


## Requests for Collaboration

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| <p><b>Research Interests</b></p>  |   |
| <ul style="list-style-type: none"> <li>● Measurement of digestive tract function</li> <li>● Endoscopic technology</li> <li>● Wearable vital signs sensor</li> </ul>   |   |
| <p><b>Creative Achievements in The Application of New and Existing Science and Technology</b></p>   |   |
| <p>(1) For assessing the gastrointestinal motility, we have try to construct a system to measure contraction wave and volume using compound-eye type endoscope. The amplitude and speed of contraction wave is used for the assessment of peristalsis, and the volume of gastrointestinal tract is used for the assessment of contraction / relaxation of tract. We constructed an algorithm to measure contraction wave and volume in three dimensions, taking into account changes in the tip position of the endoscope.</p> <p>(2) To realize the vital sign monitoring system that can measure with only wearing, we have developed the textile sensor. We designed the textile circuit using conductive fibers to estimate blood pressure.</p>   |   |
| <p><b>Technology (Product, Process, Device, Service etc.) That I Want to Request for Collaboration</b></p>  |   |
| <ul style="list-style-type: none"> <li>● Wearable sensors</li> <li>● Endoscopic technologies</li> </ul>   |   |
| <p><b>A List of 5 Key Publications</b></p>  |   |
| <p>[1] <u>Kayo Yoshimoto</u>, Kenji Yamada, Kenji Watabe, et al., Gastric Contraction Imaging System Using a 3-D Endoscope, IEEE Journal of Translational Engineering in Health and Medicine, vol.2, no.1, pp.1-8, 2014.</p> <p>[2] <u>Kayo Yoshimoto</u>, Hideya Takahashi, Kenji Yamada, Shigeto Yoshida, "A method of wavelength selection of multispectral image for the separation of tumor region", Genetic and Evolutionary Computing, Advances in Intelligent Systems and Computing 387, pp.199-208 2016.</p> <p>[3] Hieyong Jeong, <u>Kayo Yoshimoto</u>, Tianyi Wang, Takafumi Ohno, Kenji Yamada, Michiko Kido, Yuko Ohno, "Continuous non-invasive blood pressure during continuous repositioning by pulse transit time", Cogent Engineering, vol. 3, no. 1, pp. 1–17, 2016.</p> <p>[4] <u>Kayo Yoshimoto</u>, Hideya Takahashi, Kenji Yamada, "A fundamental study on vessel depth estimation based on refocusing using light field imaging," International Journal of Applied Biomedical Engineering, vol. 9, no. 1, pp. 1–6, 2016.</p> <p>[5] <u>Kayo Yoshimoto</u>, Katsuhisa Tanaka, Hideya Takahashi, and Atsuji Masuda, "Development of pulse wave sensing textile using conductive fiber," Journal of Fiber Science and Technology, vol. 73, no.11, pp.294-299, 2017.</p> |   |