

名古屋大学 大学院情報学 研究科長 殿
To: Dean of Graduate School of Informatics, Nagoya University

研究報告書

RESEARCH REPORT

滞在期間における研究報告書を、添付のとおり提出いたします。
This is the cover page of my attached research report.

A. Cover Page

1. 被招へい研究者 所属・職・氏名 Lawrence Berkeley National Laboratory Applied Mathematics and Computational Research Division Staff scientist, Osni Marques
2. 受入研究者 所属・職・氏名 Information Technology Center / Graduate School of Informatics Professor, Takahiro Katagiri
3. 滞在中の研究テーマ Development of High-Performance Linear Algebra Kernels for Big Data Analysis
4. 滞在期間 Period of Visit 2021年 12月 02日 ~ 2021年 01月 31日 From (Year/Month/Day) To (Year/Month/Day)
5. 招へい教員の主な研究テーマ Algorithms for the solution of eigenvalue problems, software libraries and tools for the solution of computational problems, methodologies for improving the development of software libraries and applications, and parallel and scientific computing.
6. 招へい教員の個人ページなどへのリンク https://crd.lbl.gov/divisions/amcr/applied-mathematics-dept/scalable-solvers/members/staff-members/osni-marques

(注) 「研究報告書」には、被招へい研究者の研究活動や講義等の写真を添付してください。なお、「研究報告書」(セクションA, B, C)及び写真は Web サイト等で公開される場合があります。個々の写真の公開を拒否される場合は、その旨記載して下さい。

Please select pictures which were taken when the visitor conducted his/her research or provided a lecture, and attach it to in this report. We may later upload the reports (sections A, B, and C) and/or pictures on our Web site. If the visitor does not want to have the picture(s) posted on our Web site, please indicate so per picture



Shibaura Institute of Technology; Prof. Katsuhisa Ozaki.



University of Yamanashi; Prof. Tomohiro Suzuki.



Hokkaido University; Prof. Takeshi Fukaya

B. Research Activities (to be published at the Faculty Web Site)

1. 滞在中の共同研究テーマや(可能なら)成果の紹介

During the visit I had various discussions with Prof. Takahiro Katagiri, focusing on opportunities for exploring and comparing automatic tuning (AT) tools and methodologies for (to be defined) a set of kernels and algorithms of interest. This work will target the computer systems available at the Information Technology Center, Nagoya University. We also discussed the continuation of a series of events that we have co-organized in international conferences, on topics related to AT (e.g. through ML techniques), novel approaches for accuracy verification, and parallel iterative eigensolvers for very large problems. These topics are relevant to a large set of practical applications, including data analysis.

2. 滞在中に訪問した研究者

- Katsuhisa Ozaki, Shibaura Institute of Technology, Saitama
- Tomohiro Suzuki, University of Yamanashi, Kofu
- Takeshi Iwashita, Hokkaido University, Sapporo
- Takeshi Fukaya, Hokkaido University, Sapporo

3. 滞在中に参加したワークショップなど

- International Workshop on the Integration of (S+D+L): Toward Society 5.0 Virtual workshop, November 30 & December 3, virtual event organized by the Information Technology Center, The University of Tokyo. Invited Speaker; presentation “Revisiting Minimization Strategies for Solving Eigenvalue Problems.”
- HPC Asia 2022, January 12-14, virtual event organized by the Information Processing Society of Japan (IPSJ), RIKEN Center for Computational Science (R-CCS), and Kobe University. Roles: program co-chair for HPC Asia 2022; co-organizer of the workshop “Multi-scale, Multi-physics and Coupled Problems on Highly Parallel Systems.”

C. Life in Nagoya/Life in Japan (to be published at the Faculty Web Site)

観光/食/文化などなんでも。

名古屋あるいは日本に滞在して楽しかったことや印象に残ったことなど。

(Sightseeing, Food, Culture, etc. Please describe whatever you felt interesting or impressive during your stay in Nagoya and Japan.)

I greatly enjoy exploring Japanese cities by foot, and I walked several times from the Nagoya University to the Nagoya Station, taking different routes. One of the routes included a stop at the Atsuta Jingu, another at the Oosu Shopping District. These are lively places that I did not have the opportunity to visit in previous trips to Nagoya -- visiting a shrine during Shōgatsu was a remarkable experience! During my “expeditions” around the city, I enjoyed the shopping areas around Sakae and Nagoya Station, and one of my endeavors consisted in buying a Matsusaka beef steak (at Takashimaya) and preparing it myself on New Year’s Eve. A memorable moment during my stay was a trip to Mie, and a visit to the shrines in Ise. I felt humbled by the atmosphere, the details and care, and the dedication of those involved in building the shrines.

This was my thirteenth trip to Japan, and in each of my trips I have learned or seen things that marked me, not to mention that the Japanese hospitality has always been remarkable.