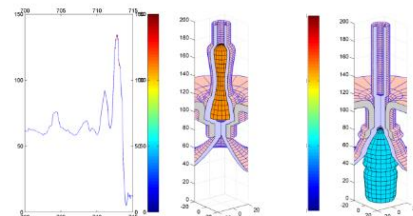
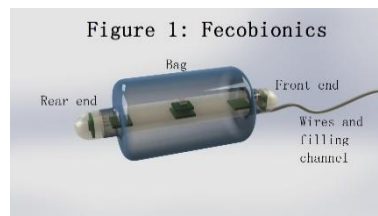


# Projects for Postgraduate Students

## Research Topic 1: Evaluation of defecatory function using a new Bionics device

Defecation is a complex neuromuscular process that may easily get disturbed, resulting in chronic constipation, dyssynergic defecation or fecal incontinence. Several projects will be conducted with a new device that measures pressures, geometric changes, bending and the trajectory during the expulsion. Projects will be conducted in healthy volunteers and in selected patient groups.



## Research Topic 2: Testing of a new intragastric weight reducing concept

Obesity has reached epidemic proportions Worldwide and is a major cause of diabetes and cardiovascular disease causing reduced life quality and death. There is a huge interest in development of new obesity treatments. Current obesity treatments are bariatric surgery, endoscopic procedures, medical treatment and various diets. Endoscopic treatment includes placement of balloons inside the stomach for extended periods to make the person eat less. However, the intragastric balloons seems to have limited weight-reducing effects due to the static nature of the device. The project aims to test a new concept where the subject swallows capsules with biological materials such as dried black fungus that will expand in the stomach. The duration the expanded capsules will stay in the stomach before breakdown can be controlled by using different materials for the expanding material and for the embracing membrane. Hence, the filling volume in the stomach can be varied which is believed to induce a better effect compared to the balloons with as static volume. The first experiments will be done in pigs.



## Additional information about the GIOME Research Center:

The GIOME is an interdisciplinary multiscale effort to gain new insight in the function of the gastrointestinal tract. The term comes from GI (the organ) and -ome (as a whole). It describes the physiological dynamics of the normal GI tract with applications to GI diseases. The two primary GIOME facilities are in the Department of Surgery, Prince of Wales Hospital in Hong Kong and in the Clinical Institute at Aarhus University Hospital in Denmark.

Interested candidates please send your CV and a brief research interest statement to [postgrad@surgery.cuhk.edu.hk](mailto:postgrad@surgery.cuhk.edu.hk) for consideration. Applications are open year round.

## Publications:

1. Gregersen H, Christensen J. Clinical Mechanics in the Gut. Bentham Science Publ. ISBN 978-1-68108-119-9
2. Farmer AD, Franchina M, Gregersen H, Penagini R, Shaker A, Soffer E. Provocative testing of the esophagus and its future. Ann N Y Acad Sci. 2016 Jun 16. [Epub ahead of print]
3. Lottrup C, Gregersen H et al. Functional lumen imaging of the gastrointestinal tract. J Gastroenterol 2015;50:1005-16.