

## **Inter-American Encounter on Research Integrity**

### **Final Report**

**Grant # 1 ORIIR 160022-01-00**

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#### **1. Executive Summary**

The overarching goal of this project was to foster a culture of research integrity in academic research institutions in Mexico through a conference entitled *Inter-American Encounter on Scientific Integrity*, co-hosted by the National Autonomous University of Mexico (UNAM) in Mexico City, Mexico.

The grant's Principal Investigator, Sergio Litewka, MD, and Study Coordinator, Elizabeth Heitman, PhD, organized a 20-member working group of researchers, educators, and administrators from UNAM and several other Mexican universities, to plan the meeting and undertake post-conference activities in research integrity. In late fall 2016, the members of the working group, together with fourteen other senior academics and university officials who expressed interest in the conference, were invited to respond to a brief anonymous planning questionnaire, approved by the University of Miami's IRB, that sought to identify key topics for discussion at the conference. The questionnaire was intended both to provide an inventory of available institutional resources across the universities involved in the project and to set the tone for an in-person planning meeting at which the larger conference agenda would be developed.

The planning meeting took place on March 1<sup>st</sup> 2017 in the administrative conference room of UNAM's Graduate School. Following an introductory presentation by Dr. Mark Frankel, former Director of the AAAS Program on Scientific Responsibility, Human Rights and Law, and a report on the results of the planning questionnaire, the participants discussed a number of issues in research integrity as they affect Mexican universities: the different definitions of research misconduct used in the Mexican context; the types and perceived prevalence of falsification, fabrication, and plagiarism in the Mexican academic research environment; policies and procedures in place to deal with allegations of misconduct; challenges in authorship and publication in both national and international journals; and possible strategies for fostering the responsible conduct of research across Mexican universities.

There was a general agreement among the meeting's participants that a successful conference and overall approach to promoting research integrity should address policies, infrastructure, and education.

Of these three elements, the group emphasized the need to focus on institutional policies relevant to research integrity. The meeting participants determined that a conference date in late April or early May would fit within the academic calendar, and eight of the working group members agreed to be speakers on specific topics during that conference.

The formal conference “Integridad y Política Científica: Un Problema de Interés Global (*“Integrity and Science Policy: A Problem of Global Interest”*)” was held on May 3<sup>rd</sup> 2017 at UNAM’s Institute for Biomedical Research in Mexico City. 70 participants from UNAM, nine other academic institutions, and three governmental agencies attended the conference, together with twelve presenters. Formal presentations (see speakers and presentation titles below) were interspersed with topic-specific discussions between speakers and conference participants.

Following the conference, Drs. Litewka and Heitman worked with speakers to outline a white paper on the current state of research integrity education and related policies in Mexican universities. They have also begun negotiations with two international publishers to develop an anthology from the conference presentations, pending the identification of an additional funds to support the work (see proposed table of contents below). Drs. Litewka and Heitman reported on the conference and Mexican efforts to promote research integrity at both the World Conference on Research Integrity (May 28-31, 2017) and ORI’s Quest for Research Excellence 2017 Conference (August 7-9, 2017). The conference’s co-hosts at UNAM and participants from the Universidad Autónoma de Querétaro and Universidad Anáhuac - whose institutions have been the most active in promoting research integrity through policy and education - have moved ahead with plans to formalize institutional policies on misconduct and expand their teaching on responsible conduct of research.

## **2. Specifics Aims of the Inter American Encounter on Research Integrity**

### **2.1 To characterize the types and perceived prevalence of misconduct in Mexico’s academic research environment**

In 2004, Mexican academics Martin Aluja and Andrea Birke published a book about the role of ethics in scientific research and higher education (Birke, 2004). A chapter on the culture of academic science in Mexico, written by Cesar Domínguez Pérez Tejada and Rogelio Macías Ordóñez, had the provocative title “El que no transa no avanza: La ciencia mexicana en el espejo” (*“You can’t get ahead if you don’t cheat: Mexican science in the mirror”*) (Pérez Tejada & Macías Ordóñez, 2004). The authors reported on their survey of academic scientists about 1) perceived ethical problems affecting the Mexican research community and 2) whether they saw any ethical differences between the behavior of investigators educated in Mexico and those educated abroad. The authors concluded that the most commonly perceived problems among Mexican researchers were lack of scientific rigor, fraud, plagiarism and

unearned authorship, as well as faculty practices that take advantage of students and unfair peer review practices that reflected researchers' positions in the academic hierarchy.

