Towards Sustainable Transportation and Development: Applying Advanced Econometrics Theory in Multimodal Public Transportation Studies

PROJECT SUMMARY

Increasing urban population leads to the sprawl of the cities, extensive travel demand, and elongated miles travelled. Single Occupancy Vehicle (SOV) transportation is a key contributor to climate change and numerous other environmental impacts. Public transportation, as an alternative of SOV, is advocated as a low-emission alternative for auto mode. Multimodal Public Transportation system, especially, represents one important step toward slowing climate change and enhancing health. However, the utilization of public transportation is significantly low in the U.S. in comparison to China and some other countries. The difference could be explained by the low population density, the lag of public transit infrastructure, the urban forms relying on automobile and others. Thus, a question towards transportation engineers is how to design a successful multimodal transportation system given these situations. The objective of this collaboration is to apply advanced econometrics tools for investigating and proactively seeking solutions of complex transportation systems and also to provide practical challenges for economists to develop innovative econometrics tools. By consolidating the expertise in transportation engineering at USF and econometrics in Nankai University, this proposal will encourage the understanding of different urban forms in the US and China and the interactions between the evolvement of urban form and transportation systems, which will inspire innovative modeling and solutions towards sustainable transportation and development. Furthermore, the outcomes of this research provide materials for a new course “Sustainable Transportation” that will be developed at USF and to econometrics courses that are offered at Nankai University. By integrating the research outcomes with transportation and econometrics courses in two institutions, students will be beneficial by being exposed to interdisciplinary set-up, by working with up-to-date real-world cases, and by learning knowledge advancing with the times.

Principal Investigator:
Dr. Yu Zhang, Assistant Professor, Department of Civil and Environmental Engineering, College of Engineering, University of South Florida

Co-Principal Investigators:
Dr. Zhang Xiaotong, Professor, Department of Economics, College of Economics, Nankai University
Dr. Zhao Na, Lecturer, Department of Economics, College of Economics, Nankai University
1. PROJECT DESCRIPTION

1.1 Background and Motivation

According to the U.S. Census Bureau, the total populations in largest 50 cities increased about 11 percent from 1990 to 2000 and 6.5 percent from 2000 to 2010. This increase of population led to the sprawl of metropolitan area, proliferation of travel demand and large number of vehicle miles travelled, which consequently caused significant congestion on streets, Green House Gas (GHG) emissions and severe negative impacts to public health in terms of noise and air pollution. Public transportation offers a low emissions alternative to driving and has been advocated as one of the solutions. Nevertheless, the ridership of public transportation in the U.S. is substantially low (McGuckin N and Zmud J, Nakamoto Y, 2005). Many reasons can be used to explain the phenomenon, low population density, sprawling of the city, lagged infrastructure and low level of service. Although policies and strategies have been developed to improve public transit systems, their effects are not promising.

![Figure 1. Development Pattern of a Typical Region in the US from 1900-1960 (left) and from 1960-1990 (right)](image)

Multimodal transportation system (MTS) is to utilize more than one mode to reach the travelers’ destinations. Generally this involves public transit as a major mode with a combination of other modes like walking, bicycle, park ride, secondary transit etc. It is proved that a well-designed MTS provides seamless transfer between different modes and leads to reduced travel time, social costs, fuel consumption and traffic congestion. MTS has been promoted with policies such as advanced traveler information systems (Kumar, P., Singh, et al., 2005) infrastructure for park ride services (Li, Z.C et al 2007), bicycle lanes, walkways and public transit low fares. MTS is a general purpose technology (Yuri Yevdokimov, 2000) and is designed for revolutionizing the daily life of every individual. But, unfortunately auto mode is still the most popular mode of most U.S travelers. According to National Household Travel Survey (NHTS) data, 83.5% of person trips are made via an automobile. To improve the utilization of MTS, strategies and technologies have been proposed (Q. Li and C. E. Kurt, 2000, H. Lo, C.W. Yip and K.H. Wan, 2003, Florez, J. E., et al 2010), however, the strategies either are too theoretical or too complicated to be implemented.

