

Result of Investigation on Misconduct in Research Activities by MIYAZAKI Toshiaki, the Chairperson of the Board of Executives and President of the University of Aizu

1 Background to the investigation

March 4, 2022

MIYAZAKI Toshiaki, the Chairperson of the Board of Executives and President, self-reported that there were 12 papers suspected of self-plagiarism, and a preliminary investigation was started off.

April 19, 2022

Based on the result of the preliminary investigation, a decision was made to conduct a full investigation and an investigation committee was established.

<Note>

February 3, 2022

It was determined and announced that misconduct (self-plagiarism due to lack of citation of himself) was found in four papers; those four were not included in the papers subject to the current investigation.

2 Investigation

(1) Investigation Committee

Chairperson (External Member) DOI Miwako

Auditor of the National Institute of Information and Communications Technology

Vice-Chairperson (Internal Member) BEN ABDALLAH Abderazek

Regent of the University of Aizu Public University Corporation
(Dean of the School of Computer Science and Engineering)

Committee Member (Internal Member) PAIK Inchon

Chair of the Graduate Department of Computer and Information Systems

Committee Member (External Member) OZAWA Yoshihito

Professor Emeritus of Fukushima University

Committee Member (External Member) FUJIWARA Masami

Professor Emeritus of Nihon University

Committee Member (External Member) OCHIAI Hideya

Associate Professor of the Graduate School of Information Science and Technology, the University of Tokyo

Committee Member (External Member) KOIKE Tatsuya

Attorney at Law, Aizu KAKUJO Law Office

(2) Investigation period

From Monday, May 16, 2022 to Monday, February 13, 2023

Reinvestigation in response to the appeal:

From Friday, March 17, 2023 to Wednesday, April 26, 2023

(3) Papers subject to the investigation

To investigate whether there were any similar papers other than his self-reported papers, we investigated a total of 54 papers published by Professor* Toshiaki Miyazaki after he was hired by the University of Aizu in April 2005, which falling into the three categories below. *At the time of submission

- 1) Papers of which he was the first author
- 2) Papers for which he was the responsible author and one of his students was the first author respectively
- 3) Papers in which another researcher was the first author, but which are closely related to Professor Miyazaki's research theme

<Note>

Of the 12 papers he self-reported, the five papers published before his employment at the University of Aizu were excluded from the investigation since it was determined that it would

be too difficult to investigate into them as a result of consultation with the research institution he was affiliated with at that time of the submission. (The other 7 papers are included in the above 54 papers.)

3 Investigation Result

(1) Types of misconduct recognized

Double submission was found in four papers, and self-plagiarism was found in four papers.* In other than these above, no misconduct was found as a result of the investigation.

* Papers that are lacking citations from his own prior papers are identified as "self-plagiarism". Also, papers also lacking citations from his own prior papers and not found novelty in comparison with the prior papers are recognized as "double submission".

(2) Researcher involved in misconduct

Professor* MIYAZAKI Toshiaki *At the time of submission

As for the co-authors, it was determined that they were not involved in the misconduct in any of the papers after confirming their role assignments.

(3) Summary of the determination on each paper

1) Paper 1: "Double Submission"

Paper 1 was written solely by Professor Miyazaki and published in an academic journal in 2012.

This paper was analyzed in comparison with three papers that had been published at international conferences before the submission of Paper 1 as research achievements related to the "Diehard Sensor Network." As a result, it was not considered that this paper had the novelty as a new research result, and it was determined that this paper was identified as double submission of three papers previously published for the following reasons: 1) There were chapters identical to those in the three previous papers, but these three were not listed in the bibliography. 2) Two figures were additionally included as new research results in this paper. However, the explanation of those figures included nothing notable as something new and had supplemental roles only.

2) Paper 2: "Double Submission"

Paper 2 was written by Professor Miyazaki as the first author with five co-authors (all of them were students he supervised) and presented at an international conference in 2011. Its research theme was closely related to "Die Hard Sensor Network," on which presentation had been continuously made at international conferences. As a result of the analysis in comparison with a previous paper, it was determined that this paper was identified as double submission for the following reason: This paper merely was a scaled-down version of the previous paper, and no novelty was found in it.

Professor Miyazaki was its responsible author, and the other co-authors were not involved in the misconduct. As such, it was recognized that Professor Miyazaki was the only individual involved in the misconduct.

