

コミュニティ・セントリック・システム 特別講演会

題目 : Applications of Socially Assistive Robots: As Companions for the Elderly and as Therapists for Children with Autism

講師 : Prof. Lundy Lewis

所属 : Southern New Hampshire University, USA

- ・日時 : 2015年10月7日(水) 9:30-10:30 (予定)
- ・場所 : 首都大学東京 日野キャンパス 1号館 会議室2, 3
- ・参加費 : 無料
- ・言語 : 英語
- ・主催 : 首都大学東京コミュニティ・セントリック・システム研究センター

概要 : Society is expected to be quite different within the next few decades with the advent of robots serving as workers, assistants, and social companions. My research focuses on socially assistive robots (SARs) – robots that assist individuals through forms of social interaction. An application of SARs is to engage children with Autistic Spectrum Disorder (ASD). The number of children with ASD has increased dramatically over the past few decades with no definitive explanation of the cause. In the US, approximately 1 in 68 children have some form of ASD. These children are quite interested in humanoid robots, and thus there is an opportunity to use this interest as a basis to develop a variety of social skills and then to transfer the newly learned social skills to human interaction. Challenges of this research include robot design, interactive design, and collaborative work among participants with different methods and backgrounds, including computer scientists, roboticists, clinical psychologists, parents, and educators. A second application of SARs is elderly care. Due to advances in healthcare and birthing trends, there is expected to be a large number of elderly patients but fewer caregivers, thus reducing the amount of time that caregivers can spend with individual patients beyond the provision of essential services. The goal is to have the SAR converse and reminisce with the elder person, thus contributing to the patient's quality of life. The SAR may also remind the patient of events such as medicine-taking. The challenges of this research are similar but involve gerontologists, nurses, and family. This presentation examines these challenges from a systemic point of view – a view in which the robot is considered a single entity among a system of entities, where fluctuations in each entity may affect other entities and produce emerging properties of the system as a whole.

Lundy Lewis 先生の略歴: Lundy Lewis is a Professor of Computer Information Technology and the Papoutsy Distinguished Chair in Ethics and Social Responsibility at Southern New Hampshire University in the USA. He studies the use of socially assistive robots in practical applications that achieve some social good. Dr. Lewis has administered and studied robot therapy for children with autism spectrum disorder and has experimented with the perceptions of older persons toward socially assistive robots. He works with multi-disciplinary teams that include medical doctors, nurses, special education teachers, speech pathologists, psychologists, sociologists, and philosophers. Examples of recent publications include “Avatars and Robots as Social Companions in Healthcare: Requirements, Engineering, Adoption, and Ethics” in the International Journal of Enterprise Information Systems (2014) and “Could Robots Become Authentic Companions in Nursing Care?” in the Journal of Nursing Philosophy Special Issue on Health, Technology and Evidence-Based Practice (2015).

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Seminar Announcement

Community Centric Systems Research Center

Title: Applications of Socially Assistive Robots: As Companions for the Elderly and as Therapists for Children with Autism

Speaker: Prof. Lundy Lewis

Affiliation: Southern New Hampshire University, USA

- **Date:** 9:30-10:30, October 7, 2017
- **Place:** Hino Campus, Building 1, Meeting Room 2, 3
- **Language:** English
- **Participation Fee:** Free
- **Organized by:** Community-Centric System Research Center

Abstract: Society is expected to be quite different within the next few decades with the advent of robots serving as workers, assistants, and social companions. My research focuses on socially assistive robots (SARs) – robots that assist individuals through forms of social interaction. An application of SARs is to engage children with Autistic Spectrum Disorder (ASD). The number of children with ASD has increased dramatically over the past few decades with no definitive explanation of the cause. In the US, approximately 1 in 68 children have some form of ASD. These children are quite interested in humanoid robots, and thus there is an opportunity to use this interest as a basis to develop a variety of social skills and then to transfer the newly learned social skills to human interaction. Challenges of this research include robot design, interactive design, and collaborative work among participants with different methods and backgrounds, including computer scientists, roboticists, clinical psychologists, parents, and educators. A second application of SARs is elderly care. Due to advances in healthcare and birthing trends, there is expected to be a large number of elderly patients but fewer caregivers, thus reducing the amount of time that caregivers can spend with individual patients beyond the provision of essential services. The goal is to have the SAR converse and reminisce with the elder person, thus contributing to the patient's quality of life. The SAR may also remind the patient of events such as medicine-taking. The challenges of this research are similar but involve gerontologists, nurses, and family. This presentation examines these challenges from a systemic point of view – a view in which the robot is considered a single entity among a system of entities, where fluctuations in each entity may affect other entities and produce emerging properties of the system as a whole.

Brief Bio of Lundy Lewis, PhD: Lundy Lewis is a Professor of Computer Information Technology and the Papoutsy Distinguished Chair in Ethics and Social Responsibility at Southern New Hampshire University in the USA. He studies the use of socially assistive robots in practical applications that achieve some social good. Dr. Lewis has administered and studied robot therapy for children with autism spectrum disorder and has experimented with the perceptions of older persons toward socially assistive robots. He works with multi-disciplinary teams that include medical doctors, nurses, special education teachers, speech pathologists, psychologists, sociologists, and philosophers. Examples of recent publications include "Avatars and Robots as Social Companions in Healthcare: Requirements, Engineering, Adoption, and Ethics" in the International Journal of Enterprise Information Systems (2014) and "Could Robots Become Authentic Companions in Nursing Care?" in the Journal of Nursing Philosophy Special Issue on Health, Technology and Evidence-Based Practice (2015).

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