

## IUSSP Laureate Nomination letter for ZENG Yi

We are pleased to nominate Professor Yi Zeng for his outstanding contributions to the advancement of population sciences and distinguished services rendered to the community of scholars in population sciences in general and IUSSP in particular.

Yi Zeng's contributions to the advancement of population science may be grouped into two categories: (a) research and (b) capacity building and institution building. In addition, we highlight service rendered to the IUSSP (section c). Yi Zeng's contributions and service to the IUSSP and the scientific community at large have been acknowledged widely. A brief account of the recognition is offered in section d.

### a. Research

During his professional career, Yi Zeng developed a research focus on healthy aging and family and household demography. In important ways, he shaped two areas that are central to population sciences.

#### a.1 Healthy aging

In 1998, he and colleagues in China, Europe and the United States launched the ground-breaking Chinese Longitudinal Healthy Longevity Study (CLHLS). The objective was to develop a knowledge base for enhancing the wellbeing and quality of life of elderly in China and worldwide. China was aging at an extraordinary pace and had the largest number of elderly persons in the world. The CLHLS was and is the largest longitudinal study of the oldest-old aged 80+ (with compatible young-old aged 65-79) in the world. Several innovative features were introduced to disentangle the effects of socioeconomic and behavioral/lifestyle factors, social support, environmental factors, genetics and genetics-environment interactions on healthy longevity. It was a comprehensive and truly global enterprise, not only because of the composition of the research team, but also because of the funding scheme, which included the National Natural Sciences Foundation of China, the National Social Sciences Foundation and Ministry of Science & Technology of China, the US National Institute of Aging, and the United Nations Population Fund (UNFPA). It is also important to acknowledge that the study was designed to facilitate international comparative research. Since the panel study was launched in 1998, 8 waves of data collections were successfully organized, the latest in 2018, and the next wave is scheduled to be conducted in 2020.

The book entitled "Healthy Aging in China: Trends and Determinants" which presents the major findings of CLHLS (Yi Zeng is the Editor-in-Chief and one of the major authors of this book, published by Science Press in 2017) received the award of "National Philosophy and Social Sciences Outstanding Achievements Book", the highest honor of Philosophy and Social Science books in China. The research article on "Survival, disability in activities of daily living, physical and cognitive functioning among the oldest-old in China: a cohort study" analyzing the CLHLS datasets led by Yi Zeng was published in March 2017 by *The Lancet*. *The Lancet* presented a major Press Release on the main findings of this article at the day when it was published online, indicating that CLHLS is the worldwide largest study on oldest-old and it has important academic and social significance, not only for China but also for healthy aging in other countries.

According to an incomplete statistic, as of October 15, 2019, there were 7,658 registered CLHLS data users (excluding their students and members of research teams) worldwide. These data users used CLHLS datasets to produce 332 papers written in English, published in U.S. or European peer-reviewed journals; 443 papers written and published in peer-reviewed Chinese journals and 11 books (five in English and six in Chinese); 34 Ph.D. dissertations and 88 M.A. theses successfully defended at Universities inside and outside of China.

Yi Zeng's research on healthy aging had significant policy impact. In several publications since 1990, he suggested replacing the one-child policy by a universal two-child policy in China. He authored six major policy reports submitted to the Chinese central government. In these reports, Yi Zeng demonstrated scientifically why China needed to (a) change its one-child policy into a universal two-child policy and (b) adopt other socioeconomic strategies to face serious challenges of population aging and achieve balanced and sustainable development. These six policy research reports were noted in writing by the Chinese President, Premiers and Vice Premiers, and were included twice as the main report of China National Development and Reforms Commission sponsoring "Internal References for Reforms • High-level Reports" in Feb. 2013 and April 2015. With continued policy research efforts of Yi Zeng and other scholars in China, the government replaced the one-child policy by universal two-child policy in October 2015.

#### a.2 Family and household demography

The second line of Yi Zeng's research was a response to a call by IUSSP to stimulate research on the formal demography of the family. In 1982 the Council of the IUSSP established a Scientific Committee on Family Demography and the Life Cycle. That initiative and the publications by the committee motivated Yi Zeng to embark on that emerging subfield of demography. That resulted in his PhD dissertation (1986), entitled *Family dynamics in China. A life table analysis*. It was an extraordinary achievement. One of his papers on the multistate family status life table, in which he extend the life table to both nuclear and three-generation families with applications to China, was published in *Population and Development Review* in 1986, and won Dorothy Thomas Prize of the Population Association of America in 1987. Based on his extended family status life table model, Yi Zeng further developed and published the ProFamy multistate family household and living arrangement projection model. He also showed how to use conventional demographic data to produce projections of family households. That innovate approach paved the way to move beyond the traditional headship rate model, which was widely used at that time. The ProFamy model represents the state-of-the-art of modeling in family and household demography. ProFamy has been used and is being used in countries around the world to project households and assess consequences of changing household structures for housing, home-based energy use and its environmental impact. The widespread use of the ProFamy model is made possible by user-friendly software Yi Zeng and his team developed. This line of research resulted in numerous publications in academic journals and books. Requests by the public and the private sector to produce household projections are indications of the societal impact of Yi Zeng's research on this subject.

#### b. Capacity building and institution building

As deputy director and director of the Institute of Population Research at Peking University (1987-1998), Yi Zeng advanced the training of demography at Peking University in a significant way. With the multi-year financial support from the World Health Organization (1987-1996), Yi Zeng initiated an international MA degree program in demography with all

courses taught in English, which was a revolutionary event of academics in China when the program was officially launched in 1992, more than 25 years ago. The program attracted Chinese and foreign students.