USF Global Academic Partners (GAP) Program | 2011
1.2 Significance in Research

Hence, it is still a challenge to transportation engineers on how to design and operate a seamless multimodal public transportation system. Recognizing the intrinsic interactions between the development of the cities and evolution of transportation systems, instead of rushing to answers, we would like to step back and understand better about how exactly the utilization of public transit is related to the network structure (Hamdouch Y, et al. 2007) and urban forms. The proposed research will first synthesis the metrics (Quiroga, CA. 2000) of spatial models of network structure and urban forms, and then develop new metrics with the help of GIS tools. Advanced econometrics techniques will be used to model the interactions. Furthermore, state preference survey will be conducted to understand travelers’ behavior. The outcomes from both directions will then be used for developing strategies and design and operation guideline for the MTS. Sensitivity analysis and simulation software, such as UrbanSim will be conducted to evaluate the before-and-after performance of the system. The whole process will provide a general research framework that could be applied for all different types of cities. To our best knowledge, similar work on multimodal transportation system has not been conducted before. The outcomes of our study will provide a tool to help make decisions on future policies and technologies that could lead to more integrated multimodal public transportation network and incentives for travelers to use more of this system.

We foresee that there will be many challenging problems to rise during this research effort. For instance, it is a complex problem to model the utilization of MTS. Considering the interactions between the evolution of urban forms and the MTS structure, instrumental variables may be needed in the modeling. Meanwhile, simultaneous equation regression models may be applied as well and advanced estimation method is necessary for obtaining the coefficients. The expertise of econometrics from Nankai University will add remarkable value to this study.

Figure 2. Multimodal Public Transportation and the Land Use Types
In addition, it is a challenge to quantify the benefit of increasing the density of the multimodal public transportation network by adding a new route or reducing the fare rate. It is not always "more is better". It is a complex mathematical optimization problem to find the best solution considering the effectiveness of multimodal public transportation for a city with certain population distribution and travel demand, and the cost of improving the system. Hence, the collaboration between transportation engineering researcher and econometrists from two institutions are critical to make this effort successful.

1.3 Significance in Education

Transportation is a multidisciplinary research subject. It is closely related to urban and regional planning, the long term plan of regional, state, and national economy development, environmental engineering and other subjects. The next generation transportation students need to have a global vision of planning, designing, and operating transportation systems. Meanwhile, they need to predominate tools that can help them to perform tasks stemmed from the vision. The transportation group at USF is offering a comprehensive spectrum of transportation courses. Nevertheless, to meet the needs for future transportation systems, we are planning to initiate a new course, Sustainable Transportation, to help students be better prepared for their career. This course will provide a global vision of the role of transportation planning in the future economic development, urbanism, and travelers’ daily lives. The course will focus on alternative modes and alternative energies that can help reduce the negative impacts of transportation, however, on the other hand, still ensure the mobility and accessibility. Different tools will be introduced, especially econometric theory that applying mathematics and statistical tools to economics, demographic, and transportation data.

Meanwhile, this collaboration will benefit the students in the Department of Economics at Nankai University as well; especially those students who would like to pursue a career in the applied econometrics. The joined research and educational efforts between the faculty between USF and Nankai will supply the students with contemporary tools and real-world cases, where they can have the opportunity to deal with most up-to-date real problems and generate applicable solutions.

Furthermore, the collaboration between the graduate students in the two institutions is encouraged during this proposed research and educational effort. They will work on a same course project, a research topic, and exchange their knowledge and progress on regular basis via distance learning platform.
2. OVERVIEW OF THE PROJECT

2.1 Project Timelines

January 2012 to March 2012: Conduct literature review and develop metrics for multimodal public transportation and urban forms. The sources for literature review will include publications and books in transportation network modeling and analysis, urban forms, land use and transportation, and MTS. The success and failure stories of MTS in the U.S. and China and different regions around the world will be synthesized.

April 2012 to May 2012: Data used for the research will be collected from NHTS, National Transportation Atlas Database, Census database, and Tiger Map Files, local city health departments, Environmental Protection Agency (EPA) and Department of Transportation (DOT). The data will be carefully processed for calculating the metrics determined in earlier steps. New metrics will be developed with the help of GIS and other tools.

June 2012 to July 2012: Advanced econometrics models will be developed to analyze the interaction between urban form, network structure and the utilization of MTS. A temporal and cross sectional analyses will be conducted to determine the impacts in different regions in the U.S. and China along different years.

