

FULL CURRICULUM VITAE (August 2011)**I. MING-HSIANG TSOU**

Professor, Department of Geography

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II. EDUCATION

<u>Institution</u>	<u>Years Attended</u>	<u>Degree</u>	<u>Major Field</u>
University of Colorado at Boulder	1996-2001	Ph.D.	Geography
State University of New York at Buffalo	1994-1996	M.A.	Geography
National Taiwan University	1987-1991	B.S.	Geography

(Ph.D. Dissertation: A Dynamic Architecture for Distributing Geographic Information Services on the Internet. Ph.D. Advisor: Dr. Barbara P. Battenfield)

Research Interests

- Mapping cyberspace and the visualization of information landscape
- Internet mapping and Web-based Geographic Information Services (GIServices).
- Wireless mobile Geographic Information Services (Mobile GIS).
- Multimedia cartography and user interface design.
- Grid computing, cloud computing, and geospatial cyberinfrastructure.
- Web-enhanced geospatial technology education among K-12 schools, community colleges, and universities.

III. TEACHING POSITIONS AND RANKS HELD

<u>Institution</u>	<u>Rank</u>	<u>Dates</u>	<u>Major Subject</u>
San Diego State University	Professor	2011 to present	Geography
San Diego State University	Associate Professor	2005 to 2011	Geography
San Diego State University	Assistant Professor	2000 to 2005	Geography
University of Colorado	Teaching Assistant	1998 to 1999	Geography

IV. TEACHING EFFECTIVENESSTeaching Awards

The San Diego State University Senate Excellence in Teaching Award for 2010-2011 (the College Awardee).

2004 Outstanding Faculty Award, San Diego State University.

2010 Outstanding Faculty Award, San Diego State University.

(The awards are in recognition as the most influential university professor in the academic career of the Outstanding Graduating Senior).

Teaching Innovations:

Class Web Sites: (including lecture notes, on-line forum, and web-based exercises).

- GEOG 104 (Geographic Information Science and Spatial Reasoning):
<http://map.sdsu.edu/geog104>
- GEOG 381 (Computerized Map Design):
<http://geography.sdsu.edu/People/Pages/tsou/geog381/>
- GEOG 484 (Introduction to Geographic Information Systems):
<http://geography.sdsu.edu/People/Pages/tsou/geog484/>
- GEOG 583 (Internet Mapping and Distributed GIServices):
<http://map.sdsu.edu/geog583/>
- GEOG 581 (Cartographic Design): <http://map.sdsu.edu/geog581/>
- GEOG 789 (Seminar: Wireless mobile GIS):
<http://geography.sdsu.edu/People/Pages/tsou/GEOG780.pdf>

Social Networking Media (Facebook) for Teaching Aids: I created a Facebook Page for the introduction of Geospatial Technology.

(<http://www.facebook.com/pages/Geospatial-Technology-at-SDSU-GEOG104-GEOG381-GEOG583/129010146571?ref=mf>).

YouTube Channel for Geospatial Technology:

URL: <http://geoinfo.sdsu.edu/hightech/GISVideos.htm>

V. PROFESSIONAL GROWTH

Extramural Support

2010-2014 PI (Tsou). National Science Foundation (NSF) Award: “*CDI-Type II: Mapping Cyberspace to Realspace: Visualizing and Understanding the Spatiotemporal Dynamics of Global Diffusion of Ideas and the Semantic Web. Project Period*”: 09/01/2010- 08/31/2014. (48 months). Award # 1028177. (Co-PIs: Dipak K Gupta, Political Science, SDSU; Jean Marc Gawron, Linguistic, SDSU; Brian Spitzberg, Communication, SDSU, Senior Personnel: An Li, Geography). Funding Amount: **\$1,300,213.** (<http://mappingideas.sdsu.edu/>)

2011 Co-PI (Tsou). GIS Mapping for Older Adult Services in San Diego. San Diego Foundation. \$28,000. (Jan 2011 – Sep 2011). (<http://mappingideas.sdsu.edu/health/>)

2011 PI (Tsou). Connectory GIS Improvement Project. San Diego East County Economic Development Council, \$15,000. (Jan 2011 - August 2011). (<http://geoinfo.sdsu.edu/connectory/index.html>)

2010 Co-Investigator (Tsou). US Forest Services (USFS). FS Recovery Act Agreement No. 10-JV-11279701-10. (PIs: Dr. Douglas A. Stow and Dr. Philip J. Riggan). “*Airborne*

remote sensing to enable hazardous fuels reduction, forest health protection, rehabilitation and hazard mitigation activities on Federal lands.” Time period: March 1st, 2010 through December 31, 2014. Founding Amount: \$459,380.