Since no assessment of integrity in the Mexican research environment had been published since that study, we sought to take a contemporary snapshot of policies, resources, and education relevant to research integrity at several of Mexico's prominent universities by administering a short questionnaire to members of our working group. We adapted questions from the 2013 survey that Joseph Ana, Tracey Koehlmoos, Richard Smith and Lijing Yan developed to estimate the prevalence of research misconduct in low and middle-income countries (Ana, 2013) and constructed an online instrument through REDCap, a secure online data management platform at the University of Miami.

Our questionnaire (approved by University of Miami's IRB as protocol # 20161040) asked respondents about the availability of policies, administrative structures, and educational opportunities at their institutions related to falsification and fabrication of data, plagiarism, data management, conflicts of interests, and retaliation against whistleblowers. Other questions inquired about their perceptions of the impact of misconduct at their institutions, the frequency of discussions among faculty and students on topics related to the responsible conduct of research, and the perceived importance of national and international collaborative research and publishing.

Electronic invitations with a link to the questionnaire on REDCap were sent to all 20 members of the working group. Fourteen additional senior academics and university officials who had expressed interest in the conference were also invited to respond. A total of 20 individuals completed the questionnaire, providing a range of perspectives on institutional resources and challenges relevant to the goals of planning meeting and final conference.

Responses to the questionnaire illustrated differences both among Mexican universities and across the schools and programs within the same university (UNAM). Roughly half of the respondents affirmed that their university had policies or other resources in place for preventing research misconduct or dealing with allegations of wrongdoing, and roughly half reported that their institutions did not have – or that they did not know about – effective mechanisms for dealing with fabrication or falsification of data, plagiarism, data management, conflicts of interest, or protection of whistleblowers. Over 60% reported that their institution did not have courses or other formal educational activities that addressed key issues in responsible conduct of research; a significant number reported that they did not know whether their institution provided formal instruction.

The results of the planning questionnaire were presented and discussed at a conference planning meeting that took place at UNAM's Graduate School on March 1<sup>st</sup> 2017. Working group members and additional representatives from UNAM, Universidad Autónoma de Querétaro, Universidad Anáhuac, Universidad Autónoma de Guadalajara, Universidad Autónoma de Puebla, Universidad Autónoma de Nuevo León, the National Bioethics Commission, and the National Council on Science and Technology

met with PI Sergio Litewka and Coordinator Elizabeth Heitman PhD, and invited speaker/consultant Mark Frankel PhD (see Annex 3, Preconference participant list).

To place the issue of research integrity in international context, the planning meeting opened with a presentation by Mark Frankel Ph.D., former director of the Program on Scientific Responsibility, Human Rights and Science from the American Association for the Advancement of Science. He addressed the role of universities, governments, and professional bodies internationally and how the integrity of scientific research must be considered globally because of the increasingly collaborative nature of research. Specifically, he outlined the challenge of melding multiple cultures, regulatory systems, and institutional practices in today's research environment, and how creates international collaboration creates tensions among the values, norms, and legal frameworks characteristic of international research collaborations.

Dr. Heitman then described the development of the planning questionnaire and presented its results. Over the rest of the day, led by individual members with specific interest or expertise, the group discussed the differing perceptions and experiences reflected in the questionnaire's results. Discussion focused several times on how varying definitions of what constitutes scientific misconduct in Mexican has resulted in multiple codes of ethics but no administrative consistency or practical educational in most settings.

