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Office of Research Integrity

NEWSLETTER

The *ORI Newsletter* is published quarterly by the Office of Research Integrity, Office of the Secretary of Health and Human Services, and distributed to applicant or awardee institutions and PHS agencies to facilitate pursuit of a common interest in handling allegations of misconduct and promoting integrity in PHS-supported research. Please duplicate and circulate this newsletter freely. An electronic copy is available on the ORI home page.

IN THIS ISSUE

Authorship: What's in a Definition?

Ana Marusic, Croatian Medical Journal

Misuse of authorship on scientific papers is not considered misconduct, although most of the reported cases of authorship disputes involve falsification and/or fabrication of the contributions of the authors. Perhaps the reason for a less important place of authorship as a research integrity issue is the fact that there are no common definitions for authorship across scientific disciplines.

The area of authorship has been dominated by the biomedical field, and many journals have adopted the definition of the International Committee of Medical Journal Editors (ICMJE), which bases the authorship credit on A) (1) substantial contributions to conception and design, (2) acquisition of data, or (3) analysis and interpretation of data; B) (4) drafting the article or (5) revising it critically for important intellectual content; and C) (6) final approval of the version to be published. This definition identifies six contributions and their combination needed for authorship requirements: (1 OR 2 OR 3) AND (4 OR 5) AND 6. Since one can meet this criteria for authorship in six different ways (1+4+6: 2+4+6: 3+4+6, and so on) it is clear that different authors will use different standards and there is no real consistency.

Outside of the biomedical field, the Boolean logic for authorship contributions completely changes.

(See Authorship, page 5)

Publication Integrity Quantified

Harold "Skip" Garner, UT Southwestern Medical Center

"[My] major concern is that false data will lead to changes in surgical practice regarding procedures" was the response from one author whose plagiarized paper was found by the Déjà vu project (*http://spore.swmed.edu/dejavu*). This author correctly pointed out that, as researchers and clinicians, we are guided by the literature, and if it is corrupt the results can be disastrous, affecting clinical decisions or research and career directions.

The impact of publications that violate ethical norms goes further, resulting in tremendous misunderstandings; wasting the time and energy of publishers, editors, and reviewers; and skewing promotion decisions.

The Déjà vu project was launched to exploit new text analysis and comparison techniques to identify, document, and study potential problems within the biomedical literature, indeed any literature, starting with Medline. The goals of this ongoing project are to develop resources for the quantitative study of highly

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Director's Corner

A Major Case of Misconduct Involving Non-human Primates

John Dahlberg, Ph.D., Director, DIO, and Peter Albrecht, M.D., Ph.D., Medical Expert

Drs. Judith Thomas and Juan Contreras were found by the University of Alabama at Birmingham (UAB) and the Office of Research Integrity (ORI) to have committed scientific misconduct by publishing false claims in 16 publications and in two National Institutes of Health (NIH) progress reports on research grant applications, where monkeys were purported to have received bilateral nephrectomies when they only had a single kidney removed. The studies reported on a number of intervention strategies designed to minimize or eliminate rejection of kidneys donated by other monkeys.

The papers containing the false reporting were published from 1997 through 2005, and the progress reports for two NIH grants were submitted between 1999 and 2003. Although the Public Health Service policies on research misconduct specifies a six-year limitation period, there is a "look-back" provision that confers jurisdiction on earlier acts of misconduct if they continue to be cited. As these earlier papers were cited in the more recent NIH progress reports, ORI exercised jurisdiction over them.

Lengthy Exclusion Period

Both Dr. Thomas and Dr. Contreras settled their cases with ORI to avoid an appeal before a Health and Human Services administrative law judge. Dr. Thomas agreed to exclude herself from applying for or receiving any Federal funds for 10 years, and Dr. Contreras agreed to a period of three years. All ORI findings include voluntary exclusion from serving in any capacity as an advisor on Public Health Service activities such as review groups. Dr. Thomas had served on the Board of Scientific Counselors of the National Institute of Allergy and Infectious Diseases of NIH.

Both Dr. Thomas and Dr. Contreras resigned from UAB.

Millions in Misspent NIH Funds

The consequences of research misconduct of the scope and significance of these cases is largely incalculable. What is clear, however, is that the direct costs provided by NIH to support the Thomas Laboratory were more than $20 million. Not precisely calculated, but certainly very substantial, are the funds and human resources devoted by UAB to investigate this complex case, and the additional resources required by ORI to conduct a thorough and objective oversight review. What is less easy to assess, but what is clearly a costly outcome of the research misconduct, are the costs to the careers and reputations of the collaborating scientists and physicians who also participated in this research program. The false claims in the 16 publications that have been retracted certainly have inappropriately affected the research of other laboratories. Last, cases of this significance continue to erode public confidence in the integrity of science.

