and the comparative analysis between men and women will be shown in this presentation. Also some best practices of multidisciplinary views and multi-generations will be introduced which will be able to realize a "longevity" and "platinum society".



Tomoo Matsuda is Research Director at the Mitsubishi Research Institute (MRI) in Tokyo and specializes in the revitalization of communities and an active, aging society. He is also a visiting professor at Kochi University. He founded MRI's new policy project "Platinum Society Association" in 2010 and almost five hundred people from industry, government, and academia across Japan have joined this association. He has conducted many research projects with public and private clients. He has served as a committee member and advisor of the Aging Society Forum Committee of the Cabinet Office; on the Advisory Council of Community Planning for All Generations Cabinet Secretariat; as lead speaker of the roundtable on resilient cities in aging societies in 2014 at the OECD; on the local vitalization promotion council in Kochi Prefecture; and on the niche and top company evaluation committee in Ishikawa Prefecture. He is the author (in Japanese) of *Market Trends in Japan From Interviews With Thirty Thousand People* (2014); *Japan-Style CCRC* (2017); and *Bright Reverse Shift: From Tokyo to Rural Areas* (2020).

## ALGORITHM AT A DISTANCE

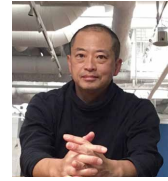
Covid-19 has given the algorithmization of our everyday life a boost that goes beyond what has been going on these past decades. Algorithms are all around us. In many ways we have come to depend on them. Algorithms help us to span distances. Without them we would not be conducting this workshop. But where do they come from? In this little *aperçu* I will take a brief look at “algorithm” in time and space deliberating the question how many decades, years, months, days and minutes it takes to cover a distance of some 4.000 km.



Florian Coulmas is senior professor of Japanese society and sociolinguistics in the Faculty of Social Sciences at Duisburg-Essen University. As Director of the German Institute of Japanese Studies in Tokyo (2004–2014), he conducted research on the aging population and happiness/life satisfaction. He is currently heading a research project about migration, language, and happiness. His recent publications include *Identity: A Very Short Introduction* (Oxford University Press, 2019); *An Introduction to Multilingualism: Language in a Changing World* (Oxford University Press, 2017); *Guardians of Language: Twenty Voices Through History* (Oxford University Press, 2016); *Tokio. Vom Glück urbanen Lebens* (C. H. Beck, 2014); and *Writing and Society* (Cambridge University Press, 2013; Chinese translation: 文字与社会导论 外语教学与研究出版, 2019).

## RETHINKING COMMUNITY LIFE WITH THE DYNAMIC CHANGES IN DISTANCES

Last year, the author proposed the living strategy "stay with your community" for ordinary people, based on the simulation using a constrained scale-free network. This strategy has been broadcasted by TV channels and recommended by the cabinet of Japan and nowadays introduced in local regions. Not only the daily living by the people but also the strategies for traveling and vaccination have been derived from the SWYC principle. However, it has been also found that seasonal weather changes affect the infection spread, and the results are interpreted as a mixture of the direct influence on viral flow and human activity, both relevant to the distances among people in and across communities. This shows the necessity to introduce a cocktail of strategies for the safety and prosperity of our society.



Yukio Ōsawa is a professor and the department chair of Systems Innovation in the School of Engineering at the University of Tokyo. He received BE, ME, and Ph.D. from the The University of Tokyo (1995). Then he worked for the School of Engineering Science at Osaka University (research associate, 1995-1999), Graduate School of Business Sciences at University of Tsukuba (research associate, 1999-2005), and moved back to The University of Tokyo in 2005. In the year 2000, he created a new domain, chance discovery, meaning to discover events that have a significant impact on decision making. He has given keynote talks at conferences and published books on the extensions of chance discovery, including the innovator's marketplace on data jackets.

