

**Dr Angela Faragasso**

Project Assistant Professor

Service Robotics Laboratory, Department of Precision Engineering, The University of Tokyo.

My research interests include the design and creation of new bio-inspired visual-based sensing technologies for assistive-medical robotics, robotic manipulation and autonomous navigation.

Current Work:		
Project Assistant Professor	Service Robotics Lab, Department of Precision Engineering, Graduate School of Engineering, The University of Tokyo, Tokyo, Japan. PI: Prof. Asama Hajime	4/2019 – Present
Academic qualifications:		
<b>PhD in Robotics</b>	King's College London Thesis title: <i>Vision-based Sensing Mechanism for Soft Tissue Stiffness Estimation</i>	14/11/2012 – 28/06/2016
<b>Master in Artificial Intelligence and Robotics</b>	La Sapienza, University of Rome (including eight months abroad periods at the Texas A&M) Thesis title: <i>Vision Control For Humanoid Navigation in Office-Like Environments</i>	1/1/2010 – 26/07/2012
<b>Bachelor in Computer Science Engineering</b>	La Sapienza, University of Rome Thesis title: <i>Online Applications to compile evaluations boards about Courses and the Teachers</i>	22/09/2006 – 18/11/2009
Previous Work:		
Post-doctoral research fellow	Service Robotics Lab, Department of Precision Engineering, Graduate School of Engineering, The University of Tokyo, Tokyo, Japan. Project Title: Vision-based sensing mechanism for assistive and rescue robots. PIs: Prof. Asama Hajime	11/2018 – 3/2019
JSPS post-doctoral research fellow	Service Robotics Lab, Department of Precision Engineering, Graduate School of Engineering, The University of Tokyo, Tokyo, Japan. Project Title: Vision-based sensing mechanism for assistive and rescue robots. PIs: Prof. Asama Hajime	11/2016 – 10/2018
Research Associate	Centre for Robotics Research, Dept. of Informatics, KCL, UK Project Title: Motion PIs: Prof. Thrishantha Nanayakkara	6/2016 – 10/2016
Research Associate	Centre for Robotics Research, Dept. of Informatics, KCL, UK Project Title: FourbyThree PIs: Prof. Kaspar Althoefer	01/2016 – 06/2016
Lead Robotics Advisor	Richer Education Exhibition Road, London, UK SW7 2AZ	09/2015 – 10/2016
Assistant Exam Support	Dept. of Informatics, KCL, UK Teaching support to a visually impaired undergraduate student in Computer Science with Robotics	04/2014 – 08/2016
Teaching Assistant	Dept. of Informatics, KCL, UK First Order Logic, Robotics System, Data Structures, Computer System, AI, Foundations of Computing, Elementary Logic with Applications, Sensor and Actuators, Real Time Systems and Control	01/2013 – 7/2016
Grants & awards:		

Grants-in-Aid for Research Activity Start-up (2.2 million yen)	2019
Grants-in-Aid for Scientific Research (2.3 million yen)	2016
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	2018
<b>Fellowship:</b>	
Japan Society for the Promotion of Science (JSPS) Postdoctoral Fellowship for Overseas Researchers (Standard)	2016
<b>Award:</b>	
CRAS best poster award “Clip-on stiffness sensor for endoscopic cameras retrieving sense of touch in minimally invasive intervention”.	2016
<b>Scholarships:</b>	
RosConf Diversity Scholarship	2016
PhD Scholarship EU FP7 project STIFF-FLOP: “STIFFness controllable Flexible and Learnable manipulator for surgical Operations”	2012
Engineering and Physical Sciences Research Council Award (EPSRC)	2012/2015
Scholarships for mobility to Texas A&M University	2010

#### Conferencing & research review roles:

Session Chair for:

- Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC 2018),
- IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS 2018),
- International Symposium on System Integration (SII 2017).

Organiser of the Workshop

Human-Aiding Robotics: open issues and future direction (IROS 2018).

Member of the Award Committee for:

- International Symposium on System Integration (SII 2017).