Incidences of ORI Cases Involving Falsified Images

John Krueger, Scientist-Investigator, ORI

For almost 10 years the Division of Investigative Oversight (DIO) has been tracking the number of allegations involving questioned images that might be falsified or fabricated and that have been formally opened as cases by ORI, and its predecessor Office of Scientific Integrity, starting in 1989.[1] The latest compilation finds that incidence of these allegations continues to increase unabated (Figure 1). In the last reporting period, 2007-08, 68% of the cases opened by ORI involved image data.[2] ("Image" generally connotes a "picture," but here it can also include instrumentation recordings [traces], scatter plots of data, i.e., any graphical representation where data has been potentially altered by photo-editing software and/or other digital means.)

Significantly, this trend reflects only those allegations that require formal action by ORI, a status that requires credible evidence for (1) falsification or fabrication of data under the definition of research misconduct at 42

(See Incidences, page 3)

ORI Updates

Incidences *(from page 2)*

CFR 93.103, and (2) jurisdiction through applications for, or support by, Public Health Service (PHS) funds[3]. In practice and by policy, ORI is careful in evaluating allegations of image manipulation where the manipulated images *are nevertheless reflective of the actual results obtained from experiments*, and can be documented. For this and other reasons, a number of cases involving clearly manipulated images do not result in ORI findings of research misconduct.

The continuing, upward trend in the use of images as a means of falsifying scientific data is multifactoral. The trend likely reflects a number of factors including, primarily, that imaging technologies now play a prominent role in science. In addition, software creates opportunities for dishonesty by streamlining data acquisition, reduction, and presentation, thereby limiting opportunities for review. The same software also creates a new means for enhanced detection, and such detection is further promoted through the broader distribution of higher resolution, continuous tone images via publication over the Internet.

Image allegations by their nature are difficult to dismiss, nor should they be. Clear image manipulations that did not reflect the falsification of data have led to the retraction of publications in a major journal. In another case, the withdrawal of an accepted paper from the publication queue, due to an allegation, cost the co-authors the priority for discovery. When the formerly accepted manuscript was resubmitted with corrections, the corresponding author was informed it was no longer considered sufficiently novel to publish. Inappropriate modifications of an image can impose a heavy burden on authors and unsuspecting co-authors, on journals, and on institutions, even when there is no intent to deceive about the underlying results.

Images can promote transparency in science, because readers can better understand the nature of the results. If questioned images are not handled correctly, the scientific record will become untrustworthy. Thus, the issue of image manipulation warrants broader attention and a more thorough discussion. In addressing the challenge, such a discussion should engage the common interest of researchers and their institutions, of journals and publishers, and of the public that supports these entities through generous research funding in times of economic constriction.

Endnotes

1. John Krueger, "Confronting manipulation of digital images in science." *ORI Newsletter* 13(3)8-9, June 2005. Available at *http://ori.dhhs.gov/documents/newsletters/vol13_no3.pdf* for the last version and for earlier citations.

2. My past versions of this graph have plotted the absolute numbers of cases, a value which also dramatically increased between 1993-94 and 2001-02 but subsequently has remained from 21-26 cases per reporting period.

3. ORI receives approximately 200 allegations per year, and devotes significant effort in assessing about 30-40% of them, most of which are administratively closed without opening as formal cases for various reasons. Only about 10% meet the criteria needed to open a formal case involving oversight reviews of inquiry or investigation reports and making recommendations of findings of misconduct to the ORI Director.