## **IONOSPHERIC SEISMOLOGY: EVERYTHING YOU WISH TO KNOW ABOUT EARTHQUAKES, TSUNAMIS AND VOLCANIC EXPLOSIONS TAKING DISTANCE FROM THE EARTH**

Thanks to technological advances in the last decade, ionosphere has become a sensitive medium to various geophysical phenomena as earthquakes, tsunamis and volcanic explosions, revealing new possibilities to estimate the magnitude of the earthquakes, the explosivity of volcanos, as well as the oceanic uplift and the offshore oceanic displacement related to tsunamis. Those informations are useful to improve the estimation of the tsunami risk, and the confirmation of the tsunami amplitude off-shore. Ionosphere is the ionized part of our atmosphere, located at 300 km from the Earth surface, and sounded by satellites orbiting at 20 000 km from the Earth surface. Taking the distance from the problem we solved the problem, looking to it with different eyes. In this talk we present all those new ionospheric observations and we discuss, under the light of modelling, the potential role of Ionospheric Seismology in the future warning systems, in order to support and improve classic techniques to reduce disasters.



Giovanni Occhipinti, aka Ninto, graduates at the Università di Bologna, Italy; then he received his PhD at the Institut de Physique du Globe de Paris and the Office National d' Etudes et Recherches Aéronautiques. After post-doctorate studies at the Jet Propulsion Laboratory (NASA) and Seismological Laboratory (Caltech), he returned to France as faculty at the Université de Paris. Currently he conducts his research at the Institut de Physique du Globe de Paris in close cooperation with several institutes worldwide (USA, Switzerland, Japan, Italy, Singapore, etc...). Ninto devoted his research to the detection and modeling of Earthquakes, Tsunamis –and recently Volcanic Explosions– by ionospheric sounding as well as studies about ionospheric background based on tomographic methods. In 2016 he became junior member of the Institut Universitaire de France. In 2018 he introduced the Ionospheric Magnitude  $M_i$ . Ninto also plays a role in science divulgation as a weekly reporter on the radio (France Inter, NOVA, Radio Aligre). Ninto also contributes to public events connected to science and he develops many art-projects at the frontier between Art & Science. More info and publications @ [www.ipgp.fr/~ninto](http://www.ipgp.fr/~ninto)

# LAURA LIVERANI

Documentary Photographer, Prospekt Photo, Milan, ITALY

## LONGEVICITY PHOTO STUDIO

The photographic portrait, as an encounter between who looks and who is looked at, is inscribed within a relationship of power that is often nonsymmetrical, and can reaffirm stereotypical representations of the Other. Is it possible to reduce or efface the virtual distance between observer and observed, to achieve a collaborative/participatory mode of representation that is able to break stereotypes? Within this framework, Longevity Photo Studio - an ongoing photographic project portraying the senior community of the metropolitan city of Milan - will be presented. The project is part of the dissemination of "Longevity: Social Inclusion for the Elderly through Walkability," a multidisciplinary research by the University of Milano Bicocca, in partnership with the Politecnico di Milano, RCAST-The University of Tokyo, and Auser Lombardia.



Laura Liverani is a documentary photographer and lecturer based in Japan and Italy. Her work focuses on socio-anthropological issues and has been published and exhibited internationally. She has published in the Guardian, the Washington Post, and New Scientist. She has held exhibitions at the Singapore International Photo Festival, the Italian Cultural Institute in Tokyo, and the Japan Foundation in Sydney. She has been commissioned by Benetton, the Whitechapel Gallery, and Iperborea; for an Italian publisher she was assigned the photography for *The Passenger: Japan*, a monograph on Japanese culture and society. She has also lectured on photography at several universities, both in Italy and abroad. She is part of the photojournalism agency Prospekt Photographers.

# FRANCESCO ZURLO

Department of Design, Politecnico di Milano, ITALY

## DESIGNING SERVICES THAT TAKE CARE

Distance is the opposite of proximity. The future of cities will be related to proximity, enabled by the decentralization of services. Indeed proximity asks for local and collaborative services, helping local communities, and a taking care attitude. The presentation will show this trend and its related best practices.