- 2009 Co-Investigator (Technology developer). Founding Agency: the San Diego Foundation. *MAPS (Metropolitan Area Pluralism Study)*. PI: Dr. Rebecca Moore, Department of Religious Studies, SDSU. \$ 23,000 (2009 – 2010). (<http://geoinfo.sdsu.edu/maps/>)
- 2009 PI (Tsou). *Bizarre Map Challenge (BMC): A Nationwide Map Design Competition*, funded by the National GeoTech Center (NSF-supported). (Nine months, Dec 1, 2009 – August 31, 2010). \$31,000. Completed. (<http://bizarremap.sdsu.edu/>)
- 2009 PI (Tsou). International Community Foundation. “*Baja-Eco-Info Mapping Tool: Mapping Conservation and Threats for the Gulf of California*”, (nine months, Jan 1, 2009 – August 31, 2009). \$11,500. Completed. (<http://geoinfo.sdsu.edu/baja/>)
- 2008 PI (Tsou). San Diego County, Office of Education. “*Geographic Information System for the Splash Station*”, (1.5 months, July 15, 2008 – August 31, 2008). \$3,784. Completed.
- 2008** Senior Personnel (Tsou), National Science Foundation (NSF) Advanced Technology Education (ATE) program: *National Geospatial Technology Center (GeoTech Center)* Project Period: 09/1/08-2008/30/2012. Total Funding Amount: \$4,999,997. PI: Dr. Philip Davis (Del Mar College, Texas). Tsou is the project manager for the SDSU Sub-award. **SDSU Sub-award: \$180,000** (four years, 2008-2012). (<http://www.geotechcenter.org/>)
- 2006 PI (Tsou). San Diego Coast Keeper. “*Multimedia GIS Research Project*”. (seven months – Jan 10, 2006 – August 31, 2006). \$9,125. Completed. (<http://geoinfo.sdsu.edu/mediaGIS/>).
- 2004 CO-PI (Tsou): National Science Foundation, Advanced Technology Education Program (NSF-ATE): “*A Scalable Skills Certification Program in Geographic Information Systems (GIS)*” PI: Dr. Kendra Jeffcoat at San Diego Mesa College. Total Funding Amount: \$749,847. (Tsou is the project director for the SDSU sub-award) (four years, 2004-2008, started from October 1, 2004). **SDSU sub-award: \$222,060** Completed. (<http://geoinfo.sdsu.edu/hightech/>).
- 2004 CO-PI (Tsou): City of San Diego. “*The San Diego Watershed Common Grounds Project*”. PI: Karen Henry at City of San Diego, Storm Water Pollution Prevention Program. Total funding amount: \$1 million.. (30 months, started from July 1, 2004 to 2006). SDSU Funding Amount: \$ 333,564. Completed. (<http://www.sdbay.sdsu.edu/>).
- 2004 CO-PI (Tsou): South Coast Resource Conservation Development Council (State funding). “*Development of a Web-based Tool for Non-Point Source Pollution in the Newport Bay and Tijuana River Watersheds*”/ PI: Dr. Richard Wright. (20 months, started from November, 2004). Total funding amount: \$123,589. Completed.

- 2003 CO-Investigator (Tsou): NASA Research, Education and Applications Solution Network (REASoN) Project: “*A Border Security Decision Support System Driven by Remotely Sensed Data Inputs*”. PI: Dr. Douglas Stow. Funding Agency: National Aeronautics and Space Administration (NASA). (Five years, 2003-2008). \$1,837,771. Completed. (<http://geoinfo.sdsu.edu/reason/>).
- 2002 PI (Tsou): NASA ARC Project: “*Integrated Mobile GIS and Wireless Internet Image Servers for Environmental Monitoring and Management*”. Funding Agency: National Aeronautics and Space Administration (NASA). \$70,500 (12 months, completed). (<http://map.sdsu.edu/mobilegis/>).
- 2001 PI (Tsou): NASA ARC Project: “*Web-based Geospatial Information Services For Natural Habitat Conservation and Management*”. \$41,000 (12 months, completed). (<http://map.sdsu.edu/arc/>).

