Informal scholarly communication among fishery scientists in Taiwan

Chia-Hsiang Chen
Ph.D. Student, Graduate Institute of Library & Information Studies, National Taiwan Normal University, Taipei, Taiwan
chchen.chen@gmail.com

Hao-Ren Ke
Professor & Chairperson, Graduate Institute of Library & Information Studies, National Taiwan Normal University, Taipei, Taiwan
clavenke@ntnu.edu.tw

ABSTRACT

This study is a qualitative research to explore informal scholarly communication among fishery scientists in Taiwan. The goal is to identify the informal scholarly communication patterns of Taiwan fishery scientists and, therefore, to investigate the factors among the institutes.

This research aims to analyze informal scholarly communication among fishery scientists from interpersonal channels, scientific networks and motivations. The primary emphasis will be on the informal communication which occurs among fishery scientists in the research institution.

Semi-constructed interviews will be conducted with over 30 researchers and across 6 research institutions in Taiwan. The fisheries-related organizations include Academia Sinica, Fisheries Research Institute, COA, National Taiwan University, National Taiwan Ocean University, National Museum of Natural Science and National Museum of Marine Biology & Aquarium.

It is expected that this study will contribute to the understanding of informal scholarly communication among fishery scientists in Taiwan. In addition, the analytical dimensions of this study may be useful for analyzing how fishery scientists collaborate and how relate to each other.
Informal Scholarly Communication Among Fishery Scientists in Taiwan (PhD Proposal)

Chia-Hsiang Chen\textsuperscript{1} and Hao-Ren Ke\textsuperscript{2}

\textsuperscript{1}Ph.D. Student, Graduate Institute of Library & Information Studies, National Taiwan Normal University, Taipei, Taiwan
E-mail: chchen.chen@gmail.com

\textsuperscript{2} Professor & Chairperson, Assistant Professor, Graduate Institute of Library & Information Studies, National Taiwan Normal University, Taipei, Taiwan
E-mail: clavenke@ntnu.edu.tw
Agenda

1. Introduction
2. Literature review
3. Methodology
4. Expected results
1. Introduction

- Scientists communicate to brainstorm ideas and be creative
  - formulate research questions
  - solve experimental or theoretical problems
  - disseminate results
  - and get feedback

- Several authors emphasize the importance of informal communication to science
### Table 2-3-1 NSC Funding, Manpower and Number of Projects in Life Sciences in 2010

<table>
<thead>
<tr>
<th>Research Field</th>
<th>Total Manpower (Million NTD)</th>
<th>Number of Projects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic Medicine</td>
<td>1,149</td>
<td>578</td>
</tr>
<tr>
<td>Clinical Medicine</td>
<td>3,347</td>
<td>1,360</td>
</tr>
<tr>
<td>Pharmacology</td>
<td>4,108</td>
<td>310</td>
</tr>
<tr>
<td>Public Health</td>
<td>444</td>
<td>294</td>
</tr>
<tr>
<td>Dentistry</td>
<td>152</td>
<td>75</td>
</tr>
<tr>
<td>Nursing</td>
<td>441</td>
<td>168</td>
</tr>
<tr>
<td>Medical Technology</td>
<td>2,256</td>
<td>160</td>
</tr>
<tr>
<td>Rehabilitation Medicine</td>
<td>272</td>
<td>95</td>
</tr>
<tr>
<td>Miscellaneous (Medicine)</td>
<td>190</td>
<td>102</td>
</tr>
<tr>
<td>Hepatitis Prevention</td>
<td>147</td>
<td>431</td>
</tr>
<tr>
<td>Biotechnology</td>
<td>147</td>
<td>431</td>
</tr>
<tr>
<td>Agronomy</td>
<td>73</td>
<td>8</td>
</tr>
<tr>
<td>Horticulture</td>
<td>16</td>
<td>15</td>
</tr>
<tr>
<td>Plant Preservation</td>
<td>66</td>
<td>32</td>
</tr>
<tr>
<td>Agricultural Chemistry</td>
<td>29</td>
<td>23</td>
</tr>
<tr>
<td>Agricultural Hydraulics</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Agricultural Machinery</td>
<td>52</td>
<td>8</td>
</tr>
<tr>
<td>Water and Soil</td>
<td>114</td>
<td>13</td>
</tr>
<tr>
<td>Reserves Conservation</td>
<td>19</td>
<td>13</td>
</tr>
<tr>
<td>Forestry</td>
<td>93</td>
<td>37</td>
</tr>
<tr>
<td>Fishery</td>
<td>102</td>
<td>37</td>
</tr>
<tr>
<td>Animal Husbandry and Veterinary Medicine</td>
<td>144</td>
<td>33</td>
</tr>
<tr>
<td>Miscellaneous (Agriculture)</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Natural Ecology Conservation</td>
<td>22</td>
<td>23</td>
</tr>
<tr>
<td>Automation Engineering</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Agricultural Environment Protection</td>
<td>15</td>
<td>11</td>
</tr>
<tr>
<td>Food Technology</td>
<td>444</td>
<td>284</td>
</tr>
<tr>
<td>Biotechnology</td>
<td>8,261</td>
<td>4,282</td>
</tr>
</tbody>
</table>