The group achieved consensus that the larger conference needed to address the benefits and means for developing institutional policy, administrative infrastructure, and educational activities related to research integrity. They particularly echoed one of Dr. Frankel's observations that *"While there is no single, best approach for integrating these various components, at the very least, policies will make clear the goals of the effort, the responsibilities of those involved, and the expected outcomes."* (Frankel, 2017). Several members of the working group agreed to develop presentations on specific topics outlined by the group, and to serve as speakers in the conference. Working with these consensus topics, Drs. Litewka and Heitman, together with Drs. Patricia Ostrosky and Juan Pedro Laclette from UNAM, selected the date of May 3, 2017 and outlined the agenda for the general conference.

## **2.2 To develop a framework for institutional policies and procedures to prevent and respond to misconduct and questionable practices in research, particularly in international collaboration;**

The Inter American Encounter on Scientific Integrity was conceived as a tool for extending the work in research ethics and integrity achieved of several years of collaboration between the University of Miami Institute for Bioethics and prominent Mexican research institutions, including UNAM, the National Commission of Bioethics (CONBIOETICA), the National Commission for Science and Technology (CONACyT), and Anáhuac University.

Based on the conclusions of the pre-conference planning meeting, the main objectives of the conference were to:

- Examine the specific challenges to research integrity that arise in the Mexican context
- Address potential policies and procedures on responsible conduct through which academic institutions can support the integrity of their faculty's and students' research, particularly in international collaborations), and define the obstacles to effective implementation of academic policy in the national context;
- To propose ways to overcome those obstacles at the institutional and national levels.

The overarching idea was to generate a framework for institutional policies for responding misconduct allegations and questionable practices, with emphasis on international collaborations.

The Inter-American Encounter on Research Integrity took place on May 3<sup>rd</sup> 2017. The venue was the auditorium of UNAM's Institute for Biomedical Research. The Institute's Director, Patricia Ostrosky M.D., Ph.D., the grant P. Sergio Litewka M.D., M.P.H., and the President of the Mexican Bioethics Commission, Manuel Ruiz de Chavez M.D., made the introductory remarks.

The main topics addressed and their presenters were:

**Integridad Científica en la UNAM: Nuestra Experiencia.**

**Scientific Integrity at UNAM: Our Experience.**

Dra. Patricia Ostrosky Shejet, Universidad Nacional de México.

**El Sistema Nacional de Investigadores del CONACyT. Contexto y Experiencias con Casos de Deshonestad Académica.**

***CONACyT's National Researchers System. Context and Experience with Cases of Academic Dishonesty.***

Dr. Luis Godínez, Consejo Nacional de Ciencia y Tecnología (CONACYT).

**Ética de la Investigación y su Relación con la Integridad Científica. El Papel de los Comités de Ética en Investigación.**

***Research Ethics and its Relationship to Scientific Integrity. The Role of Research Ethics Committees.***

Mtra. Erika Salinas de la Torre. CONBIOÉTICA.

**El Principio de Precaución y el Bien Común en Investigaciones Científicas.**

***The Precautionary Principle and the Common Good in Scientific Research.***

Martha Tarasco, Universidad Anáhuac.

**Análisis de Resultados de la Encuesta sobre la Existencia de Herramientas para Promover la Integridad Científica en el Ámbito Académico.**

***Analysis of the Results of the Questionnaire on Tools to Promote Scientific Integrity in the Academic Environment.***

Dra. Elizabeth Heitman. Program in Ethics in Science and Medicine, University of Texas Southwestern Medical Center.

**Gobernanza, Políticas Públicas e Integridad Científica.**

***Governance, Public Policy, and Scientific Integrity.***

Dr. Bernardo García Camino, Universidad Autónoma de Querétaro.

***Del Código Ético del Instituto de Investigaciones Biomédicas, hacia un Código Ético para el Posgrado de la UNAM.***

***From the Code of Ethics at the Institute of Biomedical Research towards a Code of Ethics for the Universidad Nacional Autónoma de México.***

Dr. Juan Pedro Laclette, Instituto de Investigaciones Biomédicas, UNAM.

***Políticas institucionales sobre conflictos de Interés financiero y de compromiso  
Institutional Policies on Financial Conflicts of Interest and Conflicts of Commitment***

Dr. Sergio Litewka, Universidad de Miami.