Intramural Support

- 2000 PI: Grant-In-Aid Award: “*Software Agent Communication Mechanism for Distributing GIServices on the Internet*”. Funding Agency: San Diego State University Foundation. Funding Amount: \$8,000 (completed).
- 2000 PI: Faculty Development Program Award. “*Developing a Dynamic Architecture for Internet Mapping and Distributed GIServices*”, Funding Agency: San Diego State University. Funding Amount: \$5,000 (completed).

PUBLICATIONS

Scholarly Books

1. Peng, Z.R. and Tsou, M. H. (2003). *Internet GIS: distributed geographic information services for the Internet and wireless networks*. (720 pages, publisher: John Wiley & Sons, Inc.). This is a co-authored book. My contribution of this book is 50% (around 360 pages). This scholarly book has been widely cited by many research papers and become one major literature in the research field of Internet GIS. The Google Scholar index showed that this book has been **cited by 312 articles since 2003**. (queried on September 12, 2010).
(http://scholar.google.com/scholar?q=Internet+GIS&hl=en&btnG=Search&as_sdt=2001&as_sdt=on)

Articles in Refereed Journals

- Tsou, M. H. (2011). Revisiting Web Cartography in the United States: the Rise of User-Centered Design. *Cartography and Geographic Information Science*, 38 (3), 249- 256.
- Tsou, M. H. and Yanow, K. (2010). Enhancing General Education with Geographic Information Science and Spatial Reasoning. *Urban and Regional Information Systems Association (URISA) Journal*, Special Issue on Geospatial Education and Training. 22(2),

45-54. [LINK \(PDF\)](#)

- Tsou, M.-H. and Kim, I. H. (2010). Increasing Spatial Awareness by Integrating Internet Geographic Information Services (GIServices) with Real Time Wireless Mobile GIS Applications. *International Journal of Strategic Information Technology and Applications (IJSITA)*, 1(4), 42-54. [LINK](#)
- Kawabata, Mizuki, Thapa, Rajesh, Oguchi, Takashi, and Tsou, Ming-Hsiang (2010) Multidisciplinary Cooperation in GIS Education: A Case Study of US Colleges and Universities, *The Journal of Geography in Higher Education*. 34(4), 493- 509. [LINK \(PDF\)](#).
- Zhang, T., Tsou, M.-H., Qiao, Q., and Hu, B. (2010). Designing Integrated High Performance Web Portals for GIScience Research. *Journal of Internet Technology*. 11(6), 809-820.
- Zhang, T. and Tsou, M.-H. (2009). Developing a grid-enabled spatial Web portal for Internet GIServices and geospatial cyberinfrastructure, *International Journal of Geographical Information Science*. 23(5), pp.605-630. [LINK \(PDF\)](#).
- Jankowski, P., Tsou M.-H., and Wright, R.D. (2007). Applying Internet Geographic Information System for Water Quality Monitoring. *Geography Compass* 1/6 (2007): 1315–1337. [LINK \(PDF\)](#)
- Zhang, T. and Tsou, M.-H. (2005) The Integration of Grid-enabled Internet GIServices and Geographic Semantic Web Technologies. In Special Issue on Distributed GIS, *Geographic Information Science* (the former journal of *Annals of GIS*), 11 (1), pp. 15-23. [LINK \(PDF\)](#).
- Tsou, M.-H., Guo, L., and Howser, T. (2005). A Web-based Java Framework for Cross-Platform Mobile GIS and Remote Sensing Applications. *GIScience & Remote Sensing*. 42(4).pp. 278-302. [LINK \(PDF\)](#).
- Tsou, M.-H. (2004). Integrated Mobile GIS and Wireless Internet Map Servers for Environmental Monitoring and Management, (the Special Issue on Mobile Mapping and Geographic Information Systems) in *Cartography and Geographic Information Science*. 31(3), pp. 153-165. [LINK \(PDF\)](#).
- Tsou, M.-H. (2004). Integrating Web-based GIS and On-line Remote Sensing Facilities for Environmental Monitoring and Management. In special issue on the potential of Web-based GIS, *the Journal of Geographical Systems*. 6(2), pp. 155-174. [LINK \(PDF\)](#).
- Tsou, M.-H., Guo L., and Stow D. (2003). Web-based Remote Sensing Applications and Java Tools for Environmental Monitoring, *Online Journal of Space Communication*, No. 3, http://spacejournal.ohio.edu/issue3/abst_tsou.html
- Tsou, M. H. and Battenfield, B. P. (2002). A Dynamic Architecture for Distributing Geographic Information Services. *Transactions in GIS*, 6(4), pp. 355-381. [LINK \(PDF\)](#).