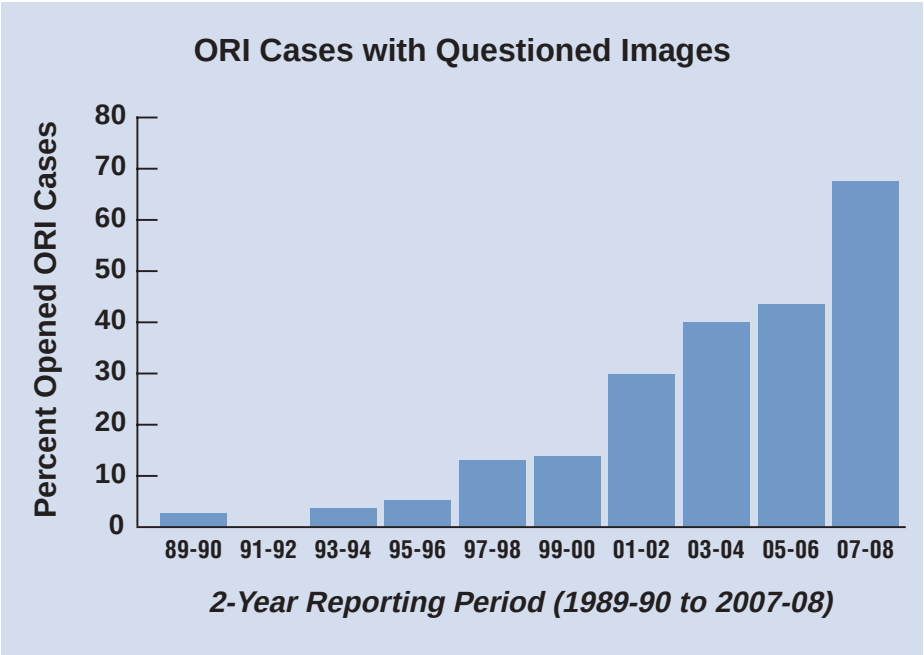

Figure 1: Cases formally opened by ORI that involve questioned images

ORI Updates

The Academy Urges Standards for Openness and Transparency in Research Data

Review by Sandra Titus and John Krueger, ORI

The new report[1] by the National Academy of Sciences (NAS) was prompted by a letter in 2006 from the editors of *Cell*, *Science*, *Nature*, and *Nature Cell Biology* who reported that there was a need to create a dialogue with scientists and initiate a plan for promoting research integrity—specifically as a means to combat the growing issue of inappropriate image manipulation. The scientists who worked on the NAS report decided that the diversity of fields precluded their ability to create uniform standards related to images; thus, they expanded their focus and considered two dimensions of data integrity that apply to all fields—the issue of enabling and ensuring the accessibility of data and of proper stewardship and long-term management.

The NAS articulated multiple facets of scientific activity impacting the future reliability of digital data, reporting that "**the most effective method for ensuring the integrity of research data is to ensure high standards for openness and transparency**." Although peer review is still very important, the credibility of the scientific record depends on scientists being able to scrutinize each other's data to ensure that it has been appropriately collected, analyzed, and interpreted.

The NAS concluded that digital information requires special consideration because:

…digital technologies require the translation of phenomena and objects into digital representations, which can introduce inaccuracies into the data. Digital data often undergo several layers of complex processing as they move from an instrument or sensor to the point of being reviewed by a researcher. If this processing is not properly done or is misunderstood, the results can be misleading. In some cases, researchers may intentionally or unintentionally distort data in a misguided attempt to emphasize particular features and downplay others. In worse cases, researchers can falsify or fabricate data…

As digital technologies become more sophisticated and diverse, management, analysis, and presentation of data will require a more concerted effort by researchers and professional groups. Some awareness may be needed to ensure that each new convenience introduced by a technological advance does not inadvertently introduce an unexamined risk, perhaps by supplanting a time-honed tradition for reviewing data and ensuring their integrity.

The report points out further that such rapid technological change may require us (researcher, research administrator, professional society, and journal editor) to create written standards, which in many scientific disciplines only currently exist as tacit understandings rather than any clear standards. The methods, tools, procedures, and analyses too often are being left to the authors' interpretations, because there are no clear uniform standards that would require researchers to provide sufficient detail so that research results can be verified. Institutions also have a role in supporting efforts for clear written standards and policies on data collection, management, storage, and sharing before publication, and in educating their professionals about the established procedures.

Digital technology introduces more stakeholders into the scientific enterprise, who will not only consume but also provide new services such as data screening, storage and retrieval, and processing. These entities, outside the traditional walls of science, will introduce new challenges in ensuring the integrity of data. As the quantity of digital data alone can overwhelm us at some point in the not too distant future, the report predicts a need for organizing data professionals as a distinct specialty.

The Academy is calling upon the scientific community to recognize that the changing times require us to be more proactive in protecting the research record. The NAS's fundamental position is that these new standards must emanate from the research community, who will see it as an opportunity to meet the challenges to promote the integrity of scientific data, their usability, and their proper management in the future.

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[1] *Ensuring the Integrity, Acccessibility, and Stewardship of Research Data in the Digital Age*, the National Academies Press, 2009. (This study was supported in part by the Office of Research Integrity, HHS.)

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Authorship *(from page 1)*

Here are two examples. In physics, the Boolean operator used in the definition of authorship is only "OR", and the list of possible contributions does not include writing of the manuscript: "Authorship should be limited to those who have made a significant contribution to the concept, design, execution or interpretation of the research study" (American Physical Society, *http://www.aps.org/policy/statements/02_2.cfm*).

