

March 31 2017  
Kyushu University

Results of the Investigation into Research Misconduct Occurring at  
the Kyushu University National University Corporation

We are publishing the results of this investigation because research misconduct has been admitted in 2 papers published by a former academic researcher at this university

**1. Summary**

(1) Details, timing, etc., of allegations

Allegations that misconduct had occurred in research were submitted by Faculty Member A on August 1 2016. On the same day these allegations were received, a preliminary survey and this investigation were launched based on the "Regulations Concerning Appropriate Research Activities at the Kyushu University National University Corporation."

The details, etc., of these allegations are as follows.

1) Details of allegations:

That fraud had occurred in 2 papers of which the defendant was first author.

2) Defendant

Former Kyushu University Graduate School of Engineering Academic Researcher  
Prasenjit Mahato

(2) Results of the investigation

The above defendant has admitted to falsifying research.

**2. Investigation**

(1) Investigative complement

1) Preliminary survey: 3 people

2) Investigation (Research Fraud Investigation Committee: 4 people (2 from the university, 2 from outside the university))

(2) Investigation background, methods, time-frame, etc.

The preliminary survey and investigation were carried out based on the "Regulations Concerning Appropriate Research Activities at the Kyushu University National University Corporation."

1) Time-frame of investigation: September 2016-February 2017

2) Investigation background, methods, etc.

- August 10 2016 Interview with defendant  
(Carried out because defendant's was returning to their country soon (8/16))
- September 15 2016 Execution of preliminary survey
- November 4 2016 Written investigative interview conducted with defendant and 3 co-authors (overseas residents).
- November 16 2016 (First) meeting of the Research Fraud Investigation Committee  
Matters relating to investigation confirmed, stakeholders (Coauthor and responsible author) interviewed, and conclusions obtained.

- December 21 2016 (Second) meeting of the Research Fraud Investigation Committee
- January 31 2017 (Third) meeting of the Research Fraud Investigation Committee
- February 23 2017 Meeting of the Appropriate Research Activity Promotion Committee

This case was concluded based on a comprehensive examination of the results provided by the Research Fraud Investigation Committee, evidence obtained through the investigation, the testimony of stakeholders, the defendant's own admission, etc.

### **3. Results of investigation**

( 1 ) Category of identified misconduct

Falsification

( 2 ) Researcher involved in misconduct

- Researcher who has been identified as being involved in misconduct

Full name	Affiliation and Occupation
Prasenjit Mahato	Former Kyushu University Graduate School of Engineering Academic Researcher

( 3 ) Articles in which identified misconduct occurred

1) Fast and long-range triplet exciton diffusion in metal-organic frameworks

for photon upconversion at ultralow excitation power

Prasenjit Mahato, Angelo Monguzzi, Nobuhiro Yanai, Teppei

Yamada ,and Nobuo Kimizuka

Nature Materials 14, 924-930 (2015)

2) Preorganized Chromophores Facilitate Triplet Energy Migration, Annihilation and Upconverted Singlet Energy Collection

Prasenjit Mahato, Nobuhiro Yanai, Melinda Sindoro, Steve Granick, and

Nobuo Kimizuka

Journal of the American Chemical Society, 2016, 138, 6541-6549

( 4 ) Reasons, time frame, etc., for suspicions of fraudulent acts and their confirmation

There was a discussion on July 26 2016 between Faculty Member B, another academic researcher belonging to the same laboratory, and the defendant regarding the research that Faculty Member B was conducting. During this discussion there was an opportunity to closely examine the text files created using raw data that the defendant had collected for the aforementioned 2 papers; Faculty Member B noticed their unnaturalness at this time and, suspecting the files had been modified, checked the raw data and then reported it to Faculty Member A, leading to this investigation.

( 5 ) Reason for judgment from investigation results

The reasons why the investigation identified fraudulent acts are as follows:

- The defendant admitted in the prior interview and the written interview that he had acted fraudulently, and further that he had acted alone.
- It was confirmed that the text files created from raw data, which were the source for the 2 allegedly fraudulent papers, had been modified.
- The defendant agreed to the retraction of the two allegedly fraudulent papers.

(6) Specific details of fraudulent acts

1) Means and methods of fraudulent acts

The acts were primarily carried out through means such as modifying text files that had been created based on raw data, using different samples and solvents, and aligning data integrity.

2) Data which has been confirmed as fraudulent (falsified)

Annex (Data marked with red in the paper found in the UK scientific journal Nature Materials and American chemistry journal Journal of the American Chemical Society)

3) Circumstances leading up to the disclosure and publication of the papers and the defendant's fraudulent acts (falsification).