***Abordaje educativo para promover la integridad científica. La experiencia de la Universidad Anáhuac  
Educational Efforts to Promote Scientific Integrity. The Experience of Anáhuac University***

Dr. Samuel Weingerz Mehl, Universidad Anáhuac

***Enseñanza de la ética a nivel de posgrado: El ejemplo del Instituto de Neurobiología, UNAM  
Teaching ethics at the Postgraduate Level: The Example of UNAM's Neurobiology Institute***

Dr. Michael Jeziorski. Universidad Nacional Autónoma de México

(See full Conference Agenda in Annex 3.)

This well attended conference provided a forum in which top-level academic researchers, administrators, funders, regulators and students exchanged their visions and practical ideas for developing a framework on research integrity that could be responsive to the needs and characteristics of Mexican academic scientific and sustainable over the long term.

An overview of the Mexican situation for research integrity and a report on the process and outcomes of this project were presented at the World Research Integrity Conference (WCRI 2017) that took place in Amsterdam, Netherlands on May 28-31 2017.

**2.3 To build a multi-disciplinary network of academic researchers, educators, and administrators actively engaged in new approaches to promote integrity and prevent misconduct across Mexico.**

While over a third of the members of the working group and most of the additional participants at the planning meeting were from UNAM's central campus in Mexico City, most participants in the working group met at several others whom they did not previously know, from both within UNAM and from other institutions. The meeting has practically focused conversation around participants' common and disparate interests created an initial foundation from which the group could plan a successful conference that would have an impact on research integrity in Mexican universities. Reuniting the group at the conference two months later both to deliver presentations and share their insights with

participants, helped to renew these acquaintances. We anticipate that working together on future educational programs across UNAM will strengthen those ties, and the sharing of curricular materials and sample policies among working group members from different universities and the Mexican government's two relevant agencies will foster new educational collaborations that will grow in the future. Both Drs. Litewka and Heitman reinforced their ongoing collaborations and extended their future engagement with colleagues at UNAM, particularly its Institute for Biomedical Research, Universidad Autónoma de Queretaro and its Bioethics Master's Program, Anáhuac University and its Faculty of Bioethics, and with both CONBIOETICA and CONACyT. By inviting new colleagues at Universidad Autónoma de Guadalajara, and Universidad Autónoma de Nuevo Leon, to participate in a national level conference and follow up activities, the PI and Coordinator have also helped to strengthened national and international ties in research integrity for these institutions.

### **3. Conclusion**

Despite the prominence of many universities with established programs in basic and biomedical research, Mexico has struggled to establish and maintain strong political, intellectual, and financial support for science, particularly after the worldwide financial crisis that began in 2008. Nonetheless, many of Mexico's academic researchers work in international collaborations, in including collaborative work with investigators and institutions in the United States (SCImago, 2016). Despite the proximity of Mexico the United States and the two countries' many common interests, the potential for productive research collaborations with U.S. partners is hampered by differing approaches to research policy and often disparate levels of attention to promoting research integrity. Some of Mexico premier research institutions have experienced scandals of falsification and fabrication of data in recent years but, as in many low-and middle-income countries (Ana et al 2013), there is no official definition of "misconduct" in Mexico and there has been no reliable assessment of the national incidence of behaviors that are widely considered to be misconduct in international contexts.

In preparing for the ORI-sponsored conference, we queried members of our working group about policies and other infrastructure for promoting research integrity in their institutions and confirmed that many universities and research-oriented departments have few formal resources for preventing and responding to misconduct. Most notably, we confirmed that the top academic research institutions in Mexico have few formal policies for addressing misconduct, limited ability to investigate and adjudicating allegations of misconduct that do occur, and uneven – and largely informal – opportunities for students and junior investigators to learn about international standards of research integrity.

The ORI conference grant provided a unique opportunity for upper-level administrators and research educators from Mexico's leading universities to discuss challenges and opportunities for developing relevant policies and formal education programs in research integrity with representatives from national funding agencies and the country's growing bioethics community. It is clear that there are many Mexican researchers, senior academic administrators, and governmental officials in ethics and science education with both interest in promoting research integrity and positions of authority from which to promote related initiatives. It is also clear that it is in the interests of Mexican universities' international collaborators from the U.S. and Europe to provide ongoing support for these efforts.