In ecology, manuscript writing is a legitimate authorship contribution, but the logical operator for the combinations of contributions for authorship is also "OR." Authorship may legitimately be claimed if researchers: (a.) conceived the ideas or experimental design; (b.) participated actively in execution of the study; (c.) analyzed and interpreted the data; or (d.) wrote the manuscript" (Ecological Society of America, *http://esapubs.org/esapubs/ethics.htm*).

Alghough some scientific communities and their journals differ greatly in the amount and type of work on the submitted manuscript to qualify for authorship, others do not specify necessary contributions for authors. Both *Nature* and *Science* do not define authorship. *Nature* states that "submission to a *Nature* journal is taken by the journal to mean that all the listed authors have agreed on all of the contents." Authors are required to specify their contributions (*http://www.nature.com/authors/editorial_policies/authorship.html*).

Science asks for agreement of researchers to be listed on the byline: "All authors must agree to be so listed and must have seen and approved the manuscript, its content, and its submission to *Science*." Other journals, such as those published by the American Chemical Society, have a general requirement that authors are those who have made "significant scientific contributions to the work reported" (*http://pubs.acs.org/userimages/ContentEditor/1218054468605/ethics.pdf*), without providing the definition of "significant" and "contributions."

Editorial organizations are aware of the differences across scientific disciplines, communities, and journals. The Committee on Publication Ethics (COPE), whose membership now counts more than 4,000 journals from all research fields, acknowledges that "there is no universally agreed definition of authorship, although attempts have been made. As a minimum, authors should take responsibility for a particular section of the study" (*http://publicationethics.org/static/1999/1999pdf13.pdf*).

The Council of Science Editors (CSE), the oldest editorial organization covering all areas of science, uses the ICMJE definition to address the principles of authorship in its 2009 update of the *White Paper on Promoting Integrity in Scientific Journal Publications*. However, aware of the differences in the requirement for authorship in different fields, CSE started a consultation process on authorship during the special ***Retreat on Authorship*** at its 2009 Annual Meeting in Pittsburgh, Pennsylvania. Journal editors, researchers, and representatives of the academic community from different disciplines presented their experiences and views on authorship and journal authorship policies.

A primary conclusion from the *Retreat* was that authorship is not the problem of journal editors, but rather of the research and academic community. In addition, before we can reach conclusions on possible common grounds for authorship policy across disciplines, more research is needed.

My research group is currently working on a systematic review of research on authorship and authorship practices in different scientific fields. The study is funded by COPE and will hopefully provide more evidence for understanding the differences and identifying universal principles of responsible authorship in science.

We Thank the Following Contributors to the *ORI Newsletter*:

Ana Marusic, Harold Garner, Daniele Fanelli

Contributors' Disclaimer

All authors who generously shared their thoughts have indicated that they are speaking for themselves and not for their organizations.

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Publication Integrity *(from page 1)*

similar literature, including appropriate and inappropriate examples.

The outcome of this research can then be used by responsible bodies to establish or refine guidelines for scientific writing, as a teaching tool by example, and as a deterrent by providing not only a plurality of examples but also by providing a free proactive on-line tool, eTBLAST (etblast.org), for editors and reviewers to identify similar citations.

The Déjà vu project couples extensive computer-based text similarity comparisons of Medline citations with manual (human) inspection of full text articles whose citations have high similarity, and the findings have been documented in a number of publications.[1-6]

Some of the major accomplishments of the project are:

1. an estimation that ~1% of all citations in Medline are duplicates or plagiarized;[1]
2. the identification of over 70,000 highly similar citations with over 7,000 of these representing potentially plagiarized articles, and documentation of all these in the Déjà vu database;[2]
3. the evolution of the Déjà vu database into a means for dynamic exchange of information;[3]
4. the interception by eTBLAST of inappropriate manuscript submissions to journals resulting in the subsequent discovery of multiple offenses by individuals;[4]
5. the discovery that over 90% of authors are unaware that their work has been plagiarized;[5] and
6. the finding that there is tremendous variability in the understanding, decision making, and corrective actions taken by authors, editors, ethics committees, and investigatory bodies when inappropriate duplication is discovered.[6]

There may be so many questionable biomedical publications because prior to the Déjà vu database and the eTBLAST tool, unscrupulous scientists knew that the probability of discovery was low. There was no effective way for editors and reviewers to achieve omniscience over 19 million Medline citations, spread over 5,000 scientific journals, and increasing at a rate of 600,000 citations per year.

