

## 2024年度 交流助成 成果報告（海外派遣）

2024 年 8 月 5 日

大阪大学大学院 工学研究科 物理学系専攻

XI HEQI



会議等名称

XXVIII International Conference on Raman Spectroscopy

開催地 Rome, Italy

期 日 2024/07/28 - 2024/08/02

### 1) 会議（研究会）の概要

The International Conference on Raman Spectroscopy (ICORS), first held in 1969, is one of the most famous conferences in the Raman field. This year, the XXVIII ICORS is held at Sapienza University of Rome, Rome, Italy. It aims to gather researchers from across diverse academic disciplines to discuss the latest advancements and novel discoveries in Raman spectroscopy. ICORS offers a forum for interdisciplinary discussion and promotes the application of the Raman technique in other fields, such as biology, pharmacy, material science, and semiconductor science. Moreover, this conference also cultivates a global network of researchers, facilitating potential international collaborations. The attendees of ICORS always range from the principal scientists to junior researchers and graduate students, which offers young people invaluable opportunities to obtain experience and insights from the leading scientists. Through this dynamic exchange of ideas, ICORS drives Raman spectroscopy forward continuously.

### 2) 会議（研究会）で発表した研究テーマとその討論内容

I gave a poster presentation at the conference and the title is “*Evaluation of Osteogenic Differentiation Using Extended-focus Raman Imaging*”. In this study, I focused on non-invasive screening of the proper periodontal ligament stem cells (PDLSCs) populations for periodontal tissue regeneration. An extended-focus Raman imaging method was proposed to further shorten the imaging time. Through this method, the averaged Raman spectra were collected from different PDLSC populations at different time points in the osteogenic differentiation process. Subsequently, I compared the obtained spectra and analyzed the attribution of the

discrepancy of the different cell populations. Finally, through conventional biochemical methods, I validated the result of Raman spectral analysis.

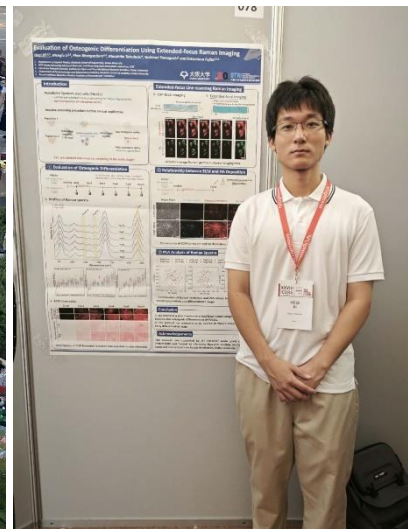
- 3) 出席した成果（ご自身の研究のみならず、他の研究者との交流を通じて得たものがあれば具体的に報告して下さい。）

One of the important purposes of participating in this conference is to display my recent research progress and listen to the questions and comments from other researchers. Through questions from other researchers, I could realize the points that could be further improved in my current research story and experimental design. And I could acquire new insights and ideas from direct discussion and communication with other scientists. Moreover, I could practice my presentation skills, which is very important in my future academic career.

Another important purpose is that I could listen to top-level scientists' presentations and have discussions with the companies directly. Through this, I could understand the needs of today's society and industry, as well as the hot technological development directions, which can help me adjust my research content timely.

- 4) その他

I would like to thank the Nakatani Foundation for generously funding my trip to Italy. This is my first time participating in an international conference and it has become a very good experience for me, which can be a motivation to keep me in academia after graduation.



Upper: The main gate of Sapienza University of Rome where the conference was held.

Lower left: The welcome cocktail event on the first day of the conference.

Lower right: My poster presentation at the conference.