3) Paper 3: "Double Submission"

Paper 3 was written by Professor Miyazaki as the first author with five co-authors (all of them were students he supervised) and presented at an international conference in 2011. Its research theme was closely related to "Die Hard Sensor Network," on which presentations had been continuously made at international conferences before. As a result of the analysis in comparison with four previous papers, it was determined that this paper was identified as double submission for the following reason: The content of this paper was merely the combination of what was written in the four previous papers, and no novelty was found in it.

Professor Miyazaki was its responsible author, and the other co-authors were not involved in the misconduct. As such, it was recognized that Professor Miyazaki was the only individual involved in the misconduct.

4) Paper 4: "Double Submission"

Paper 4 was written by a master's student Professor Miyazaki supervised as the first

author and Professor Miyazaki as a co-author, and was presented at an international conference in 2008. As a result of the analysis in comparison with a paper previously published in 2007, it was determined that Paper 4 was identified as double submission for the following reason: This paper had little substantive difference in its entire contents from those of the previous paper, although difference could be found in some parts such as figures.

It was recognized that Professor Miyazaki was the only individual involved in the misconduct as the responsible author of the paper based on the result of confirmation of the roles of co-authors, despite the fact that one of his students was the first author.

5) Paper 5: "Self-Plagiarism"

Paper 5 was written by Prof. Miyazaki as the first author with seven co-authors and published in an academic journal in 2016. The research theme discussed in this paper was related to the "demand-driven sensor network," on which presentations had been continuously made at international conferences. As a result of analysis in comparison with two papers previously published, it was determined that this paper was identified as self-plagiarism due to lack of citations for the following reason: The two papers previously published were not properly cited in this paper, and the abstract and conclusion are almost same, and some figures and tables are same, but not listed in the reference, although something novel was recognized since research results which were new and different from the two previous papers were included.

Professor Miyazaki was its responsible author, and the other co-authors were not involved in the misconduct. As such, it was recognized that Professor Miyazaki was the only individual involved in the misconduct.

6) Paper 6: "Self-Plagiarism"

Paper 6 was written by Professor Miyazaki as the first author with five co-authors and presented at an international conference in 2015. The research theme discussed in this paper was related to the "demand-driven sensor network," on which presentations had been continuously made at international conferences. As a result of analysis in comparison with two papers previously published, it was determined that self-plagiarism due to lack of citations to the papers previously published was recognized in Paper 6 for the following reason: Multiple figures used in the two previous papers were reused in this paper without making proper citations to those papers, despite the fact that the paper had new contents.

Professor Miyazaki was its responsible author, and the other co-authors were not involved in the misconduct. As such, it was recognized that Professor Miyazaki was the only individual involved in the misconduct.

7) Paper 7 "Self-Plagiarism"

Paper 7 was written by Professor Miyazaki as the first author with six co-authors and presented at an international conference in 2014. As the research theme discussed in this paper was related to the "demand-driven sensor network," the paper was analyzed in comparison with a paper previously presented on this research theme at an international conference. As a result, it was determined that Paper 7 was identified as self-plagiarism due to lack of citations to the paper previously published was recognized in Paper 7 for the following reason: What was written in the paper previously published was not properly cited in this paper, despite the fact that this paper did have the novelty.

Professor Miyazaki was its responsible author, and the other co-authors were not involved in the misconduct. As such, it was recognized that Professor Miyazaki was the only individual involved in the misconduct.

8) Paper 8 "Self-Plagiarism"

Paper 8 was written by Professor Miyazaki as the first author with a co-author (a master's student he supervised) and presented at an international conference in 2010. As the research theme discussed in this paper was related to the "Die Hard Sensor Network," the paper was analyzed in comparison with a paper on this research theme previously presented. As a result, it was determined that Paper 8 was identified as self-plagiarism due to lack of citations to the paper previously published for the following

reason: Proper citations were not made in the paper and the paper previously published was not properly included in its bibliography, despite the fact that the novelty due to unique contributions was recognized.

Professor Miyazaki was its responsible author, and the co-author was not involved in the misconduct. As such, it was recognized that Professor Miyazaki was the only individual involved in the misconduct.

4 Appeal and Reinvestigation

February 14, 2023

The defendant was notified of the investigation results.

February 27, 2023

The defendant made an appeal against the investigation result demanding as follows:

- 1) The determination should be withdrawn as the determination of the five cases of double submission was unjust.
- 2) Corrections should be made to the expressions used for the recognition of two self-plagiarism cases in the report.
- 3) Corrections should be made to the expressions used regarding the process of the previous investigation in the report.