Without sustained, high-visibility efforts to confront inappropriate publishing, the upward trend will continue, accumulating more articles that diminish the reliability of the scientific corpus. There is much to be done.

Perhaps even more important is that duplicate publication, though a lesser offense than outright plagiarism, is much more pervasive; it is a gray area and is the more controversial.[6] Although copyright statements usually limit re-use of text to 250 words, there is no consensus on what is acceptable, so the area remains ill defined. The next major objective of the Déjà vu project is to document the levels of similarity in full text articles at the resolution of different sections, thereby providing input upon which the ethics and publishing community can act.

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Case Summaries

Judith M. Thomas, Ph.D., University of Alabama at Birmingham

Based on a finding of scientific misconduct made by the University of Alabama at Birmingham (UAB) on January 24, 2008, a report of the UAB Investigation Committee, dated November 21, 2007, and additional analysis conducted by ORI during its oversight review, the U.S. Public Health Service (PHS) found that Dr. Judith M. Thomas, former Professor of Surgery, UAB, engaged in scientific misconduct in research supported by National Institute of Allergy and Infectious Diseases (NIAID), National Institutes of Health (NIH), grants R01 AI22293, R01 AI39793, and U19 AI056542, National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK), NIH, grant U19 DK57958, and NIH/Novartis Cooperative Research and Development Agreement 96-MH-01 /NIHITC-0697.

The objective of the research was to test the effectiveness of different agents, such as Immunotoxin FN18-CRM9 or 15-deoxyspergualin (15-DSG), administered around the time of renal transplantation in non-human primates (NHPs), in preventing rejection of the transplanted kidney. To determine whether or not the transplanted kidney was functioning (able to sustain life) after the immunomodulating therapy, the animals were to have both of their native kidneys removed at or shortly after the time of transplant, so that their survival would depend solely on the viability of the transplanted kidney. It was postulated that the use of immunomodulating agents would increase tolerance of the host animal to the grafted kidney and thus eliminate the necessity for chronic administration of immunosuppressive medications commonly required to prevent rejection in renal transplant recipients. Failure to remove both native kidneys would render it impossible to assess the effectiveness of the immunomodulating treatment, and could give totally misleading results, suggesting that the treatment worked while in fact survival was due entirely to the remaining native kidney.

PHS found that Respondent engaged in scientific misconduct by falsifying reports of research results in NIH-supported experiments with NHP renal allograft recipients in 15 publications and in progress reports in two NIH research grant applications. Specifically, PHS found that:

1. Respondent falsely reported in 15 publications that NHP renal allograft recipients had received bilateral nephrectomies of their native kidneys, while in fact many of the animals retained an intrinsic kidney. Specifically:

(a) Respondent falsely reported in eight publications[1] that at least 32 specific NHPs in a renal allotransplantation study had received bilateral nephrectomies, while in fact an intrinsic kidney was left in place in each animal, and generally, in seven additional publications,[2] Respondent falsely reported that all long-term surviving NHP renal allograft recipients had received bilateral nephrectomies of their native kidneys. The publications referenced are listed separately in the endnotes.

2. In seven publications,[3] Respondent falsely reported immunomodulating treatments given to NHP renal allograft recipients by not reporting the administration of donor bone marrow to seven recipients and not reporting administration of cyclosporine A to four recipients. She also falsely reported (by overstating by 15%) dosages of the immunomodulating agents that were given and/or duration by overstating the exceptional briefer duration of immunomodulating treatment given to four recipients and cited in at least eight publications.[4]

3. In progress reports for NIH research awards R01 AI39793 and U19 DK57958, Respondent falsely claimed that long-term surviving (LTS) NHP renal allotransplantation recipients had received bilateral nephrectomies and falsely reported the immunomodulating therapies received by the graft recipients. Specifically:

(a) In the progress report in application 5 R01 AI39793-04, submitted in approximately May 1999, Respondent repeated falsified claims of successful LTS NHP allografts by citing two publications (Transplantation 68: 1660-1673, 1999, and Transplantation 68:215-219, 1999) that reported LTS in renal allograft recipients that were falsely reported to have had bilateral intrinsic nephrectomies, while laboratory records showed that at the most four of these animals had bilateral nephrectomies.

(b) In the progress report in application 5 U19 DK57958-02 submitted in approximately May 2000, Respondent falsely reported that 10/13 LTS NHP renal allograft recipients had received bilateral nephrectomies of their native kidneys and falsified the immunomodulating treatment received by four of the animals by failing to report the administration of cyclosporine A (CSA) or donor bone marrow.