August 2012 to September 2012: Based on the preliminary results and research framework, write an NSF proposal and submit to the CMMI division, the main objective of the proposed research will be how to apply the outcomes of this study to develop guideline for design a better and seamless MTS.

October 2012 to November 2012: Develop course materials for Sustainable Transportation at USF and relevant econometrics course in Nankai University. Work on the extension of the study and explore further funding support.

December 2012: Write up the research process and outcomes and submit a manuscript to a prestigious transportation or econometrics journal.

2.2 Expected Outcomes

In terms of research, this collaborate is expected to produce a high quality journal paper, a well-written proposal, and the identification of further research direction and funding resources. While for education, a new course, Sustainable Transportation, will be initiated and offered at USF. The materials of Econometrics courses at Nankai University will be revised given the timely and real cases of multimodal public transportation that studied in this collaboration. This proposed effort will lead to the long-term collaboration between the faculties in the two institutions and encourage researchers and students in both entities to work towards sustainable transportation and development.
### 2.3 Project Budget

<table>
<thead>
<tr>
<th>Description</th>
<th>Cost</th>
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</thead>
<tbody>
<tr>
<td>Airfare – travel to USF (Dr. Zhang and Dr. Zhao)</td>
<td>$3000</td>
</tr>
<tr>
<td>Two weeks of hotels in Tampa, FL, USA</td>
<td>$97 × 2 × 14</td>
</tr>
<tr>
<td>Airfare – travel to Nankai University (Dr. Zhang)</td>
<td>$1500</td>
</tr>
<tr>
<td>Two weeks of hotels in Tianjin, China</td>
<td>$127 × 14</td>
</tr>
<tr>
<td>Two weeks of meals in Tianjin, China</td>
<td>$93 × 14</td>
</tr>
<tr>
<td>Domestic transportation in China</td>
<td>$200</td>
</tr>
<tr>
<td>Expenses for attending a conference (Dr. Zhang)</td>
<td>$1500</td>
</tr>
</tbody>
</table>

**Total**                                                            **$11996**
References


November 18, 2011

To whom it may concern,

It is my distinct pleasure to endorse the application of Dr. Yu Zhang and her partners from Nankai University for the USF Global Academic Partners (GAP) Program for Innovation in Collaborative Research, Teaching and Creative Activities. Their proposal is titled as "Towards Sustainable Transportation and Development: Applying Advanced Econometrics Theory in Multimodal Public Transportation Studies". Dr. Zhang is eligible for applying this program as an untenured tenure-track assistant professor with an earned doctoral degree in engineering.

The proposed research and education plan will contribute to an efficient, environmentally-friendly, and sustainable public transportation system with integration with other transportation modes and will expand the curriculum of transportation engineering at USF. The research plan provide solid methodological contribution while maintain high practical value. Meanwhile, it will benefit the researchers and students from our partner university as well.

The College of Engineering supported Dr. Zhang’s start-up package. For this proposal, I allow Dr. Zhang to use $5,000 from her overhead account to match the funding from GAP program.

I appreciate your positive consideration towards this proposal. Please feel free to contact me if you have questions via jwiencs@usf.edu.

Sincerely,

John M Wiencek, Ph.D.
Professor & Dean

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University of South Florida • 4202 East Fowler Avenue, ENB118 • Tampa, FL 33620-5350
(813) 974-3780 • Fax (813) 974-0460
To whom it may concern,

I support the USF Global Academic Partners (GAP) Program for Innovation in Collaborative Research, Teaching and Creative Activities between the faculties from the Department of Civil and Environmental Engineering at USF and Institute of Quantitative Economics at Nankai University.

I appreciate your positive consideration to support this project titled as "Towards Sustainable Transportation and Development: Applying Advanced Econometrics Theory in Multimodal Public Transportation Studies".

Please feel free to contact me if you have questions via gunaratn@usf.edu.