Chapters in Refereed Books

- Tsou, M. H. and Kim, I. H. (2011) Creating GIS simulation models on a TeraGrid-enabled Geospatial Web Portal: A Demonstration of Geospatial Cyberinfrastructure. In *Advances in Web-based GIS, Mapping Services and Applications* (Volume in ISPRS Book Series). Edited by Songnian Li, Suzana Dragicevic and Bert Veenendaal.
- Tsou, Ming-Hsiang (2009). Chapter 48: The Integration of Internet GIS and Wireless Mobile GIS. In *Manual of Geographic Information Systems*, edited by Marguerite Madden, published by the American Society for Photogrammetry and Remote Sensing (ASPRS), pp. 923-933. [LINK \(PDF\)](#).
- Chang, Kuo-Chen and Tsou, Ming-Hsiang (2008). Chapter 6. New Approaches for Integrating GIS layers and Remote Sensing Imagery for Online Mapping Services. In *International Perspectives on Maps and the Internet*. (edited by M. P Peterson). Berlin: Springer. pp. 91- 102. [LINK \(PDF\)](#).
- Tsou, Ming-Hsiang and Curran, Judd M. (2008). Chapter 20. User-Centered Design Approaches for Web Mapping Applications: A Case Study with USGS Hydrological Data in the United States. In *International Perspectives on Maps and the Internet*. (edited by M. P Peterson). Berlin: Springer., pp. 301-321. [LINK \(PDF\)](#).
- Tsou, Ming-Hsiang and Sun, Chin-Hong. (2007). Mobile GIServices Applications in Disaster Management, Book chapter in *Dynamic and Mobile GIS: Investigating Change in Space and Time*. (edited by Drummond, J, Billen, R., Forrest, D. and Joao, Ed. 2007. London: CRC Press (Taylor & Francis). (Innovations in GIS book series), pp. 213-236. [LINK \(PDF\)](#).
- Tsou, Ming-Hsiang. (2006). Bridging the Gap: Connecting Internet-based Spatial Decision Support Systems to the Field-based Personnel with Real time Wireless Mobile GIS applications. Book chapter in *Collaborative Geographic Information Systems* (Edited by Shivanand Balram and Suzana Dragicevic). Hershey, Pennsylvania: Idea Group, Inc., pp. 316-339. [LINK \(PDF\)](#).
- Tsou, Ming-Hsiang (2003). Chapter 14: An Intelligent Software Agent Architecture for Distributed Cartographic Knowledge Bases and Internet Mapping Services. In *Maps and the Internet*, M. Peterson (ed), Oxford: Elsevier Press, pp. 229-243. (published on behalf of the International Cartographic Association). [LINK \(PDF\)](#).
- Tsou, Ming-Hsiang (2002). An Operational Metadata Framework for Searching, Indexing, and Retrieving Distributed Geographic Information Services on the Internet. In *Geographic Information Science - Second International Conference GIScience 2002*, M. Egenhofer and D. Mark (eds.), *Lecture Notes in Computer Science* Vol. 2478, Berlin: Springer. pp. 312-333. [LINK \(PDF\)](#).
- Tsou, Ming-Hsiang and Battenfield, Barbara P. (1997). A Direct Manipulation Interface for Geographical Information Processing. In: Kraak, M.J. and Melenaar, M. (eds.) *Advances in GIS Research II*. Taylor & Francis, London, U.K., pp. 905-915. [LINK \(PDF\)](#).

Encyclopedia Entries

- Tsou, M.H. (2008). Data Warehouse. In Karen Kemp (editor). *Encyclopedia of Geographic Information Science*. London: SAGE. (pp 94-95).
- Tsou, M.H. (2008). Distributed GIS. In Karen Kemp (editor). *Encyclopedia of Geographic Information Science*. London: SAGE. (pp 115-118).
- Tsou, M.H. (2008). Spatial Data Server. In Karen Kemp (editor). *Encyclopedia of Geographic Information Science*. London: SAGE. (pp 404-406).
- Tsou, M.H. (2008). Web Services. In Karen Kemp (editor). *Encyclopedia of Geographic Information Science*. London: SAGE. (pp 513-514).
- Tsou, M.H. (2010). Mobile GIS. In Barney Warf (editor). *Encyclopedia of Geography*. SAGE: Thousand Oaks. vol. 4, pages 1918-1921.
- Tsou, M.H. (2010). Internet GIS. In Barney Warf (editor). *Encyclopedia of Geography*. SAGE: Thousand Oaks. vol. 3, pages 1620-1623.
- Tsou, M.H. (2010). Distributed Computing. In Barney Warf (editor). *Encyclopedia of Geography*. SAGE: Thousand Oaks, vol. 2, pages 776-778.

