



DEPARTMENT OF HEALTH AND HUMAN SERVICES

Office of the Secretary

Findings of Research Misconduct

AGENCY: Office of the Secretary, HHS.

ACTION: Notice.

SUMMARY: Findings of research misconduct have been made against Ariel Fernandez, PhD (also known as Ariel Fernandez Stigliano), former Karl F. Hasselmann Chaired Professor of Engineering, Department of Bioengineering, Rice University. Dr. Fernandez engaged in research misconduct under 42 CFR Part 93 in research supported by U.S. Public Health Service (PHS) funds, specifically National Institute of General Medical Sciences (NIGMS), National Institutes of Health (NIH), grant R01 GM072614. Administrative actions, including debarment for a period of fifteen (15) years, were implemented and are detailed below.

FOR FURTHER INFORMATION CONTACT:

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SUPPLEMENTARY INFORMATION: Notice is hereby given that the Office of Research Integrity (ORI) and the Suspension and Debarment Official (SDO) have taken final action in the following case:

Ariel Fernandez, PhD, Rice University (Rice): Based on evidence and findings of an investigation conducted by Rice, ORI's oversight review of Rice's investigation, and additional evidence obtained and analysis conducted by ORI during its oversight review, ORI found that Dr. Ariel Fernandez (Respondent), former Karl F. Hasselmann Chaired Professor of

Engineering, Department of Bioengineering, Rice, engaged in research misconduct under 42 CFR Part 93¹ in research supported by PHS funds, specifically NIGMS, NIH, grant R01 GM072614.

ORI found by a preponderance of the evidence that Respondent intentionally, knowingly, or recklessly fabricated and/or falsified the synthesis of six (6) novel chemical compounds; figures of Western blots and confocal microscopy images by copying, manipulating, and relabeling images; and the results of spectrophotometric kinetic assays, high-throughput kinase screening, cell proliferation assays, adsorption/desorption assays, and ATP production assays in twelve (12) PHS-supported papers, four (4) PHS-supported submitted, unpublished manuscripts, one (1) PHS-supported presentation, and three (3) PHS grant applications submitted for PHS funds. ORI found that these acts constitute a significant departure from accepted practices of the relevant research community. The affected published and unpublished papers, grant applications, and presentation are:

- *Structure* 2005;13:1829-36. doi: 10.1016/j.str.2005.08.018 (hereafter referred to as “*Struct05*”). Notice of addendum and supporting information: *Structure* 2006;14:947. doi: 10.1016/j.str.2006.05.006 (“*Struct05* Addendum”).
- *Proc. Natl. Acad. Sci. USA* 2006;103:323-8. doi: 10.1073/pnas.0509351102 (hereafter

¹In 2024, HHS revised 42 CFR Part 93. 89 *Fed. Reg.* 76280 (Sept. 17, 2024). The revised Part 93 applies to allegations received on or after January 1, 2026. *Id.* at 76289. Thus, the version of Part 93 in effect prior to the revision applies to this research misconduct proceeding. That prior version of Part 93 was promulgated in 2005 and is available at 70 *Fed. Reg.* 28370 (May 17, 2005). Citations to Part 93 within this document refer to Part 93 as set forth in the 2005 *Federal Register* notice, which is available at <https://www.federalregister.gov/documents/2005/05/17/05-9643/public-health-service-policies-on-research-misconduct>.

referred to as “PNAS06”). Retraction in: *Proc. Natl. Acad. Sci. USA* 2006;103:4329.

doi: 10.1073/pnas.0601034103.

- *J. Med. Chem.* 2006;49:3092-100. doi: 10.1021/jm060163j (hereafter referred to as “JMC06”).
- *Biomol. Eng.* 2006;23:307-15. doi: 10.1016/j.bioeng.2006.09.004 (hereafter referred to as “BioE06”).
- *Cancer Res.* 2007;67:4028-33. doi: 10.1158/0008-5472.CAN-07-0345 (hereafter referred to as “CR07”). Correction in: *Cancer Res.* 2013;73:6375. doi: 10.1158/0008-5472.CAN-13-2601.
- *Front. Biosci.* 2007;12:3617-27. doi: 10.2741/2338 (hereafter referred to as “FBS07”).
- *J. Phys. Chem. B* 2007;111:13987-92. doi: 10.1021/jp074479u (hereafter referred to as “JPCB07”).
- *Mol. Pharm.* 2008;5:430-7. doi: 10.1021/mp700148h (hereafter referred to as “MP08”).
 - Supporting information was made available online at the time MP08 was published (hereafter referred to as “MP08 Original Supporting Information”).
 - In July 2008, MP08 Original Supporting Information was replaced with revised supporting information (hereafter referred to as “MP08 Revised Supporting Information”).

