Education and Exchange Programs for International Students in the U.S. – A Brief Overview

CARL BURGER
Abernathy Fish Technology Center, 1440 Abernathy Road, Longview, WA, 98632, USA
(Carl_V_Burger@fws.gov)

SUMMARY: The U.S. and Japan have been leaders in providing graduate-level educational exchanges for international students in the fisheries profession. From a fisheries society perspective, students are the core of our future. One of the most successful programs for international students in fisheries has been the U.S./Japan Natural Resources Program formed in 1964 to promote conservation through cooperation in science and technology. Program funding from the U.S. National Science Foundation, Sea Grant, and various universities in both countries has led to many educational exchanges. The success of these opportunities is dependent on the availability of principal investigators in both countries to facilitate the exchange and identify potential funding sources. Students interested in such programs should pursue opportunities with professors who maintain regular contacts in international research studies. Several U.S. universities also offer special exchanges for international students. Some of the strongest programs seem to exist at the University of Hawaii, Auburn, Southern Illinois, and the University of South Carolina. A new program administered by the American Fisheries Society for young adults is mentioned as an example of an approach that orients youth to careers in natural resources, and hence improves the relevance of the Society. The newly revived World Council of Fisheries Societies could also play an international role in helping orchestrate scholarships to enhance opportunities for international studies and exchanges.

KEY WORDS: scientific exchange programs, international education, fisheries graduate programs

INTRODUCTION

The U.S. and Japan have been leaders in promoting graduate-level educational opportunities and scientific exchanges. Respective fisheries societies in each country (American Fisheries Society; Japanese Society of Fisheries Science) likewise promote educational programs for students, because student members are the future core and life-blood of any professional organization. According to the newspaper “U.S. Today,” there are over 46,000 students from Japan pursuing science degrees in the U.S. The goal of my paper is to briefly summarize some relevant exchange and educational opportunities that exist in the U.S. for international students in fisheries-related disciplines.

BILATERAL PROGRAMS BETWEEN JAPAN AND THE U.S.

One of the most significant exchange programs between Japan and the U.S. is the United States/Japan Natural Resources Program (UJNR). Initiated in 1964, this program was formed to promote conservation through international cooperation in natural resource science and technology. The UJNR structure consists of 18 “panels,” nine that focus on marine sciences, and nine that address terrestrial resource issues. Within the marine science panels, the Aquaculture Panel (Chair, Jim McVey of the U.S. National Marine Fisheries Service) has been extremely active in promoting exchanges of both students and established scientists. Although funds have been scarce in recent years, the Aquaculture Panel has been a key to successful student exchanges between Japan and institutions such as North Carolina State University, where marine fish culture has been emphasized. The UJNR Aquaculture and Marine Facilities panels meet each year. The Aquaculture Panel held its 30th Meeting in late 2001. The Aquaculture Panel has achieved many successes, most notably an abalone research partnership between the Waddell Mariculture Center (South Carolina) and the Japanese National Research Institute of Aquaculture. Another noteworthy UJNR success is the cooperative research project on flatfish culture and release between John Miller (North Carolina State University) and Masaru Tanaka (Kyoto University) which began in 1997. ¹)

UJNR Program activities are also supported by the U.S. National Science Foundation (NSF) which sponsors several exchanges with Japan. Also, NSF
maintains an office in Tokyo. Although established U.S. scientists must actually apply for the funding, these U.S. scientists are permitted to include support for visiting Japanese participants in the proposals that are submitted. NSF funds many collaborative projects that include travel for Japanese researchers. To explore possible opportunities through NSF, their web site can be accessed at: www.nsf.org.

Institute of International Education (www.iie.org) is an additional U.S. organization that supports scientific exchanges between the U.S. and Japan. The Institute administers the Fulbright Fellowship Program. The most relevant aspect for prospective Japanese partners is the “Foreign Fulbright Graduate Student Scholarship.” Over 5,000 Fulbright grants are given each year for foreign students, teachers, and professionals in scientific disciplines. The Fulbright Program also funds international research visits by foreign scientists. The contact for applying to this program in Japan is the Japan-U.S. Educational Commission in Tokyo (www.jusec.org).

U.S. UNIVERSITY-BASED PROGRAMS

Auburn University in Alabama maintains an extremely strong presence in international student opportunities, particularly in fisheries science and aquaculture. Auburn University’s Office of International Agriculture (www.auburn.edu/international) offers an “International Student Guide for Admissions” and a procedure for on-line applications. Auburn University also provides a process for international grants and scholarships (www.ag.auburn.edu/oia/scholarships). Of 22,000 students at Auburn, about 700 are from international destinations. The Office of International Agriculture also oversees two fisheries-related entities: (1) the International Center for Aquaculture and Aquatic Environments (ICAAE); and (2) the Department of Fisheries and Allied Aquaculture. The ICAAE provides technical services in aquaculture, fisheries, and aquatic ecology, and it facilitates broad student participation in international activities, most recently with students from China. Part of the mission of the ICAAE is to conduct research that removes constraints in managing aquatic resources. The ICAAE provides customized training in fisheries and aquaculture via courses (3-16 weeks in duration) and hosts visiting scientists for up to 6 months. The ICAAE also facilitates graduate degree programs for international students. Dr. Bryan Duncan is the Director. Other staff and specialties include Dr. Claud Boyd (aquaculture), Dr. Tom Lovell (fish nutrition), and Dr. Len Vining (educational outreach).