We anticipate ongoing engagement with UNAM, particularly its Institute for Biomedical Research, the Autonomous University of Queretaro and its Bioethics Division, Anáhuac University (Mexico City) and its Bioethics Institute and look forward to other opportunities to work with ORI to share the U.S. experience and expertise with researches in our neighboring country.

#### **4. Selected references**

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## Annex 1 – Working group

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## Annex 2 – Proposed Table of Contents for Anthology from Conference Presentations

### Scientific Integrity and Academic Policy in Mexico

1. **Introducción al número temático /Introduction to the thematic issue:** Sergio Litewka, Director of International Programs, Institute for Ethics and Health Policy, University of Miami; Elizabeth Heitman, Program in Ethics in Science and Medicine, University of Texas Southwestern Medical Center; Patricia Ostrosky Shejet, Director, Instituto de Investigación Biomédica, Universidad Nacional Autónoma de México
2. **Ciencia, ética y políticas. El rol y responsabilidad de las personas clave/ Science, ethics, and policy. Key roles and responsibilities.** Dr. Mark Frankel, Former Director, Program on Scientific Responsibility and Human Rights, American Association for the Advancement of Science (AAAS)
3. **Integridad científica en la Universidad Nacional Autónoma de México/ Scientific Integrity at the National Autonomous University of Mexico.** Patricia Ostrosky Shejet, Director, Instituto de Investigación Biomédica, Universidad Nacional Autónoma de México
4. **La integridad y la mala conducta en el Sistema Nacional de Investigadores del CONACyT/ Integrity and misconduct in CONACyT's National System of Researchers.** Luis Godínez, Director, Sistema Nacional de Investigadores, Consejo Nacional de Ciencia y Tecnología (CONACYT)
5. **Gobernanza, políticas públicas e integridad científica/ Governance, Public Policy, and Scientific Integrity.** Bernardo García Camino, Professor of Health Law, Programa de Bioética, Universidad Autónoma de Querétaro
6. **Conflictos de interés financiero y conflictos de compromiso; Políticas institucionales en contexto social/ Conflicts of financial interest and conflicts of commitment; Institutional policies in social context.** Sergio Litewka, Director of International Programs, Institute for Ethics and Health Policy, University of Miami
7. **A enfrentar el problema del plagio en la investigación académica / Confronting the problema of plagiarism in academic research.** Horacio Rivera Ramírez, Professor, División de Genética, Universidad de Guadalajara and Instituto Mexicano de Seguro Social
8. **Por qué nos importa la integridad? El bien común en investigaciones científicas/ Why do we care about integrity? The common good in scientific research.** Martha Tarasco, Professor, Universidad Anáhuac
9. **Ética de la investigación y su relación con la integridad científica/ Research ethics and its relation to scientific integrity.** Areli Cerón Sánchez, Dictaminador Especializado en Cofepris, and Manuel Ruiz de Chávez, Director, Comisión Nacional de Bioética (CONBIOETICA).
10. **Del Código Ético del Instituto de Investigaciones Biomédicas, hacia un Código Ético para el Posgrado de la UNAM/ From the Code of Ethics of the Institute of Biomedical Research toward a Code of Ethics for the University.** Juan Pedro Laclette, Coordinador de Estudios de Posgrado, Universidad Nacional Autónoma de México

11. **Enseñanza de la integridad a nivel de posgrado: El ejemplo del Instituto de Neurobiología de la UNAM/ Teaching integrity at the postgraduate level.** Michael Jeziorski, Professor, Neurobiology Institute, Universidad Nacional Autónoma de México
12. **Abordaje educativo para promover la integridad científica. La experiencia de la Universidad Anáhuac/ Educational Efforts to promote scientific integrity. The Experience of Anáhuac University.** Samuel Weingerz Mehl, Universidad Anáhuac
13. **Creando una cultura de integridad en investigación biomédica/ Creating a culture of integrity in biomedical research.** Elizabeth Heitman, Program in Ethics in Science and Medicine, University of Texas Southwestern Medical Center