- A notice of the *MP08* Revised Supporting Information was published at *Mol Pharm* 2008;5:680. doi: 10.1021/mp8000777. In December 2009, an addendum to the *MP08* Revised Supporting Information was published (hereafter referred to as “*MP08* Addendum to Supporting Information”). A notice of the addendum was published at *Mol Pharm* 2010;7:306. doi: 10.1021/mp9002893. An acknowledgement addendum was published in March 2010 at *Mol Pharm* 2010;7:1877. doi: 10.1021/mp100057w.
- *J. Med. Chem.* 2008;51:4890-8. doi: 10.1021/jm800453a (hereafter referred to as “*JMC08*”).
- *ACS Nano* 2008;2:61-8. doi: 10.1021/nn700239j (hereafter referred to as “*NANO08*”).
Correction in: *ACS Nano* 2012;6:6525. doi: 10.1021/nn302352t.
- *Drug Discov. Today* 2009;14:1-5. doi: 10.1016/j.drudis.2008.10.008 (hereafter referred to as “*DDT09*”).
- *Trends Pharmacol. Sci.* 2009;30:403-10. doi: 10.1016/j.tips.2009.06.001 (hereafter referred to as “*TiPS09*”).
- Engineering drug selectivity through a packing-based kinase classifier. Original manuscript submitted to *Journal of Molecular Biology* in 2006 (hereafter referred to as “*JMBsub06*”).
- Editors of anticancer kinase inhibitors for side-effect removal. Original manuscript submitted to *Cancer Research* in 2009 (hereafter referred to as “*CRsub09*”).
- Editors of anticancer kinase inhibitors for side-effect removal. Original manuscript submitted to *Nature Biotechnology* in 2009 (hereafter referred to as “*NBTsub09*”).

- Selective antagonism of anticancer drugs for side-effect removal. Original manuscript submitted to *Trends in Pharmacological Sciences* in 2009 (hereafter referred to as “*TiPSsub09*”).
- Selectivity filter for drug discovery: Evolutionary insights into the control and personalization of drug specificity. PowerPoint presentation at the Morgridge Institute for Research (hereafter referred to as the “Morgridge PowerPoint”).
- X02 RR023858-01, “Molecular theranostic engineering,” submitted to the National Center for Research Resources, NIH on April 14, 2006, unfunded.
- R01 CA138431-01, “Kinome-wide atlas of specificity-promoting features for anticancer drug therapy,” submitted to the National Cancer Institute, NIH, on May 8, 2008, unfunded.
- R01 LM010169-01, “Bioinformatics platform to control drug cross reactivity,” submitted to the National Library of Medicine, NIH, on December 18, 2008, unfunded.

Specifically, ORI found by a preponderance of the evidence that Respondent engaged in research misconduct by intentionally, knowingly, or recklessly fabricating and/or falsifying:

- the syntheses of six (6) novel chemical compounds reported in: *MP08*, *MP08* Original Supporting Information, *MP08* Revised Supporting Information, *MP08* Addendum to Supporting Information (“Entropy Jolt”); *NBTsub09*, *NBTsub09* supplementary materials (“*NBTsub09* Supp. Mat.”), *CRsub09*, *CRsub09* supplementary materials (“*CRsub09* Supp. Mat.”), *TiPSsub09*, *TiPS09* (“SUDE”); *Struct05*, *Struct05* Addendum, *PNAS06*, *JMBsub06*

supporting materials (“*JMBsub06* Supp. Mat.”). (“Wrapper 1”); *JMBsub06*, *JMBsub06* Supp. Mat., *PNAS06* (“Wrapper 2”); *JMC06*, *JMBsub06*, *JMBsub06* Supp. Mat., *FBS07*, *JMC08*, *JMC08* supporting information (“*JMC08* Supp. Info.”) (“Compound 9”); and *JMC08*, *JMC08* Supp. Info. (“Compound 10”)