The University of North Carolina (UNC) also maintains a large International Studies Program as well as an International Center to assist foreign students. UNC (www.unc.edu) has a Graduate Program in Marine Science. Virtually all Marine Science graduate students receive some form of financial support.

In California, Humboldt State University (www.humboldt.edu) is an additional example of an academic institution that maintains a strong International Studies Program. The school is in the process of developing an “International Resource Center” to recruit additional foreign students and explore new exchange opportunities. They offer a large list of scholarships for graduate-level studies and they maintain a solid fisheries program (MS degree only) with an emphasis on salmonid fishes.

The University of Hawaii at Manoa provides scientific leadership in pelagic fisheries research, remote sensing applications, and protected species research. They are also active in studies of tuna migration and distribution. The University of Hawaii at Manoa (www.uhhmap.hawaii.edu) provides graduate programs for international students from many countries but most students are from Japan and China. Their Office of International Student Services assists foreign students with visa requirements and other needs. This institution has a unique “Pacific-Asian Scholarship Program” exclusively for Asian graduate students (www.hawaii.edu/graduate/fellowships). At University of Hawaii, research support is provided by the Hawaii Institute of Marine Biology at Coconut Island. Graduate degrees are offered in marine science and oceanography, and the focus of Hawaii’s programs is on marine systems and processes such as global climate change. They also provide a research program in aquaculture.

The University of Miami (www.miami.edu) is world-renowned for their Graduate Program in Marine Science and Fisheries. The Rosenstiel School of Marine and Atmospheric Science (www.rsmas.miami.edu) provides extensive marine research capabilities and expertise in sustainable aquaculture. Of potential interest to Japanese students is their Division of International Education and Exchange. Their International Studies Program for exchange students includes representation from 110 countries.

Several other U.S. universities maintain strong programs in either fisheries or marine science and international exchanges for foreign students. Southern Illinois University (www.siu.edu) provides graduate programs in fisheries science and diverse research
opportunities in aquaculture, including international projects. They have a strong International Studies Program and a campus in Japan (SIU Niigata; niigata@siu.edu). The University of South Carolina (www.sc.edu) offers an exceptional international exchange program with over 1,200 foreign students from 110 countries. The University of South Carolina maintains a Graduate Program in Marine Science. Other schools (Texas Tech University, North Carolina State, and the University of Alaska, Juneau) have existing cooperative exchange agreements with Japanese institutions. Texas Tech’s agreement is with the Tokyo University of Fisheries and Alaska’s is with Hokkaido.

CONCLUSIONS

Many opportunities exist in the U.S. for international exchange students. Participating universities generally have financial aid programs for graduate study and most offer intensive English language training. Other opportunities include the UJNR and NSF programs, and fellowships (e.g. Institute of International Education).

RECOMMENDATIONS

1) Prospective exchange students should attempt to work with Japanese scientists having foreign contacts and ongoing international research.
2) Potential exchange students should also try to develop a relationship with a U.S. scientist if a U.S. exchange is the goal.
3) All options and scholarships should be pursued because funding can be a key limiting factor.
4) Master the English language before coming to the U.S. to assure a successful exchange.

Who you know is everything! Securing the funds for an exchange program is everything else!! A main ingredient seems to be the availability of a principal investigator (advisor) in both countries to help facilitate the exchange program.

The American Fisheries Society (www.fisheries.org) just initiated a new program (Hutton Junior Fisheries Biology Program) targeting undergraduate students from under-represented ethnic backgrounds. The goal is to provide summer jobs and attract new students into the fisheries profession. This program could serve as a model for other professional fishery societies who wish to enhance their visibility and relevance beyond existing members.

Finally, the World Council of Fisheries Societies was successfully revived following the Third World Fisheries Congress in Beijing, China. As the Council strengthens, there indeed may be opportunities to create international scholarships (with help from the fisheries industry) to foster successful exchanges in the future.

ACKNOWLEDGMENTS

I thank the Japanese Society for providing the invitation to participate in their 70th Commemorative Symposium. Drs. Watanabe, Takashima, and Strussmann were very helpful to the organization of my presentations. I thank John Miller, Jim McVey, and Bill Heard for providing UJNR background information.

REFERENCE