For the same award, in a progress report submitted in approximately May 2002, Respondent falsely reported that all of the 16 animals in the rhesus

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Ktx (kidney transplant) series had bilateral nephrectomies of their native kidneys, but in fact at least nine of the animals did not have the requisite bilateral nephrectomies.

(c) In a competing renewal application 2 U19 DK057958-05, submitted on about 03/10/2003, Respondent reported that 14 Ktx long-term survivors did not have an intrinsic kidney, while in fact at least 11 of those animals had a remaining intrinsic kidney.

Both Dr. Thomas and PHS were desirous of concluding this matter without further expense of time and other resources, and the parties have entered into a Voluntary Exclusion Agreement to settle the matter. Dr. Thomas accepted responsibility for the reporting described above, but denied that she intentionally committed research misconduct. The settlement is not an admission of liability on the part of the Respondent.

Dr. Thomas has entered into a Voluntary Exclusion Agreement in which she has voluntarily agreed, for a period of ten years, beginning on May 5, 2009:

(1) to exclude herself voluntarily from any contracting or subcontracting with any agency of the United States Government and from eligibility or involvement in nonprocurement programs of the United States Government referred to as "covered transactions" and defined by 2 C.F.R. Parts 180 and 376; and

(2) to exclude herself from serving in any advisory capacity to PHS, including but not limited to service on any PHS advisory committee, board, and/or peer review committee, or as a consultant.

Endnote 1

Asiedu, C.K., Dong, S.S., Lobashevsky, A., Jenkins, S.M., & Thomas, J.M. "Tolerance induced by anti-CD3 immunotoxin plus 15-deoxyspergualin associates with donor-specific indirect pathway unresponsiveness." *Cell Immunol*. 223(2):103-112, June 2003. (Retraction required by UAB.)

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Contreras, J.L., Eckhoff, D.E., Cartner, S., Frenette, L., Thomas, F.T., Robbin, M.L., Neville, D.M. Jr., & Thomas, J.M. "Tolerability and side effects of anti-CD3-immunotoxin in preclinical testing in kidney and pancreatic islet transplant recipients." *Transplantation* 68(2):215-219, July 27, 1999. (Retracted.)

Contreras, J.L., Wang, P.X., Eckhoff, D.E., Lobashevsky, A.L., Asiedu, C., Frenette, L., Robbin, M.L., Hubbard, W.J., Cartner, S., Nadler, S., Cook, W.J., Sharff, J., Shiloach, J., Thomas, F.T., Neville, D.M. Jr., & Thomas, J.M. "Peritransplant tolerance induction with anti-CD3-immunotoxin: A matter of proinflammatory cytokine control." *Transplantation* 65(9):1159-1169, May 15, 1998. (Retracted.)

Asiedu, C.K., Goodwin, K.J., Balgansuren, G., Jenkins, S.M., Le Bas-Bernardet, S., Jargal, U., Neville, D.M. Jr. & Thomas, J.M. "Elevated T regulatory cells in long-term stable transplant tolerance in rhesus macaques induced by anti-CD3 immunotoxin and deoxyspergualin." *J Immunol*. 175(12):8060-8068, December 5, 2005. (Retracted.)

Endnote 4

Includes those cited in Endnote 3 plus:
Thomas, J.M., Neville, D.M., Contreras, J.L., Eckhoff, D.E., Meng, G., Lobashevsky, A.L., Wang, P.X., Huang, Z.Q., Verbanac, K.M., Haisch, C.E., & Thomas, F.T. "Preclinical studies of allograft tolerance in rhesus monkeys: A novel anti-CD3-immunotoxin given peritransplant with donor marrow induces operational tolerance to kidney allografts." *Transplantation* 64(1):124-135, July 15, 1997.

Juan Luis R. Contreras, M.D., University of Alabama at Birmingham

Based on a finding of scientific misconduct made by the University of Alabama at Birmingham (UAB) on January 24, 2008, a report of the UAB Investigation Committee, dated November 21, 2007, and analysis conducted by ORI during its oversight review, and further discussion between UAB and ORI to clarify UAB's investigative findings and decision with respect to the requirements of 42 CFR Parts 50 and 93, the U.S. Public Health Service (PHS) found that Dr. Juan Luis R. Contreras, Assistant Professor, Department of Surgery—Transplantation, UAB, engaged in scientific misconduct in research supported by National Institute of Allergy and Infectious Diseases (NIAID), National Institutes of Health (NIH), grants R01 AI22293, R01 AI39793, and U19 AI056542, National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK), NIH, grant U19 DK57958, and NIH/Novartis Cooperative Research and Development Agreement 96-MH-01/NIHITC-0697.