Articles in Refereed Proceedings

- Tsou, Ming-Hsiang (2011). **Mapping Cyberspace: Tracking the Spread of Ideas on the Internet**. *Refereed Proceeding of the 25th International Cartographic conference*, July 3-8, 2011, Paris, France.
http://icaci.org/documents/ICC_proceedings/ICC2011/Oral%20Presentations%20PDF/D3-Internet.%20web%20services%20and%20web%20mapping/CO-354.pdf
- Tsou, Ming-Hsiang, Zhang, Tong, and Kaiser, John (2007) Internet GIServices for Homeland Security, Geoinformatics 2007 Conference (17–18 May 2007)
http://gsa.confex.com/gsa/2007GE/finalprogram/abstract_122039.htm .
- Tong Zhang, Ming-Hsiang Tsou, Qinghua Qiao, and Lin Xu (2006). Building an intelligent geospatial cyberinfrastructure: an analytical problem solving approach, Proc. SPIE, Vol. 6420, 64200A (2006); doi:10.1117/12.712656. Conference Title: Geoinformatics 2006: Geospatial Information Science.
- Tsou, M.H. and Battenfield, B.P. (1998). Client/Server Components and Metadata Objects for Distributed Geographic Information Services. *Proceedings, GIS/LIS '98*, Fort Worth, TX, November, 1998: 590-599. [LINK \(PDF\)](#).
- Tsou, M.H. and Battenfield, B.P. (1998). An Agent-based, Global User Interface for Distributed Geographic Information Services. *Proceedings of the 8th International*

Symposium on Spatial Data Handling, Vancouver, British Columbia, July, 1998: 603-612. [LINK \(PDF\)](#).

Refereed Extended Abstracts

- Tsou, M.H. and Battenfield, B.P. (2000). Extended Abstract: Agent-based Mechanisms for Distributing Geographic Information Services on the Internet, *GIScience 2000 Abstract: First International Conference on Geographic Information Science*, October 28-31, Savannah, Georgia, pp. 30-32. [LINK \(PDF\)](#).

Book Review

- Tsou, Ming-Hsiang (2008). Book Review: Map-based Mobile Services: Theories, Methods, and Implementations by Liqui Meng, Alexander Zipf, and Tumasch Reichenbacher (Eds.). *Annals of GIS*. 15(1), p. 73.
(<http://www.informaworld.com/smpp/content~db=all~content=a916953862~frm=titlelink>)

Invited Articles in Major GIS Professional Magazines and Newsletters

- Tsou, M.H., Stow, D., and J. Kaiser. (2006). Spatial Decision Support Services Enhance Homeland Security. *GeosIntelligence*, Mar/Apr 2006. pp. 18-23. [LINK \(PDF\)](#).
- Tsou, 2005. Recent Development of Internet GIS at GIS@development: http://www.gisdevelopment.net/technology/gis/techgis_002pf.htm
- Tsou, M. H. (2004). Present realities and the future of Internet GIS. *GIS@Development Magazine*. July 2004, vol. 8 (7). Pp. 29-32. (URL: <http://www.gisdevelopment.net/magazine/years/2004/july/29.shtml>)
- Tsou, M. H. (2004). Tracking the 2003 San Diego Wildfire. *CSU Geospatial Review*. Spring 2004, Vol. 2(1). Pp.1.

SYNERGISTIC ACTIVITIES

- Appointed by the **National Academy of Science** in 2006 to serve on **the committee on “Research Priorities for the USGS Center of Excellence for Geospatial Information Science”** and completed the NAS report in 2007. The report was published by the National Research Council (http://books.nap.edu/openbook.php?record_id=12004). I am one of the eight members in this committee. This is a very prestigious appointment. I served as an international domain expert to provide consultancy to USGS and co-authored the final report.