Francesco Zurlo, PhD, is Full Professor at Design Department of Politecnico di Milano (Italy). He is Deputy Dean of the Design School and Head of the Course in Product Design (BA+MAS). He is Director of the Master in Design Strategy and System Innovation and Co-director of the Master in Strategic Design. Founder and Director of CI.Lab (a Politecnico's research lab focused in Creative Industries), he is in the board of ADI Index, the most important Italian Design Award.

# DISCUSSANTS

## ANDREA DE ANTONI

Graduate School of Human and Environmental Studies, Kyoto University, JAPAN



Andrea De Antoni is program-specific associate professor of socio-cultural anthropology at Kyoto University. He specializes in the anthropology of Japan and, more recently, has carried out ethnographic research also in Italy. His fields of research include the anthropology of space and place, death, outcaste discrimination, experiences with spirits, spirit possession, and spiritual healing in relation to biomedical practice, with a focus on perception and affect. He has published extensively on these topics both in English and Japanese. He is the author of *Going to Hell in Contemporary Japan: Feeling Landscapes of the Afterlife, Othering, Memory, and Materiality* (Routledge, forthcoming 2021), and has co-edited several books and special issues of academic journals. He is also the coordinator of the international research network “Skills of Feeling with the World: Anthropological Research on the Senses, Affect and Materiality,” based at Kyoto University.

## PAOLA CAVALIERE

School of Human Sciences, Osaka University, JAPAN



Paola Cavaliere is an associate professor of Japanese studies at the School of Human Sciences, Osaka University, and the Associate Director of the Human Sciences International Undergraduate Program. Her research interests are in the areas of gender in the context of disasters, religion, and civil society in Japan. She is currently investigating gender and religious dimensions of vulnerability and resilience through an analysis of women's roles in faith-based volunteer groups contributing to post-disaster activities. She holds a PhD in East Asian Studies from the University of Sheffield, and a PhD in Law from Tohoku University. She has published several works on a gendered approach to Japanese faith-based volunteering and is currently editing the *Handbook of Disaster Studies in Japan* (forthcoming 2022).

# STEERING COMMITTEE

## STEFANIA BANDINI

University of Milano-Bicocca, ITALY and RCAST – The University of Tokyo, JAPAN



Stefania Bandini is a full professor of computer science at the University of Milano-Bicocca and Fellow at the Research Center for Advanced Science and Technology (RCAST), The University of Tokyo. She is Director of the Complex Systems & Artificial Intelligence Research Center and of the Artificial Intelligence Lab of the Department of Informatics, Systems and Communication. She is also Director of the Milano-Bicocca Cini Node “Artificial Intelligence & Intelligent Systems”. Her research focuses on artificial intelligence and complex discrete dynamical systems. Since 2004 her research has focused on the field of crowds and pedestrians, in particular modeling and simulation to support crowd management. From 2009 she extended her research in the field of mobility in an ageing society. She co-chairs the working group “Ageing Society” for the Italian Association for Artificial Intelligence.

## SILVIO VITA

Kyoto University of Foreign Studies and the Italian School of East Asian Studies, JAPAN



Silvio Vita is a professor at Kyoto University of Foreign Studies, teaching courses on comparative cultural history, Japanese history, and Italian studies. Prior to 2012 he taught East Asian Religions and Intellectual History at the Università di Napoli “L’ Orientale” and the Sapienza Università di Roma. He was appointed Director of the Italian School of East Asian Studies in Kyoto for two terms (2001–2005; 2008–2012). He has worked on Chinese and Japanese Buddhism, and edited volumes I and II of *Buddhist Asia*, before turning to the cultural history of modern and early modern Japan. Recently, he has been researching the Marega collection in the Vatican Library within the frame of a project by the National Institutes for the Humanities of Japan.