Source: Government Research Bulletin (GRIB)

- **Yearbook of Science and Technology Taiwan (2011)**
- **Fishery field is one of the life science group**
Research Purpose

• To understand the informal scholarly communication among fishery scientists in Taiwan
Research Questions

- What is the informal scholarly communication channel in fishery scientists?
- How to build the invisible network?
2. Literature Review

- The value of informal scholarly communication were studied by Garvey and Griffith in 1971
- Their research pointed out that scientists relied on informal networks to connect academic activities and solve research problems

Garvey & Griffith, 1971; Poland, 1991)
2. Literature Review (cont.)

• Lacy and Busch (1983) studied informal scientific communication in the agricultural science

• They found that the informal communication network were important sources for scientists

• Including choice of problems, research methodology, key concepts, reading and exchange of papers at professional meetings, and theoretical orientation
2. Literature Review (cont.)

- Information and communication technologies (ICTs) have transformed our world in many ways.
- Informal scholarly communication forms a socio-technical interaction network in which communication is influenced by technology.
2. Literature Review (cont.)

- Subramanian (2006) showed that informal communication provided positive interactions because colleagues could share findings.
- Become more actively engaged in collaborative research and improve their “work in progress”
2. Literature Review (cont.)

- Scholarly communication means the study of how scholars in any fields use and disseminate information through formal and informal channels (Borgman, 1990)
- Scholars in the twenty-first century continue to use those channels
- Many of the processes, structures, and relationships of scholarly communication are invisible most of the time (Borgman, 2007)
2. Literature review (cont.)

- **Informal communication** describes the communication activities between scholars or scientists in which they interact directly with one another through
  - face-to-face discussion
  - Telephone
  - Fax
  - Post
  - Correspondence
  - Electronic mail
  - Personal websites
  - and conference  
  
  (Mahmood, 2011)
2. Literature review (cont.)

- **Invisible college**
  - as first described by De Solla Price (1963) personal communication and informal exchange practices among geographically disparate scholars in an “invisible college”
  - the root of scholarly communication (Acord, 2012)
  - the informal but specialized social system that produces basic scientific knowledge (Price, 1963; Crane, 1962)
2. Literature review (cont.)

- Price (1963) conjectured each field
  - the research front advancement it driven by an informal communication network of scholars forming a highly interactive
  - tight group of productive scientists who beyond national and institutional boundaries
  - collaborative via face-to-face communication and preprint exchange to define problems techniques and solutions

(Bellis, 2009)
2. Literature review (cont.)

- In the academic research context the internet has been adopted to such an extent that available tools (e.g. email, blogs and personal websites) afford **informal communication** (Borrego & Fry, 2012)
- And these characteristics of new digital technologies
  - dialogic structure
  - expansive networking of scientists
  - with the values and research findings of the informal science community (Bell, 2009)
3. Methodology

- This study employed the **qualitative research approach**
- Semi-constructed interviews are conducted with over 30 researchers and across more than 6 research institutions in Taiwan
3. Methodology (Cont.)

• The **fisheries-related project** in participating organizations include
  – Academia Sinica
  – **Fisheries Research Institute**
  – National Taiwan University
  – **National Taiwan Ocean University**
  – National Museum of Natural Science
  – **National Museum of Marine Biology & Aquarium**
4. Expected results

- It is expected that this study will contribute to the understanding of informal scholarly communication among fishery scientists in Taiwan.
- In addition, the analytical dimensions of this study may be useful for analyzing how fishery scientists collaborate and how they relate to each other.
Thank you for your attention