

Title of Email: Call for Papers: IEEE/RSJ IROS 2023 Workshop “Robotics for the Gut”, Oct. 1st, Detroit, USA

Dear Colleagues,

We are delighted to invite you to the full-day workshop “Robotics for the Gut” at IEEE/RSJ IROS 2023 on October 1st in Detroit, USA.

For details: <https://seat-research.massey.ac.nz/iros2023ws/>

When & Where: Sunday, October 1 (full day), IROS 2023, Detroit, USA.

Abstract:

Robotic systems for treatment and diagnosis of the gastrointestinal tract have attracted increasing attention in the last two decades. Miniaturization of mechanical and electronic components has enabled researchers to develop functional capsules with robotic capabilities including locomotion, delivery, and collection of samples. Numerous applications, such as drug delivery, tissue biopsy, and detection of gut related diseases, have been realised in vivo. In addition to further development of novel platforms, this research area is now at the point where it faces the challenges of transforming exceptional research prototypes into robust and marketable products. Researchers must call on a number of technical domains to address the challenges in this field including locomotion, localisation, actuation, sensing, manufacturing, and instrumentation. This workshop aims to bring researchers together from across the international community to present an overview of the application domains of gut related robotics, and the challenges that should be addressed for realization of these systems. Presentations of both recognized research teams (academia and industry) and highly promising early-career researchers will help to advance the state-of-the-art scientific results in the direction of marketable products.

Speakers:

1. Giovanni Traverso, Massachusetts Institute of Technology, USA.
2. Rahim Rahimi, Purdue University, USA.
3. Mouna Ben Salem, Université De Technologie De Compiègne, France.
4. Torrey Smith, Endiatx, USA.
5. Agostino Stili, University College London, UK.
6. Andrea Cherubini, Cosmo Pharmaceuticals, Ireland.
7. Eric Diller, University of Toronto, Canada.
8. Ebu Avci, Massey University, New Zealand.
9. David Thomas, Massey University, New Zealand.
10. Pietro Valdastrì, University of Leeds, UK.
11. Mark Rentschler, University of Colorado Boulder, USA.
12. Yang Liu, University of Exeter, UK.

Call for Contributions:

We encourage two types of submissions: short papers and extended abstracts. Short papers should be up to 4 pages in length, including references, while extended abstracts should not exceed 2 pages,

including references. All submissions must be in PDF format and adhere to [the IROS conference paper template](#). Please submit your paper via the Google Form:

<https://forms.gle/89HQg4SyR6AaZ8Vi9>

All submissions will be peer-reviewed and accepted papers will have the opportunity to be presented as posters, with a selection of papers also being chosen for spotlight talks.

To acknowledge and celebrate outstanding research, we are pleased to announce that cash prizes will be awarded to the best submissions. Contributed papers will be made available on the workshop's website. It is important to note that this publication on the website does not constitute an archival publication, and no formal workshop proceedings will be published. Consequently, contributors are free to pursue the publication of their work in archival journals or conferences.

Important Dates:

- Submissions open: Monday, 17th of July 2023
- Submission deadline: Monday 14th of August 2023
- Acceptance notification: Monday 28th of August 2023
- Final version due: Monday 18th of September 2023

Topics of Interest:

- Robotic capsules, smart capsules, wireless and tethered tools for gut
- Locomotion, localisation, actuation and sensing
- Manufacturing, miniaturisation
- Drug delivery, biopsy, sampling, imaging
- Diagnostic, monitoring, intervention

Organisers:

Ebubekir Avci, Massey University, New Zealand

Nicholas Carlisle, Massey University, New Zealand

Eric Diller, University of Toronto, Canada

Daniel Sieben, University of Toronto, Canada

Pietro Valdastri, University of Leeds , UK

Nikita Greenidge, University of Leeds , UK

Kind regards,

Ebu Avci on behalf of the organizing committee.

E.Avci@massey.ac.nz