Sincerely,

Dr. Manjriker Gunaratne
Chairman
Yu Zhang  
Assistant Professor  
University of South Florida  
Civil and Environmental Engineering  
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University of South Florida  
Tampa, FL 33620  
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Education  
Ph.D. — University of California, Berkeley, California 2008  
M.S. — University of California, Berkeley, California 2003  
B.E. — Southeast University, Nanjing, China 1997

Academic Working Experience  
Department of Civil and Environmental Engineering, University of South Florida  
Assistant Professor, August 2008 to present  
Center for Urban Transportation Research, University of South Florida  
Faculty Affiliate, January 2009 to present  
National Center of Excellence for Aviation Operations Research (NECTOR)  
Research Assistant, January 2003 to August 2007  
University of California Berkeley  
Teaching Assistant, August 2005 to December 2005  
Partners for Advanced Transit and Highways (PATH), UC Berkeley  
Research Assistant, July 2002 to Dec. 2002

Research Interests  
Transportation System Analysis  
Multimodal Transportation Network Modeling  
Transportation Economics  
Sustainable Transportation  
Air Transportation

Referred Journal Publications  

Honors and Award
1. 2010 Fred Burggraf Award, for excellence in transportation research by researchers 35 years of age or younger, presented by Transportation Research Board (TRB) of the National Academies
2. Robert Horonjeff Memorial Grant, presented by the College of Engineering at University of California Berkeley, 2007
3. Chinese Government Award for Outstanding Self-financed Students Abroad, for excellence in academic performance, presented by the Ministry of Education, China, 2006
4. UCTC Dissertation Grant (2006-2007)
5. UCTC fellowship (2005-2006)
8. James H. Kell Student Competition Award, Institute of Transportation Engineer (2003)
10. Employee of the year, Nanjing Highway Administration, China (1998)
11. Honored Graduate, Southeast University, China (1997)

Research Projects
1. Tampa Bay, FL In-Vehicle Driving Behavior Field Study, sponsored by Strategic Highway Research Program (SHRP2). 2010-2013 (Investigator)
2. Air Traffic Demand Analysis between U.S. and China, 2010-2011
3. Research on FAA Performance Indicators, sponsored by Federal Aviation Administration (FAA) Air Traffic Organization (ATO), 2009-2010 (PI)
5. Graduate Scholarships to Achieve Sustainable Infrastructure at the Water-Energy-Global Nexus, sponsored by National Science Foundation, 2010-2014 (Co-PI)
6. Demand Management of LaGaudia Airport in New York, sponsored by Federal Aviation Administration, 2006-2007 (Research Assistant)
7. Statistically Modeling Inter-arrival Time and Airport Capacity, sponsored by Federal Aviation Administration, 2005-2006 (Research Assistant)
8. Research on Air Traffic Controller Operational Error, sponsored by Federal Aviation Administration, 2003-2004 (Research Assistant)

Refereed for the Following Journals
Transportation Science, Transportation Research Record: Journal of the Transportation Research Board, World Review of Intermodal Transportation Research, IEEE journals, Transportation Research Part C, Journal of Advanced Transportation,

Refereed for the Following Conferences
IEEE Intelligent Transportation Systems Society Conference, INFORMS, Transportation Research Board Annual Meeting, World Conference of Air Transport Research Society, USA/Europe Air Traffic Management R&D Seminar, World Conference for Transportation Research, International Conference on Research in Air Transportation

Judge for the Following Award
Council of University Transportation Centers (CUTC) Student Awards
To whom it may concern,

I support the USF Global Academic Partners (GAP) Program for Innovation in Collaborative Research, Teaching and Creative Activities between the faculties from the Department of Civil and Environmental Engineering at USF and Institute of Quantitative Economics at Nankai University.

I appreciate your positive consideration to support this project titled as "Towards Sustainable Transportation and Development: Applying Advanced Econometrics Theory in Multimodal Public Transportation Studies".

Please feel free to contact me if you have questions,

Sincerely,

Zhang Xiaotong

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Economics School, Nankai University

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CURRICULUM VITAE

Jan. 2012

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BACKGROUND AND EDUCATION
1984–1986 Concordia University, Montreal, Canada
1986–1993 Lecturer of Management Science and Engineering Department, Tianjin University, China
1993–1998 Ph.D. of Economics School, City University of Osaka, Japan
1998–2008 Professor of International Economics Institute, Economics School of Nankai University, Tianjin, China
2008–now Professor of Statistics and Econometrics Institute, Economics School of Nankai University, Tianjin, China

