

# **TRANSDISCIPLINARY RESEARCH PROPOSAL**

## **Intelligent Endoscopy or “I-SCOPE”: The Future of Endoscopy**

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Suggested team members:

1. Engineers
2. Software programmers
3. Endoscopy manufacturers eg Olympus, Fujinon
4. Doctors

### **Objectives**

1. To create an intelligent endoscopic system (I-Scope) with enhanced functions including directing and suggesting endoscopic treatment, navigation and voice automated report generation
2. To create intelligent endoscopic ultrasound system (I-EUS) with 3D or 4D configurations and enhanced diagnostic functions
3. To test the usefulness of I-Scope and I-EUS in normal subjects
4. To test the effectiveness of I-Scope and I-EUS in symptomatic patients, gastro-intestinal bleeding, disease staging etc

### **Methodology**

A brainstorming session will be conducted with engineers, software programmers and doctors to discuss on the creation of I-Scope and the preparation of prototype. Then we will invite the endoscopy manufacturers to discuss on the feasibility of manufacturing the endoscopic system prototype.

The prototype endoscopic system will be tested in normal subjects after informed consent by doctors. Subsequently the system will be tested in symptomatic subjects in clinical trial setting.

### **Expected Outcome**

We expect the creation of a future intelligent endoscopic system with less reliance on doctors and improved diagnostic functions. We expect endoscopy services will increase tremendously in volume around the world but limited trained doctors. Therefore the availability of an intelligent system will enable more less trained doctors to use the system in a wider scale.