



SESSION #2B

CHAIR: Dr. Jane Zavisca

### Science for Science Policy

Thursday, Oct. 24, 2019

1:15 – 2:45 pm

Papers:

1.) **Science in Legislation—Applying Scientific Peer Review and Rigor to Public Policymaking**

*By CJ Pommier, March for Science Southern Arizona; Josh Hoskinson, March for Science Southern Arizona; Ansel Andrews, March for Science Southern Arizona; and Henry Werchan, University of Arizona*

2.) **Recent institutional transformations on the technological governance in Latin America**

*By Martin Perez Comisso, Arizona State University*

3.) **From Citizen Science to Policy**

*By Samragyee Gautam, University of Idaho*

4.) **Forging Sister Wetlands in El Paso, Texas and Ciudad Juárez, Mexico: Urban Transboundary Conservation and Restoration on the U.S.-Mexico Border**

*By Ana Córdova, El Colegio de la Frontera Norte; Adriana Zúñiga-Terán, University of Arizona; John Sproul, University of Texas at El Paso*

## **Science in Legislation—Applying Scientific Peer Review and Rigor to Public Policy Making**

By **CJ Pommier**, PhD, March for Science Southern Arizona; **Joshua Hoskinson**, MS, CEO, March for Science Southern Arizona; **Henry Werchan**, MS, March for Science Southern Arizona; and **Ansel Andrews**, March for Science Southern Arizona

**Keywords:** Science Citizenship, Diplomacy, Policy, Legislation, Education

**Abstract:** *March for Science Southern Arizona* is a local 501(c)(3) nonprofit organization dedicated to preserving and expanding the critical role of science and evidence in our Southern Arizona community through community outreach and nonpartisan political advocacy. The lack of science-based and evidence-based policymaking at the local, state, and federal levels of government has become a strong factor in the political divisiveness currently seen in American politics. Legislation on topics ranging from environmental and wildlife protections, climate change, vaccines, STEM education, and science funding have been driven primarily by ideology and misinformation instead of science and evidence. To make science and evidence the forefront of deciding policy on these topics, we have started the *Science in Legislation Project*. This project would allow community members, undergraduate students, graduate students, postdoctoral fellows, faculty, and others to apply the scientific peer-review process to legislation by comparing proposed science-related policies with current scientific literature to determine if these policies are consistent with the findings of researchers. Collaborators would compose “synthesis reports” that present the science in a non-partisan manner easily understood by the general public and are aimed at both the general public and elected representatives at the local, state, and/or federal level (depending on the legislation). We would then share our findings with the general public and elected representatives to fulfill our goal of increasing the scientific literacy of elected officials and encouraging evidence-based policymaking.

The focus of our presentation would be on reasoning behind the *Science in Legislation Project*, challenges and successes—including example case studies on how public policy compared with the scientific literature, and an examination of the process of sharing with the elected representatives of Southern Arizona and the general public.

## **Recent institutional transformations on the technological governance in Latin America**

By **Martin Perez Comisso**, PhD Candidate in Human and Social Dimension of Science and Technology, Arizona State University

**Abstract:** Science and technology policy in Latin America is not prepared for emerging technologies. With national innovation systems highly dependent on global developments, the region plays a minor role in the production and development of new technologies, generating less than 2% of the world's patents. At the same time, rapid institutional transformations in recent years diminish the ability to anticipate, evaluate and maintain complex governance systems, despite the increase in the number of specialists in the countries of the region in the last decade.

This paper analyzes the similarities and differences in the strategies of some emerging technologies in Argentina, Brazil, Chile, Ecuador, Mexico and Uruguay between 2008-2018. Based on legislative documents, media reports, and national and regional public speeches, this paper accounts for the agendas (and non-agendas) of emerging technology governance in the region. In particular, the generation of instruments or regulatory bodies within their national systems of innovation in the face of emerging technologies.

It is observed that a discontinuous evolution of national innovation systems in most of these countries, as well as the absence of instruments for the participation and governance of new technologies, making it very difficult to effectively anticipate or regulate imported technologies. In global terms, identifying regional patterns of technological policy makes it possible to find interregional collaboration, as well as to identify blind spots in the implications of emerging technologies in non-hegemonic contexts.

## **From Citizen Science to Policy**

By **Samragyee Gautam**, Undergraduate student, B.Sc in Environmental Science and B.A in International Studies, University of Idaho

**Abstract:** Establishing a water quality standard in the US involves various governmental and non-governmental stakeholders. And the reason why it is established, is to ensure that the water we use isn't harmful and can be used for drinking and household purposes. In the past few decades, cities are experiencing rapid urbanization, specifically in the North-west region. As a result, water quality in these areas have been affected immensely. Spokane River (aka the Long Lake) is one of the examples, presented in the case-study, where the reasons behind the lack of set standards for the pollutants present in the river is explored. During the 8-week period of this study, major stakeholders and partnership organizations were identified who would be an aid to the IWRRI's citizen science campaign- "to establish a TMDL for N, P and other metals like Zinc, Lead, etc." Furthermore, the importance of citizen science in issues like this that involves all population is discussed; a success story about the Charles River case in Boston is presented.

## **Forging Sister Wetlands in El Paso, Texas and Ciudad Juárez, Mexico: Urban Transboundary Conservation and Restoration on the U.S-Mexico Border**

By *Ana Córdoba*, Research Professor at the Urban and Environmental Studies Department, El Colegio de la Frontera Norte; *Adriana Zúñiga-Terán*, Assistant Research Scientist, Udall Center for Studies in Public Policy and Senior Lecturer, School of Landscape Architecture and Planning, University of Arizona; *John Sproul*, Center for Environmental Research & Management (CERM), University of Texas at El Paso

**Abstract:** Sister parks have been established worldwide as a way to strengthen the conservation and restoration impacts of individual parks. Often sister parks are juxtaposed on the border between two countries and can expand protected surface area and create local and regional synergies for their conservation goals. It is not common, however, that such sister parks be located in urban areas, providing a last stronghold of resistance to rapid urban encroachment onto natural areas.

The Ciudad Juárez-El Paso metropolitan area is home to a human population of nearly two million. With the IBWC-CILA Rio Grande Rectification Project in the 1930's, the river was channelized in the El Paso-Juárez Valley, and its meanders and natural riparian areas were eliminated. With this engineering project, the ecosystem services provided by riparian areas practically vanished. The Rio Bosque Wetlands Park (RBWP) in El Paso, Texas aims to “establish meaningful examples of native wetland and riparian habitats historically found along the Rio Grande in the El Paso region.” Scientists in Ciudad Juárez and El Paso have been collaborating to create a sister wetland directly across the border from RBWP which could double the wetland surface area and boost many of the ecosystem services through ecological synergies that can benefit both communities.

In this paper we will describe the collaboration that has taken place to date, current activities and steps forward and how science can provide a basis for diplomacy in the international policy and political environment of the US-Mexico border, in which it is sorely needed.