Reviewer for:

- IEEE Transactions on Robotics (TRO),
- IEEE Transactions on Instrumentation & Measurement,
- Robotics and Computer Integrated Manufacturing,
- Journal of Intelligent and Robotic Systems,
- IEEE Robotics and Automation Letters (RA-L),
- IEEE International Conference on Robotics and Automation (ICRA),
- IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS),
- Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC),
- Hamlyn Symposium on Medical Robotics,
- International Conference on Ubiquitous Robots and Ambient Intelligence (URAI),
- International Journal of Biosensors & Bioelectronics,
- Workshop on New Technologies for Computer/Robot Assisted Surgery (CRAS),
- Robotics Science and System (RSS),
- International Symposium on System Integration (SII),
- IEEE Sensors,
- Robotics and Autonomous Systems (ELSEVIER),
- Soft Robotics (SoRo),
- Sensors MDPI.

Invited contributions:

Lectures:

Course: Fundamentals of Robotics A	Wheeled Mobile Robots: Kinematics	Waseda University, Tokyo	22/1/19
Course: Fundamentals of Robotics B	Visual Servoing	Waseda University, Tokyo	1/7/19
Course: Cooperative Systems	Vision-based Sensing	The University of Tokyo	31/8/18
<b>Invited talks:</b>			
Seminar @ La Sapienza, University of Rome	Toward Reproducible Research: Benchmarking and Verification in Medical and Remote-Controlled Rescue Robotics	Rome, Italy	16/12/19
Seminar @Nankai University	Remote Technology for Decommissioning and Its Expansion to Other Application	Tianjin, China	5/12/19
IROS Workshop on Reproducibility of Research, Benchmarking and Verification of Autonomous Robotic Systems	Reproducibility of Research, Benchmarking and Verification in Medical Robotic	Macau, China	4/11/19

#### Competences, training & skills:

- **Continuous participation** in training courses to enhance my **intellectual abilities** and **techniques** to do research and teaching, personal effectiveness, research governance/organisation, and my engagement skills to work with others. Moreover, I have been involved in the organisation of different open days to enhance the interest of young generation in Robotics.
- Attendance of **training course**: “Matlab Robotics Toolbox”, “ROSCONF2016”, “LabVIEW”.
- IT Skills:
  - Programming Language: Robot Operating System (ROS), C/C++, Python, Java, SQL, Assembly, Lisp, Cobol, Android, Prolog.
  - CAD Software: SolidWorks, Abaqus FEA, Illustrator.
  - Operating System: Windows, Linux, MacOS.
  - IDE: OpenCV, OpenGL, LabView, RoboRealm.
  - Robot simulation environments: Rviz, Simulink, SOFA framework (Simulation Open Framework Architecture), Webots, Simulink.
  - Microsoft Office, LaTeX, Adobe Products, Beamer.
- Language Skills: Italian, English, basic Japanese.
- Artistic and other competences and interests: music, travelling, fitness, politics/news.

#### Brief description of my roles at the University of Tokyo:

- Post-doctoral research fellow in the Service Robotics Lab, Department of Precision Engineering, Graduate School of Engineering, The University of Tokyo.
- Exploration of novel visual-based technologies for search and rescue robots.
- Staff member of the **ImPACT**: Impulsing Paradigm Change through Disruptive Technologies Program.
- Supervision of international student for the **RoboCup@Home**.
- Supervision of PhD student in “**Mobile Robot Fault Detection combining different localization method**”.
- Supervision of a Master student in “**Iterative Energy Shaping of Port-Hamiltonian Systems**”.
- Supervision of international student in “**Visual-based navigation for small sized humanoid robot**”.

#### Brief description of my roles at King’s College London:

- Research Associate within the **EU FP7 project**.
- PhD scholarship students within the **EU FP7 project STIFF-FLOP** responsible for hard- and software integration of **embedded sensors** into a **medical soft manipulator** in ROS (Robot Operating System).
- **Advisor/mentor** of **BSc and MSc and PhD** at King's CoRe.
- **Teaching Assistant** for undergraduate/postgraduate courses giving lectures/tutorials/lab demonstrations: **Robotic Systems, Distributed Systems, Real Time System, Foundations of Computing, Elementary Logic with Applications, Adaptive and Robotics Systems, Programming Practice, Computer Systems, Artificial Intelligence.**
- Lecturer/mentor for post-16 students from **under-represented groups** teaching "Mobile robots" (Hands-on lectures using the Khepera mobile robot), K+ **widening participation**.
- Lecturer/mentor in Robotics Open Day, Robotics Competition and Maths School Club teaching "Mobile robots" (Hands-on lectures using the Lego Mindstorm/ev3 mobile robot).
- Co-organiser of **invited STIFF-FLOP demonstrations** at the **Science Museum**, the **SCHUNK Expert Days** & the **British Science Festival**.