- figures of Western blots by copying previously published images and altering and/or relabeling those images in twenty-four (24) figures reported in three (3) manuscripts submitted by Respondent and two (2) figures reported in one (1) PowerPoint presentation by Respondent: Figures 2b, 2c, 2e, 2f, 2g, 3d, and 3f and Supplemental Figures 1, 2, and 3 in *NBTsub09*; Figures 3B, 3C, 4A, 4B, 4C, 5B, 5C, 6A, 6B, and 6D in *CRsub09*; Figures 4 and 5 in *TiPSsub09*; and the figures in Slides 15 and 31 of the Morgridge PowerPoint presentation
- the results of spectrophotometric kinetic assays reported in Figure 5c of *BioE06*, Figure 9 of *FBS07*, Figure 6 of *JMC06*, Figure 8 of *MP08*, Figures 5E and 6B of *PNAS06*, and Figure 4D of *Struct05*; Figures 3d and 4c of unpublished manuscript *JMBsub06*; and Figures 6 and 9 of NIH grant application X02 RR023858-01
- the results of high-throughput kinase screening reported in: *MP08* (Figure 9 and associated text); *JMC08* (Figures 4 and 7 and associated text and tables); *DDT09* (text description), unpublished manuscript *CRsub09* and *CRsub09* Supp. Mat. (Figure S2 (A-C) and associated text); and two NIH grant applications R01 CA138431-01 and R01 LM010169-01 (Figure 8 and associated text in both applications)
- results of cell proliferation and other experiments involving SUDE and WBZ_4, including Figure 3 reported in *TiPS09*

- Figure 3b of *NANO08*, Figure 2h of *NBTsub09*, and Supplemental Figure S3 of *CRsub09* by copying and manipulating confocal microscopy images from other papers and relabeling them to report falsely different experiments
- the results of adsorption/desorption assays reported in Figure 2b of *NANO08* and Figure 3 of *JPCB07*
- the results of cell proliferation assays involving the compound SUDE reported in Figure 5a of *CRsub09*, Figure 3e of *NBTsub09*, and Figure 3 of *TiPSsub09*
- the results of ATP production assays involving the compound SUDE reported in Figure 5d (bottom graph) of *CRsub09* and Figure 3g (bottom graph) of *NBTsub09*
- images of Western blots in Figure 10 of *MP08* and in Figure 4B of *CR07*

ORI issued a charge letter enumerating the above findings of research misconduct and proposing HHS administrative actions of a fifteen-year ban on PHS advisory services and correction of Respondent's research record. Based on the information in the administrative record, and as part of the charge letter, the HHS SDO proposed a fifteen-year period of debarment under 2 CFR 180.800(d)—“Any other cause that is so serious or compelling in nature that it affects your present responsibility” to protect the Federal Government's interest.

Respondent requested a hearing before an administrative law judge (ALJ) with the Departmental Appeals Board to contest the research misconduct findings and proposed administrative actions under 42 CFR Part 93, including the proposed debarment. ORI filed a motion for summary judgment, which Respondent opposed, and Respondent filed a cross motion for summary judgment. On May 22, 2025, the ALJ issued a recommended decision to the Acting Assistant Secretary for Health (ASH) granting summary judgment in favor of HHS. The Acting ASH opted not to review the ALJ decision, and ORI's research misconduct findings therefore became final under 42 CFR § 93.523. The decision constituted findings of fact to the HHS Debarment Official in accordance with 2 CFR § 180.845(c). On March 25, 2026, the HHS SDO issued a final notice of debarment.

Accordingly, the following administrative actions have been implemented:

- (1) For a period of fifteen (15) years, beginning on March 25, 2026, Respondent is debarred from participating in "covered transactions" as defined in 2 CFR § 180.200 and procurement transactions covered under the Federal Acquisition Regulation (48 CFR chapter 1).
- (2) For a period of fifteen (15) years, beginning on June 22, 2025, Respondent is prohibited 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.

(3) ORI will send a notice to the pertinent journals of the following eleven (11) papers that require retraction and/or correction, in accordance with 42 CFR §§ 93.407(a)(1) and 93.411(b):

- *Structure* 2005;13:1829-36
- *J. Med. Chem.* 2006;49:3092-100
- *Biomol. Eng.* 2006;23:307-15
- *Cancer Res.* 2007;67:4028-33
- *Front. Biosci.* 2007;12:3617-27
- *J. Phys. Chem. B* 2007;111:13987-92
- *Mol. Pharm.* 2008;5:430-7
- *J. Med. Chem.* 2008;51:4890-8
- *ACS Nano* 2008;2:61-8
- *Drug Discov. Today* 2009;14:1-5
- *Trends Pharmacol. Sci.* 2009;30:403-10

Dated: April 30, 2026.

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Director, Office of Research Integrity,

Office of the Assistant Secretary for Health.

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