FIELDS of SPECIALIZATION
Quantitative Economics and Applied Statistics

PROFESSIONAL POSITIONS
Dean: Statistics and Econometrics Institute 2008- Nankai University
Executive Director: Quantitative Economics Institute 2008- Tianjin, China
Senior Research Professor: Quantitative Economics Research Center 2006- Jilin University
Senior Research Professor: Business School 2006- Jilin University
Adjunct Professor 2011- Zhejiang University of Finance and Economics
Adjunct Professor 2006- Capital University of Economics and Business
Adjunct Professor 2006- Dongbei University of Finance and Economics
Adjunct Professor 2006- Huaqiao University
Adjunct Professor 2006- Zhongnan University of Economics and Law
Adjunct Professor 2006- Henan University of Economics and Law
Adjunct Professor 2006- Zhejiang University of Finance and Economics
Visiting Professor 2011- Southwestern University of Finance and Economics
Visiting Professor 2011- Lingnan College in Sun Yatsen University
Visiting Professor 2010- Shanghai Academy of Social Sciences
Visiting Professor 2010- Ocean University of China
Visiting Professor 2010 Anhui University of Finance and Economics
Visiting Professor 2010 The people's bank of China xian branch
Visiting Professor: Zhejiang College 2011 Shanghai University of Finance and Economics
Visiting Professor: Economic School 2010 Shandong University
Visiting Professor: Statistic Department 2010 Central University of Finance and Economics
Visiting Professor: Economic School 2010 Huazhong University of Science and Technology
Visiting Professor: Department of Economic Management 2011 North China University of Technology
Chairman: International seminar of season adjustment 2011 National Bureau of Statistics
Chairman: Tianjin municipal bureau of statistics and area county bureau of statistics modeling competition 2011 National Bureau of Statistics
Chairman: NBS-SA(X-13-AS) seasonal adjustment principle 2010 Fujian bureau of statistics
Consultant: Economic series season adjustment principle 2011 Tianjin municipal bureau of statistics
Consultant: China ocean university JianDingHui project 2011 Beijing
Consultant: Economics and the number of doctoral education front quantitative economics seminar 2010 Huazhong University of Science and Technology
Elected member of the council of the conference on China Quantitative Economics 2000-Vice-Chairman of the Higher Education Management council of China TongChouFa and economic mathematics seminar worthy to be promoted 2000-

**2006–2011 BOOKS:**


**2009–2011 REFERRED JOURNALS:**

   Available online at: http://dx.doi.org/10.1016/j.matcom.2011.01.008


### 2003~2011 RESEARCH PROJECTS:

1. Marine economic monitoring and evaluation technology and the typical area demonstration applied research, 2011-2013, Tianjin municipal bureau of statistics.


3. Economic series season adjustment of theoretical research and practical application, 2010-2013, National social science fund committee.

4. Export meat enterprise health registration evaluation management system automatic quantification, 2010, State certification and accreditation supervision and management committee.

5. The non-stationary time series inspection theoretical research and practical application, 2009-2012, Ministry of Education.


7. Panel data for the measurement of the economic theory research, 2006-2008, Natural Science Foundation of China.


### 2007~2011 AWARDS:

1. Tianjin education system outstanding communist party member, Tianjin municipal party committee of the communist party of China education committee, 2011.

2. 2010 annual tianjin model worker title of honor, Tianjin municipal party committee of the communist party of China and the municipal people's government, 2011.


5. The sixth higher education tianjin municipal teaching achievement prize, Tianjin municipal people's government, 2009.

姓名：张晓明
所在单位：南开大学数量经济研究所
毕业院校：日本大阪市立大学经济学博士
职称：教授、博士生导师
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兼职：中国数量经济学会理事会常务理事。

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首都经济贸易大学兼职博士生导师。
华侨大学兼职教授。

个人简历：
1984-1986 年加拿大蒙特利尔市康考迪亚（Concordia）大学留学。
1986-1993 年天津大学管理工程学院教师。
1993-1998 年日本大阪市立大学经济学院留学。
1997 年 3 月毕业于日本大阪市立大学大学院，获经济学博士学位。
1998 年—现在，南开大学经济学院。