PHS found that Respondent engaged in scientific misconduct by falsifying in seven publications reports of research results in NIH-supported experiments with non-human primate (NHP) renal allograft recipients.

Specifically, PHS found that Respondent engaged in scientific misconduct by falsely reporting in five publications[1] that at least 32 specific NHPs in a renal allo-transplantation study had received bilateral nephrectomies, while in fact an intrinsic kidney was left in place in each animal, and generally, in two additional publications[2] by reporting that all long-term surviving NHP renal allograft recipients had received bilateral nephrectomies of their native kidneys. The publications are listed separately in the endnotes.

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The objective of the research was to test the effectiveness of different immunomodulating agents, administered around the time of renal transplantation in NHPs, in preventing rejection of the transplanted kidney. To determine whether or not the transplanted kidney was functioning (able to sustain life) after the immunomodulating therapy, the animals were to have both of their native kidneys removed at or shortly after the time of transplant, so that their survival would depend solely on the viability of the transplanted kidney. Failure to remove both native kidneys rendered it impossible to assess the effectiveness of the immunomodulating treatment.

Both Dr. Contreras and PHS were desirous of concluding this matter without further expense of time and other resources, and the parties have entered into a Voluntary Exclusion Agreement to settle the matter. Dr. Contreras accepted responsibility for the reporting described above, but denied that he intentionally committed scientific misconduct. The settlement is not an admission of liability on the part of the Respondent.

Dr. Contreras has entered into a Voluntary Exclusion Agreement in which he has voluntarily agreed, for a period of three (3) years, beginning on June 17, 2009:

(1) to exclude himself voluntarily from any contracting or subcontracting with any agency of the United States Government and from eligibility or involvement in nonprocurement programs of the United States Government referred to as "covered transactions" and defined by 2 C.F.R. Parts 180 and 376; and

(2) to exclude himself from serving in any advisory capacity to PHS, including but not limited to service on any PHS advisory committee, board, and/or peer review committee, or as a consultant.

Endnote 1

Hutchings, A., Wu, J., Asiedu, C., Hubbard, W., Eckhoff, D., Contreras, J., Thomas, F.T., Neville, D., & Thomas, J.M. "The immune decision toward allograft tolerance in non-human primates requires early inhibition of innate immunity and induction of immune regulation." *Transpl Immunol*. 11(3-4):335-344, July-September 2003. (Retraction required by UAB.)

Thomas, J.M., Eckhoff, D.E., Contreras, J.L., Lobashevsky, A.L., Hubbard, W.J., Moore, J.K., Cook, W.J., Thomas, F.T., & Neville, D.M. Jr. "Durable donor-specific T and B cell tolerance in rhesus macaques induced with peritransplantation anti-CD3 immunotoxin and deoxyspergualin: Absence of chronic allograft nephropathy." *Transplantation* 69(12):2497-2503, June 27, 2000. (Retracted.)

Thomas, J.M., Contreras, J.L., Jiang, X.L., Eckhoff, D.E., Wang, P.X., Hubbard, W.J., Lobashevsky, A.L., Wang, W., Asiedu, C., Stavrou, S., Cook, W.J., Robbin, M.L., Thomas, F.T., & Neville, D.M. Jr. "Peritransplant tolerance induction in macaques: Early events reflecting the unique synergy between immunotoxin and deoxyspergualin." *Transplantation* 68(11):1660-1673, December 15, 1999. (Retracted.)

Contreras, J.L., Eckhoff, D.E., Cartner, S., Frenette, L., Thomas, F.T., Robbin, M.L., Neville, D.M. Jr., & Thomas, J.M. "Tolerability and side effects of anti-CD3-immunotoxin in preclinical testing in kidney and pancreatic islet transplant recipients." *Transplantation* 68(2):215-219, July 27, 1999. (Retracted.)

Contreras, J.L., Wang, P.X., Eckhoff, D.E., Lobashevsky, A.L., Asiedu, C., Frenette, L., Robbin, M.L., Hubbard, W.J., Cartner, S., Nadler, S., Cook, W.J., Sharff, J., Shiloach, J., Thomas, F.T., Neville, D.M. Jr., & Thomas, J.M. "Peritransplant tolerance induction with anti-CD3-immunotoxin: A matter of proinflammatory cytokine control." *Transplantation* 65(9):1159-1169, May 15, 1998. (Retracted.)

Endnote 2

Hubbard, W.J., Eckhoff, D., Contreras, J.L., Thomas, F.T., Hutchings, A., & Thomas, J.M. "STEALTH on the preclinical path to tolerance." *Graft* 5(6):322-330, 2002. (Retraction required by UAB—journal has ceased publication.)