- Invited as international research proposal reviewer for several scientific research foundations in North America, Europe, and Asia.
- Served on the Editorial Board of *the Professional Geographers* (appointed in 2011).
- Served on the Editorial Board of *Annals of GIS since 2008*. (*Annals of GIS* is an international peer-reviewed journal that encourages the interdisciplinary exchange of original ideas on theory, methods, development and applications in the fields of geo-information science). Published by Taylor & Francis.
(<http://www.informaworld.com/smpp/title~db=all~content=t909450018>).
- Invited as a research program proposal review panelist for National Science Foundation (2010).
- Invited as a research proposal external reviewer in U.S. for National Science Foundation, NASA, and U.S. Civilian Research & Development Foundation (2007 - 2011)

Scholarly Awards:

- 2009 **HI-TEC (education) Innovative Program award** at the 2009 HI-TEC conference (High Impact Technology Exchange Conference), Scottsdale, Arizona. This conference with 700 people participated was organized by National Science Foundation. This award is designed to recognize a team of advanced technology education professionals that has designed and implemented a significant innovation, which has led to a positive impact on student enrollment, retention, and/or advanced technology education. I received this award along with Kenneth Yanow, Professor of Geographical Sciences at Southwestern College for our Two-to-Four-Year Articulation Program in Geographic Information Systems (between Southwestern College and SDSU).
(http://www.cordonline.net/hitec/downloads/HI-TEC_2009_Innovative_Program_Award_PR.pdf.)
- 2000-2001 Faculty Fellowship (1/4 salary), the Education Center on Computational Science and Engineering (ECCSE) at San Diego State University. The ECCSE is part of the Education, Outreach, & Training Thrust of the National Partnership for Advanced Computational Infrastructure (NPACI) and San Diego Supercomputer Center (SDSC) Partnerships.

Manuscript Reviewer for Academic Refereed Journals

- *Proceedings of the National Academy of Sciences (PNAS)*
- *Annals of the Association of American Geographers.*
- *Annals of GIS*
- *Applied Spatial Analysis and Policy*
- *Cartographica*
- *Cartography and Geographic Information Science (CaGIS)*

- *The Cartographic Journal*
- *Computers & Geosciences*
- *Computers, Environment and Urban Systems*
- *Geographical Analysis*
- *Geomatica*
- *IEEE Computer Graphics and Applications*
- *International Journal of Geographical Information Science*
- *International Journal of Digital Earth*
- *Journal of Geographic Information Science*
- *Journal of Geographical Systems*
- *Journal of Environmental Management*
- *Photogrammetric Engineering and Remote Sensing,*
- *Professional Geographers*
- *Journal of Photogrammetry and Remote Sensing*
- *Journal of Environmental Management*
- *The Professional Geographer*
- *The Internet Encyclopedia (published by John Wiley & Sons, Inc.)*
- *Transactions in GIS*

Membership in Professional Organizations

- Association of American Geographers (1999 – present)
- American Congress on Surveying and Mapping and Cartography and Geographic Information Science Community (2000 – present)
- Urban and Regional Information Systems Association (2003-2005)
- The North American Cartographic Information Society (2009 – 2011)

Participation in Professional Association

- The Co-Chair of the NASA Earth Science Data System Working Group (ESDSWG) Standard Process Group (SPG) from 2004 to 2007. Elected by the SPG members during the NASA ESDSWG annual meeting at Orlando, Florida, January 2004. (*Website of SPG: <http://spg.gsfc.nasa.gov/>*)
- The Chair of the Cartographic Specialty Group (CSG) (2007 – 2008) in the Association of American Geographers. Elected by the CSG members in 2006 annual meeting. I served as the officials of the Cartographic Specialty Group since 2006 as the Vice Chair, then 2007 as the Chair of CSG. I created a new CSG honor student paper competition at the AAG meeting each year.
- The Vice Chair of the Cyberinfrastructure Specialty Group (2011-2012) in the Association of American Geographers.
- Invited to serve on the Scientific Boards for GIS PLANET 2005 (International GIS

Conference), GIScience 2008 International Conference, and GIScience 2010 International Conference. (Reviewing conference paper submissions)

