The Purpose of Universality in Science & How it is Implemented Through International Non-Profit Organizations
Camera Walrond, SUNY Oneonta

Purpose
The International Council for Science (ICSU) created and has worked to enforce The Principle of the Universality of Science, which “…embodies freedom of movement, association, expression and communication for scientists as well as equitable access to data, information and research materials.” The purpose of this project is to explore why such a principle is important and how international nonprofits such as the ICSU and the American Association for the Advancement of Science (AAAS) make use of this principle. This project also seeks to explore how this principle is implemented through these institutions and their members/affiliates.

Why the ICSU and the AAAS?
The ICSU currently has a member roster of 121 national science academies and 32 international science unions. It works to tackle a wide range of issues across the sciences and does this by creating interdisciplinary bodies that work towards strengthening international research collaboration, science and policy integration, and universality. The ICSU’s mission includes increasing interdisciplinary communication between scientists and strengthening substantial communication between scientists, governments, businesses and the general public. The AAAS, being the largest general scientific community in the world, focuses on enhancing “…communication among scientists, engineers, and the public.” Through its focus on scientific education and outreach, the AAAS has upheld values akin to the Principle of Universality for over 150 years.

The Importance of Communication and Accessibility
Overarching ideals can only do the work that they’re intended to do if they’re put into actions. The AAAS, with the goal of enhancing science communication and accessibility, has initiated annual meetings and various programs focusing on science policy, science education and public engagement to put ideals into action. This is necessary because with communication and accessibility in the sciences comes more opportunities for scientists to build off current research and make progress. Implementation of ideals such as the Principle of Universality also comes from the institutions that are members of these international organizations (such as the U.S. National Academy of Sciences and the International Astronomical Union), academic journals, science oriented websites and magazines and news outlets.

How Can Principles be Undermined?
Science is largely a publically funded enterprise. Maintaining good, core ideals is imperative to maintain the integrity and reputation of scientific research and discovery. Personal incentives, external pressures such as those from businesses with certain interest and/or the source of funding for research institutions can play a role in the disintegration of ethical principles within science, which can lead to public distrust. For this reason, it is vital for there to be strong, substantial dialogue with not only the public but also with those who make public policy.

Acknowledgements: This project was funded in part by the Student Grant Program for Research and Creative Activity and the D’ Antonio Travel for Excellence Fund. Special thanks to project faculty advisor, Dr. Michael Koch, and academic advisor, Dr. Achim Koeddermann.