Hubbard, W.J., Contreras, J.V., Eckhoff, D.E., Thomas, F.T., Neville, D.M., & Thomas, J.M. "Immunotoxins and tolerance induction in primates." *Curr Op Organ Transplant* 5:29-34, 2000. (Partially retracted.)

Jennifer Wanchick, MetroHealth System

Based on reports submitted by MetroHealth System's inquiry and investigation committees, the Respondent's own repeated admissions, and additional analysis conducted by ORI during its oversight review, the U.S. Public Health Service (PHS) found that Ms. Jennifer Wanchick, former Research Assistant, MetroHealth System (an affiliated hospital of Case Western Reserve University), engaged in research misconduct in research supported by National Center on Minority Health and Health Disparities (NCMHD), National Institutes of Health (NIH), grant P60 MD002265.

Specifically, by her own admission, Ms. Wanchick engaged in research misconduct by fabricating information in the electronic database purportedly collected from 150 individuals about their willingness to sign up to be an organ donor at the time they

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obtained a driver's license. Ms. Wanchick also admitted to fabricating the information on several survey instruments. The study at issue was entitled "Community-Based Intervention to Enhance Signing of Organ Donor Cards."

ORI acknowledges Ms. Wanchick's cooperation and assistance in completing its oversight review and resolution of this matter.

Ms. Wanchick has entered into a Voluntary Settlement Agreement in which she has voluntarily agreed, for a period of three (3) years, beginning on June 5, 2009:

(1) to exclude herself from serving in any advisory capacity to PHS, including but not limited to service on any PHS advisory committee, board, and/or peer review committee, or as a consultant; and

(2) that any institution that submits an application for PHS support for a research project on which the Respondent's participation is proposed or that uses the Respondent in any capacity on PHS-supported research, or that submits a report of PHS-funded research in which the Respondent is involved, must concurrently submit a plan for supervision of the Respondent's duties to the funding agency for approval. The supervisory plan must be designed to ensure the research integrity of the Respondent's research contribution. Respondent agrees to ensure that a copy of the supervisory plan also is submitted to ORI by the institution. Respondent agrees that she will not participate in any PHS-supported research until such a supervisory plan is submitted to ORI.

How Many Scientists Fabricate and Falsify Research?

Self-Abstract by Daniele Fanelli, Innogen and ISSTI, University of Edinburgh

The frequency with which scientists fabricate and falsify data, or commit other forms of scientific misconduct, is a matter of controversy. Many surveys have asked scientists directly whether they have committed or know of a colleague who committed research misconduct, but their results appeared difficult to compare and synthesize.

This is the first meta-analysis of these surveys. To standardize outcomes, the number of respondents who recalled at least one incident of misconduct was calculated for each question, and the analysis was limited to behaviors that distort scientific knowledge: fabrication, falsification, "cooking" of data, etc. Survey questions on plagiarism and other forms of professional misconduct were excluded.

The final sample consisted of 21 surveys that were included in the systematic review, and 18 in the meta-analysis. A pooled weighted average of 1.97% (N=7, 95% CI: 0.86-4.45) of scientists admitted to have fabricated, falsified, or modified data or results at least once—a serious form of misconduct by any standard. Up to 33.7% admitted other questionable research practices.

In surveys asking about the behavior of colleagues, admission rates were 14.12% (N=12, 95% CI: 9.91-19.72) for falsification, and as many as 72% for other questionable research practices.

Further controlled analysis indicated that misconduct was reported more frequently by medical/pharmacological researchers than others. Considering that these surveys ask sensitive questions and have other limitations, it appears likely that these data, and particularly self-reports, are a conservative estimate of the true prevalence of scientific misconduct.

2009 Annual Institutional Report on Research Misconduct Activities

In December, you will be reminded that you need to prepare for your institutions' electronic submission of the 2009 Annual Report on Possible Research Misconduct. ORI will send you your User ID and Password.

This means marking your calendar so that you can complete the electronic submission of the Annual Report that starts January 1 - March 1, 2010.

You need to gather your statistics for 2008 on the number of allegations, inquiries, and investigations receiving PHS funds. You will file your report at *http://www.ori.hhs.gov/assurance/electronic_submission.shtml*

For further information and assistance, please contact Robin Parker at robin.parker@hhs.gov or (240) 453-8400.

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Office of Research Integrity
1101 Wootton Parkway, Suite 750
Rockville, Maryland 20852

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Fax ..... (301) 443-5351

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