- Invited to serve on the Scientific Committee of WebMGS 2010 and WebMGS2011 (ISPRS: 1st International Workshop on Pervasive Web Mapping, Geoprocessing and Services, the International Society for Photogrammetry and Remote Sensing) (Reviewing conference paper submissions) <http://webmgs2010.como.polimi.it/committees.php>
- Invited to serve on the Program Committee of ACM SIGSPATIAL International Workshop on High Performance and Distributed Geographic Information Systems (HPDGIS) 2010 (<http://www.cigi.illinois.edu/hpdgis10/committee.php>) (Reviewing conference paper submissions).
- Invited to create a Webinar workshop for the American Society for Photogrammetry and Remote Sensing (ASPRS) for the ASPRS certification program, June 10, 2010 and March 15, 2011.
http://www.asprs.org/webinarseries/Web_Mapping_Services_Workshop_syllabus.pdf

Academic Colloquia, Speeches, and Keynotes (invited):

- March 4, 2010. Invited speech at TELDAP International Conference, **Academia Sinica, Taipei, Taiwan (ROC)**, “*Developing Geospatial Cyberinfrastructure to Archive and Share Spatial Knowledge Digitally*”.
- March 1, 2010. Colloquium at the GIS Center, **Feng Chia University**, Taiwan. “*Using Web 2.0 and Mobile GIS to Promote Geospatial Technology Education and GIScience Research*”.
- May 21, 2009. **Invited keynote speech** at **FORMOSAT-2 5th Anniversary Conference**, National Space Office Program (NSPO), Hsinchu, Taiwan (ROC), “*The Integration of FORMOSAT-2 and NASA Imagery for San Diego Wildfire Emergency Responses and Web GIS Education*”.
- April 2, 2009. Colloquium at the Department of Geography, **University of Tennessee**. “*New Research Directions of Internet GIS and Web-based Spatial Decision Support Systems for Disaster Management*.”
- March 29, 2008. The GeoVisualization Colloquium Series, **Macalester College** in St. Paul, Minnesota. Title: “*New Research Directions of Internet GIS, and Web-based GeoVisualization for the San Diego 2007 Wildfires*.”
- March 11, 2008. **Invited keynote speech** at the Japan’s “Curricula for Geographic Information Science” conference, **the University of Tokyo**, Japan. Title: “*Integrating Web-based GIS, On-line Videos, and Collaborative Tools for GIS education*”. (<http://curricula.csis.u-tokyo.ac.jp/activity/t0311.php>).

- January 17, 2008, Colloquium at the Department of Geography, **UC Santa Barbara**. *“New Research Directions of Internet GIS and Web Mapping Services and Lessons Learned from the San Diego 2007 Wildfires.”*
- March 5, 2008, Colloquium at the Department of Geography, **National Taiwan Normal University**, Taiwan. Title: *“Future Research Directions of Internet GIS and Web Mapping Services and Lessons Learned from the San Diego 2007 Wildfires”*
- March 14, 2008, Colloquium at the Institute of Space and Earth Information Science, **the Chinese University of Hong Kong**. Title: *“New Research Directions of Internet GIS and Web Mapping Services and Lessons Learned from the San Diego 2007 Wildfires.”*
- March 17, 2008, Colloquium at the Department of Geography, **National University of Singapore**. Title: *“New Research Directions of Internet GIS and Disaster Management and Lessons Learned from the San Diego 2007 Wildfires”*.
- March 21, 2008, Colloquium at the Department of Geography, **National Taiwan University**. Title: *“Rediscovering Geography with Internet GIS and Virtual Globes: Case studies in Disaster Management and GIS Education”*.
- June 8th, 2005, Colloquium at Department of Geography, **National Taiwan Normal University**, Taipei, Taiwan. *“Internet GIS and Geospatial Information Technology”*.
- June 19th, 2005, Colloquium at **National Taiwan University**, Taipei, Taiwan. *Web-based Geospatial Technology*.
- June 14th, 2005 .Colloquium at the Electronic Engineering Department, **National Cheng Kung University**. *The Impact of Internet GIS*.

VI. SERVICE TO THE UNIVERSITY AND THE COMMUNITY

Service for the University

- 2008 – Present University Senate - Instructional and Information Technology (IIT) committee. I served as the CAL representative and attended the IIT committee meeting monthly. I provided suggestions and feedbacks on several important issues, including Accessibility Policy, Faculty Email System migration, Information Security Policy, etc.
- 2010 March – August: Collaborate with University CIO, Richard Pickett, to develop mobile campus map prototype Apps on iPhones and iPod-Touch devices with two computer science graduate students (including disabled access route maps).
- 2005 – Present Establish the international exchange agreements and programs (both faculty exchange and student exchange programs) between the National

Taiwan Normal University and San Diego State University. . <http://www-rohan.sdsu.edu/~oip/activeMap/asia/taiwan.htm>.