As a result of the investigation, the circumstances leading up to the publication of the 2 papers and the defendant's fraudulent acts were as follows:

A) Publication of the paper in the UK scientific journal Nature Materials

- July 24 2014 The defendant submitted a paper with themselves as the lead author (Above 3.-(3-1)) to the UK scientific journal Nature Materials.
- December 19 2014 There was a report from a reviewer for said journal regarding this paper.
- March 20 2015 The first revision was submitted.
- May 2 2015 There was a second report from a reviewer.
- May 23 2015 The second revision was submitted.
- June 26 2015 Said paper was accepted.
- August 3 2015 The paper was published online.

It was learned through the investigation of an interview with the defendant and other related materials that it was under these circumstances a considerable amount of data obtained through fraudulent means was used in the submission of the first revision; data obtained through fraudulent means was later used to complete the paper in the same way.

B) Publication of the paper in the American chemistry journal Journal of the American Chemical Society

- February 14 2016 The defendant submitted a paper with themselves as the lead author (Above 3.-(3-1)) to the American chemistry journal Journal of the American Chemical Society
- March 30 2016 There was a report from a reviewer for said journal regarding this paper.
- May 2 2016 A revision was submitted.
- May 10 2016 Said paper was accepted and published online on the same day.

It was learned through the investigation of an interview with the defendant and other related materials that the paper published in the Journal of the American Chemical Society was based on the one published in the UK scientific journal, so the paper used data obtained through fraudulent acts from the beginning.

#### **4. Type and amount of expenses directly related to confirmed fraudulent acts and their use**

(1) Classification of competitive funds etc.: Japan Society for the Promotion of Science - International Collaborative Research Project

Use and breakdown: ¥197,733 (Paper submission fees: ¥153,252, English proofreading fee ¥44,481)

#### **5. Details of measures taken by Kyushu University to date**

At the first meeting of the investigative team on November 16 2016, we came to the conclusion that there was no question that fraudulent acts had clearly been carried out; At the conclusion of the meeting, the responsible author Faculty Member A was promptly recommended that they should begin retraction proceedings for the 2 papers in question and contact other authors who had already cited the papers to that effect.

(Information on the retraction was published to the website of the UK scientific journal Nature Materials on November 24 2016)

In addition, while the American chemistry journal Journal of the American Chemical Society has begun retraction proceedings, as of March 22 2017 a retraction has not been published.

#### **6. Factors causing fraudulent activities and measures to prevent recurrence**

(1) Factors Causing Misconduct

Regarding this occurrence of misconduct,

- 1) The experiment is difficult, and it takes a long period of research to confirm reproducibility
- 2) When the research data could not be reproduced, the deadline for the submission of revised manuscripts was drawing near, and so I wanted to come up with data even if it was impossible.
- 3) I was not able to fully complete the papers while doing research in Japan between 2012 and 2015, and I thought that if I returned to my home country (India) like that I would be unable to get a job or provide for my family.

A sense of being psychologically driven to the wall, caused by matters such as the above, is believed to be the cause of the defendant's fraudulent activities.

(2) Measures Preventing Recurrence

Following this incident, this university will take the following measures to prevent recurrence:

1) Measures to prevent recurrence in the given laboratory:

- Raw data is to be brought when discussing the writing of a paper.
  - Experiment notes are to be brought when discussing ordinary research.
- In this way a system of checks based on multiple names is created.

2) Measures to prevent recurrence throughout the university:

- Continual and regular work on the dissemination of recurrence prevention measures,

- reminders at executive level and education research council meetings, bringing it to the attention of faculty and staff by holding lectures, etc.
- In particular, responsible authors are to work even more diligently at checking matters such as experimental facts that are decisive in the acceptance or rejection of papers.

## 7. Other

( 1 ) Researchers who have been identified as being involved in fraudulent activities:

The disposition of such researchers will be considered within the university at a future date.

( 2 ) The responsibilities of responsible authors (Faculty Members A and B):

- Discussion on research was conducted on a regular basis, and the manuscript was reviewed and examined from its preparation and revision to its acceptance. Based on this, Faculty Member A, who is the head of the laboratory, has adequately carried out education and guidance, and fulfilled their responsibility as responsible author.
- The data falsified by the defendant was within the expected theoretical values and there was no unnaturalness.
- A manuscript revised twice in accordance with the reports of reviewers was submitted twice to the UK scientific journal Nature Materials, but in neither case did the expert reviewers express doubts about the falsified sections. Similarly, a manuscript edited in accordance with the report of a reviewer was submitted to the American chemistry journal Journal of the American Chemical Society, and again there were no doubts expressed about the falsified sections.

For the above reasons, we may presume that it would have been difficult for a responsible author to become aware of the misconduct even with normal attention.

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