主讲课程与研究生指导：
高级计量经济学（1, 2, 3, 4）、中级计量经济学（1, 2, 3）、计量经济学（本科）、时间序列分析、预测方法、应用统计学、多元分析。

科研课题：
1.南开大学本科生精品示范课程建设项目（计量经济学），南开大学教务处。
2.经济学院张晓明主讲的“计量经济学”2007 年 10 月 31 日获批为南开大学研究生精品课程建设项目“首批 10 门课程之”（研究生院培养办公室 2007 年 11 月 5 日）。
3.2006-2008 年，国家自然科学基金项目“面板数据的计量经济理论方法研究”课题批准号：70571039，项目负责人。
4.2005.3-2005.12 年，中国人民银行天津分行项目“天津市宏观经济动态监测研究——天津市宏观经济运行先行指标体系研究”，项目负责人。
5. 2005.4~2006.4 年，中国人民银行项目“PBC 系时序 X-12-ARIMA 季节调模型研究”，项目负责人。

6. 2003~2006 年，国家社会科学基金项目“非线性经济理论方法研究”，课题批准号：03BJY014，项目负责人。

7. “APEC 贸易便利化行动方案实施测度方法与实证分析”，APEC 项目，子课题负责人，2004 年。

8. 2001~2002 年，“计量经济学网络课程建设工程”，教育部项目，项目负责人。（获教育部优秀课程奖）

9. 2003~2004 年，“我国进出口总额翻两番的理论、政策和实证研究”，商务部项目，子课题负责人。

10. 2000~2001 年，“外国直接投资与中国出口竞争力的实证分析”，教育部国家科研基地重大课题“跨国公司与中国出口竞争力”子课题之一，子课题负责人。课题编号：2000JDXM790014。

11. “小样本单位根、随机单位根、检验统计量的多因素模型和统计方法研究”，教育部出国留学回国人员科研启动基金。

12. “中美日三国加权购买力平价比较”，南开大学出国留学回国人员科研启动基金。

13. 《协整与误差修正模型的理论与应用研究》，日本文部省资助项目，1994~96，实际负责人。

14. 《中国购买力平价与福利水平研究》，日本文部省资助项目，1993~94，主要参加人员。

15. 《科技成果转化及其评价方法和实证研究》，国家自然科学基金项目，1988~89，主要参加人员。

主要著作：

1. 《应用统计学原理》，张晓明著，（“十一五”国家级规划教材，机械工业出版社，将于 2009 年 3 月出版）。


3. 《EViews 试验教程》，张晓明著，中国财政经济出版社，2008-3。ISBN978-7-5095-0710-0/TP.001 5。


7. 《时间序列 X-12-ARIMA 季节调整原理与方法》（（课题成果），中国金融出版社，2006-10，书号 ISBN7-5049-4151-4。


《季节时间序列理论与应用》，杜勇宏、王健著，张晓明主编；
《面板数据的计量经济分析》，白仲林著，张晓明主编；
《EViews 在统计与计量分析中的应用》，王群勇著；
《计量经济学软件 EViews 使用指南》，张晓明著；
《协整理论与应用》，马嘉著，<br>《非参数计量经济学》，叶阿忠著，李子奈主编；
《宏观经济的若干前沿理论与应用》，王少华著，李子奈主编；
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Education
Visiting Scholar, School of Engineering, University of Michigan-Dearborn, U.S., 2011
Ph.D. Econometrics, School of Economics, Nankai University, Tianjin, China. 2008
M.S. Econometrics, Business School, Zhengzhou University, Henan, China. 2005
BS Diploma, Accounting, Business School, Zhengzhou University, Henan, China. 2002

Areas of Research Interest
Theory and applications of Econometrics models
General theory of Statistics
Multivariate statistical analysis

Selected Publications (working papers not included)

Teaching Experience

Computer Skill
Skilled in some Statistical and Econometric Software, such as EVIEWS, SAS, SPSS and STATA.
CURRICULUM VITAE

Jan. 2012

Zhang Xiaotong, Ph.D.
Professor and Dean
Statistics and Econometrics Institute in Economics School
Nankai University
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BACKGROUND AND EDUCATION
1984–1986 Concordia University, Montreal, Canada
1986–1993 Lecturer of Management Science and Engineering Department, Tianjin University, China
1993–1998 Ph.D. of Economics School, City University of Osaka, Japan
1998–2008 Professor of International Economics Institute, Economics School of Nankai University, Tianjin, China
2008–now Professor of Statistics and Econometrics Institute, Economics School of Nankai University, Tianjin, China