In 2000 he and colleagues founded the Chinese Population and Socioeconomic Studies Center (CPSES) at Duke University and organized campus-wide CPSES seminars, training workshops and CPSES international conferences, fund raising, and database development.

Yi Zeng has been invited frequently worldwide to deliver lectures and keynote addresses.

The volume on Demography of the *Encyclopedia of Life Support Systems* (EOLSS) coordinated by the UNESCO-EOLSS Committee ([www.eolss.net](http://www.eolss.net)), which Yi Zeng edited (2009), is an important resource widely used worldwide in teaching. The translation in Chinese made the contributions by leading demographers accessible to students and scholars in China.

As an amiable and rigorous mentor, Yi Zeng trained dozens of graduate students for Ph.D degrees and MA degrees as well as post-doctoral fellows at Peking University and Duke University.

c. Service rendered to the IUSSP

2002 – 2009: IUSSP Council member (two terms)

1989 - 1997: member of the International Organizing Committee of IUSP conferences: the 22nd General Conference in Montreal, Canada (1993) and the 23rd General Conference in Beijing, China (1997). It was Yi Zeng who, on behalf of the Chinese community of population scientists, invited the IUSSP to hold the 23rd General Conference in Beijing.

1993 – 1997: member of the IUSSP Nominating Committee.

1998 – 2006: member of IUSSP's Academic Committee on Aging, Longevity, Disability and Health

2001: chief academic organizer of the International Symposium (Oct. 22-25, 2001) and training workshop (Oct. 26-27, 2001) on Healthy Aging Studies in China. The meetings were co-sponsored by IUSSP and the Center for Healthy Aging and Family Studies of Peking University.

2005: lecturer in the Summer School on Frontiers of Demographic Research on Mortality and Longevity, organized by IUSSP and the Max Planck Institute for Demographic Research, Rostock (several lectures).

2017: served as chief academic organizer for the IUSSP 28th General Conference Side-meeting on “Family Households/Population Projections and Sustainable Development” in Cape Town, South Africa.

2019: served as Chair of the Academic Organizing Committee of “International Conference and Training Workshop on Household and Living Arrangement Projections for Informed Decision-Making”, May 9-11, 2019, Beijing, China. He invited the Chair of IUSSP Committee on Family Demography and Family Law (Professor Benoît Laplante) to speak at the opening ceremony to guide the conference and training workshop.

#### d. National and international recognitions

Yi Zeng is highly regarded in China and internationally. In China, he exceptionally became a tenured full professor in 1989 at Peking University, two years after he completed his four-year Ph.D study at the Free University in Brussels and the Netherlands Interdisciplinary Demographic Institute (NIDI) in The Hague and his one-year post-doctoral research at Princeton University. He received fourteen national academic prizes. For example, in 1990, four years after obtaining his doctoral degree, the State Education Commission awarded him the first-class prize for advancement of science and technology and the first-class He Yindong prize for young scientists' outstanding achievements. In 1994, the State Family Planning Commission and the China Population Association awarded him the first-class prize for outstanding contributions to population sciences. In 2009, nine ministries and seven national non-governmental associations jointly awarded him the "Chinese Population Prize (Science and Technology)". The Chinese Population Prize (Science and Technology) is given once every three years to no more than four most prominent scholars who made outstanding contributions in scientific research and technological innovations concerning population health and well-being. In September 2019, he was a recipient of the National Medal of Outstanding Contributions issued by the Central Government of China on the occasion of the 70<sup>th</sup> anniversary of the People's Republic of China.

In the United States, the Population Association of America (PAA) awarded him the Dorothy Thomas Award from the best graduate student paper presented at the annual meeting of the PAA (1987). The Population Council awarded him the Frank W. Notestein Fellowship for postdoctoral study and research at Princeton University (1986). The University of Wisconsin Press published the book based on his doctoral dissertation (1991). The University of Minnesota appointed him as adjunct-professor in 1992, and Duke University offered him professorship in 1999, which continues until today. From 1999, he combined academic careers in China (Peking University) and the United States (Duke University). He had visiting research positions in the Netherlands, Austria, Germany and Denmark. Since 1998, the main research organization in Germany, the Max Planck Society, appointed him as a Distinguished Research Scholar. In 2010 the Royal Netherlands Academy of Arts and Sciences elected him as a foreign member of the Academy. In 2018, he was elected as a member of The World Academy of Sciences (TWAS). According to a search report by Duke University Library based on Google Scholar database, up to Sept. 25, 2019, Yi Zeng's articles and books have been cited 12,716 times by other scholars, his h-index is 52 and i10-index is 166. The CV lists several other tokens of appreciation for his outstanding research.

Professor Yi Zeng's contribution to the advancement of population sciences and the service he rendered to the IUSSP makes him an ideal candidate for the IUSSP Laureate Award 2020. By honouring Yi Zeng by bestowing its Laureate Award, our Scientific Union acknowledges the important contributions of Chinese members of IUSSP to the population sciences and to our association.

With best regards,

Frans Willekens (coordinator)

Supporting statements of the several IUSSP members of different countries are attached. The members supporting the nomination, in alphabetical order, are:

Prof. Tirza Aidar, Brasil

Prof. Emily Grundy, United Kingdom

Prof. Leiwen Jiang, China (nationality) and USA (residence)

Prof. Dirk van de Kaa, the Netherlands

Prof. Ronald Lee, USA

Prof. Bob McCaa, USA

Prof. Xizhe Peng, China

Prof. James Raymer, USA (nationality) and Australia (residence)

Prof. Li Shuzhuo, China

Prof. Frans Willekens, Belgium

Prof. Saito Yasuhiko, Japan

Prof. Yu Zhu, China