March 17, 2023

An Investigation Committee meeting was convoked to discuss how to handle the appeal and made the decisions as follows:

- 1) Out of the five cases demanded for withdrawal from the determination of double-submission, one case would be reinvestigated. However, reinvestigation into other four cases would be rejected.
- 2) The demand regarding the corrections to the expressions in the report would be accepted.

April 12, 2023

An Investigation Committee meeting was convoked to discuss for the reinvestigation. The committee counted a new finding and changed the recognition from double submission to self-plagiarism.

April 26, 2023

The investigation report was finalized in consideration of the reinvestigation result.

5 Measures to be taken by the University

We recommended that he withdraw the papers recognized as double submission on May 31, 2023. As for the papers recognized as self-plagiarism due to lack of citations, on the same day, we recommended to make corrections to them.

6 Causes of the misconduct

○ Double Submission and Self-Plagiarism

The investigation was made into a total of 54 papers written by Professor Miyazaki after the employment at the University of Aizu in April 2005, and double submission or self-plagiarism regarding a total of 12 papers was recognized: eight by the current investigation and four by the previous investigation.

In regard to the papers written on the development of systems, Professor Miyazaki thought that it did not constitute self-plagiarism to re-use the same sentences and figures used in his own papers previously published without citations to explain the common parts of the system in his new papers. He also thought that to some extent addition of contents different from previous papers to new papers without citations did not constitute double submission.

It is considered that there were the following factors:

- 1) He had the basic style of writing papers after obtaining patents. Once the filed patents are granted, the technology used in the patents become known publicly. As such, he believed that he should publicize the technology repeatedly by using the opportunity as means to publish papers.

- 2) He failed to check the paper submission rules including the manuals and policies of the publishers to which he submitted the papers.

Professor Miyazaki did not pay attention to the changes in the concept of research misconduct, such as the establishment of the Guidelines for the Prevention of Research Misconduct by the Ministry of Education, Culture, Sports, Science and Technology (MEXT) in 2006 and the revision of the same guidelines in 2014. He failed to check the submission rules, etc., which should be checked each time when submitting each paper. A multiple number of the papers he had submitted were identified as "double submissions" or "self-plagiarism" as a result. While stating that technology publicly known could be reused in the papers without citation, he did not specify which parts of the papers included the technology publicly known and did not mention the existence of the patents for them. A willful intention was not found in his way of writing the papers that it is impossible to tell where the novelty lies without comparing them with previous papers. However, it must be said that he significantly neglected the basic duty of care expected of a researcher.

* Handling of authorship of students under his supervision

In relation to the authorship of students under his supervision, he stated that he thought that data and research results of his students enrolled at the university belonged to him as they were under his supervision and not able to discuss with him on an equal footing. It was also confirmed that he submitted Paper 1 (recognized as double submission) as its single author merely with the name of the student mentioned in the acknowledgment due to the situation that it was difficult to contact them after their graduation.

As for the authorship of Paper 1, since there were no clear-cut rules regarding co-authorship for submission of papers at the university, the rules on co-authorship provided by the publisher to which the paper was submitted were checked and it was confirmed that the student did not fulfill the requirements for co-authorship. However, he may be considered as unthoughtful as he made the decision not to include the student as a co-author only because he was unable to contact them after graduating from the university. On the other hand, there were no such examples regarding the handling of authorship of students under his supervision in his other papers.

7 Preventive measures

The preventive measures established in response to the result of the previous investigation (announced in February of 2022) have been implemented in phases since April of 2022. The effectiveness of each of the measures will be verified and revisions will be made to the measures as necessary.

<< Preventive measures in response to the result of the previous investigation >>

- Revision of the University Regulations on the Prevention of Impropriety Concerning Research Activities
Providing provisions to categorize misconduct other than fabrication, falsification and plagiarism, such as self-plagiarism and double submission in concrete terms, and adding the provisions to ensure the effectiveness of research ethics education.
- Enhancement of research ethics education
Providing research ethics education so that researchers (including students) will be able to have a clear understanding of what is included in misconduct. In addition, constructing a system to enable more careful checking among co-authors, the introduction of a plagiarism checking tool at the time of submission of papers, for example.
- Sharing the most up-to-date information on research ethics within the university
Establishing a system to share most up-to-date information related to research ethics within the university, such as trends in the submission rules of publishers, examples of problems at the time of submission of papers, and practical examples of misconduct in research activities.