FIELDS of SPECIALIZATION
Quantitative Economics and Applied Statistics

PROFESSIONAL POSITIONS
Dean: Statistics and Econometrics Institute 2008- Nankai University
Executive Director: Quantitative Economics Institute 2008- Tianjin, China
Senior Research Professor: Quantitative Economics Research Center 2006- Jilin University
Senior Research Professor: Business School 2006- Jilin University
Adjunct Professor 2011- Zhejiang University of Finance and Economics
Adjunct Professor 2006- Capital University of Economics and Business
Adjunct Professor 2006- Dongbei University of Finance and Economics
Adjunct Professor 2006- Huaqiao University
Adjunct Professor 2006- Zhongnan University of Economics and Law
Adjunct Professor 2006- Henan University of Economics and Law
Adjunct Professor 2006- Zhejiang University of Finance and Economics
Visiting Professor 2011 Southwestern University of Finance and Economics
Visiting Professor 2011 Lingnan College in Sun YatSen University
Visiting Professor 2010 Shanghai Academy of Social Sciences
Visiting Professor 2010 Ocean University of China
Visiting Professor 2010 Anhui University of Finance and Economics
Visiting Professor 2010 The people's bank of China xian branch
Visiting Professor: Zhejiang College 2011 Shanghai University of Finance and Economics
Visiting Professor: Economic School 2010 Shandong University
Visiting Professor: Statistic Department 2010 Central University of Finance and Economics
Visiting Professor: Economic School 2010 Huazhong University of Science and Technology
Visiting Professor: Department of Economic Management 2011 North China University of Technology

Chairman: International seminar of season adjustment 2011 National Bureau of Statistics
Chairman: Tianjin municipal bureau of statistics and area county bureau of statistics modeling competition 2011 National Bureau of Statistics
Chairman: NBS-SA(X-13-AS) seasonal adjustment principle 2010 Fujian bureau of statistics
Consultant: Economic series season adjustment principle 2011 Tianjin municipal bureau of statistics
Consultant: China ocean university JianDingHui project 2011 Beijing
Consultant: Economics and the number of doctoral education front quantitative economics seminar 2010 Huazhong University of Science and Technology
Elected member of the council of the conference on China Quantitative Economics 2000-
Vice-Chairman of the Higher Education Management council of China TongChouFa and economic mathematics seminar worthy to be promoted 2000-

2006–2011 BOOKS:

2009–2011 REFERRED JOURNALS:
   Available online at:http://dx.doi.org/10.1016/j.matcom.2011.01.008


**2003–2011 RESEARCH PROJECTS:**

1. Marine economic monitoring and evaluation technology and the typical area demonstration applied research, 2011-2013, Tianjin municipal bureau of statistics.


3. Economic series season adjustment of theoretical research and practical application, 2010-2013, National social science fund committee.

4. Export meat enterprise health registration evaluation management system automatic quantification, 2010, State certification and accreditation supervision and management committee.

5. The non-stationary time series inspection theoretical research and practical application, 2009-2012, Ministry of Education.


7. Panel data for the measurement of the economic theory research, 2006-2008, Natural Science Foundation of China.


**2007–2011 AWARDS:**

1. Tianjin education system outstanding communist party member, Tianjin municipal party committee of the communist party of China education committee, 2011.

2. 2010 annual tianjin model worker title of honor, Tianjin municipal party committee of the communist party of China and the municipal people's government, 2011.


5. The sixth higher education tianjin municipal teaching achievement prize, Tianjin municipal people's government, 2009.

To whom it may concern,

I support the USF Global Academic Partners (GAP) Program for Innovation in Collaborative Research, Teaching and Creative Activities between the faculties from the Department of Civil and Environmental Engineering at USF and Institute of Quantitative Economics at Nankai University.

I appreciate your positive consideration to support this project titled as "Towards Sustainable Transportation and Development: Applying Advanced Econometrics Theory in Multimodal Public Transportation Studies".

Please feel free to contact me if you have questions,

Sincerely,

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