- 2002 - 2009 Internal Resource Committee (**Chair**). Department of Geography. Coordinating the remodel plan of the Storm Hall Building with University and arranging the relocation plan from Storm Hall to East Mall. Renewing the Department Hallway Posters and preparing annual Instructional Equipment Replacement request for Dean's Office. Conducting surveys of teaching and research infrastructure needs.
- 2009 - Present Public Relationship Ad-hoc Committee.
- 2009 – Present Ph.D. Committee, Department of Geography
- 2009 Scholarship Committee, Department of Geography.
- 2004, 2006 – 2009 Personnel Committee, Department of Geography.
- 2004-2005 Ad-Hoc Committee on BS and M.S. programs. Department of Geography
- 2003-2009 Computing Committee, Department of Geography
- 2001-2005 Curriculum Committee, Department of Geography
- 2001- 2008 Student Outcome Assessment Committee, Department of Geography (Web-based questionnaire designer)
- 2000 Speakers Committee, Department of Geography
- 2004, February Demonstration of mobile and Internet GIS technologies for **the 360 Tour** program on February 27, 2004 at the CESAR lab, Department of Geography, SDSU. The 360 Tour is a new element of the SDSU strategic communications program designed to bring important members of the community to campus for an up-close, first-hand visit with our campus people, programs and facilities.
- 2003, June Work with *the Department of Public Safety* (Debbie Richeson) to create a GPS-based campus map for demonstrating real-time video streaming capabilities (from the surveillance cameras) during the IPv6 telecommunication conference (June 24-27, 2003) at the Visualization Center, SDSU.
- 2003, May *FairShare* Operation (for San Diego County Fair in Del Mar). Use wireless GPS and Remote Sensing data to enhance the public safety and monitoring techniques for the San Diego County Sheriff's Department. The demonstration of wireless mobile GIS applications is collaborated with Bob Welty and Dr. Eric Frost at the College of Science, SDSU.

- 2000-present Member of the China Institute at San Diego State University
(Webmaster for the China Institute Web site.)
- 2009 – present *The Confucius Institute (CI) at San Diego State University:* Faculty
member. <http://confucius.sdsu.edu/faculty.html>

Service for the Community

- 2007 and 2003 Established interactive Web-based mapping services for San Diego
Wildfire 2003 and 2007 [HTTP://MAP.SDSU.EDU](http://MAP.SDSU.EDU). This Web site
(<http://map.sdsu.edu>) was created immediately on October 27, 2003
(Monday morning) to provide Web mapping services for helping our local
community. This site was updated daily and provides maps of the San
Diego wildfires with various live ArcIMS Web mapping services, static
maps, and research articles. This Web site became an important resource
for the local GIS community at San Diego during the wildfire incident.
Many local governments (City of San Diego, County of San Diego) and
related agencies (San Bernardino Joint Information Center, USDA Forest
Service, Southern California Burned Area Emergency Response (BAER)
team) and on-line news media (www.signonsandiego.com) refer to this
website as one of the major resources for mapping San Diego wildfire.

Numerous e-mails are flooding in to thank SDSU for creating the site.
Among them:

*“I have been keeping track of the fires. My daughter is a sophomore and
living in El Cajon. The maps from your department are fantastic! Thanks
for putting them out there.”*

–a very worried parent

*“Thanks for the map. It is very helpful in understanding what went on in
San Diego.”*

-Anonymous, Long Island, New York

*“I want to congratulate you and your colleagues on the magnificent Web
site you created for the recent fires.”*

-Economics professor at UCSD

More information about this Web site can be found at the November 17
issue of SDSUniverse (<http://www.sdsuniverse.info/story.asp?id=11596>)
and the 360 Magazine (Spring 2004) page 8.

On October 21, 2007. This website was activated again. Tsou was leading
the San Diego GIS force group, a volunteer group of SDSU faculty and
students to established interactive Web-based mapping services for the

new San Diego Wildfire 2007 for helping local San Diego community. Based on the Web server transaction logs, **236,693 unique visitors** visited the Web site during the first week of wildfires in 2007. The City of San Diego, the Southern California Burned Area Emergency Response (BAER) team, and the County's emergency fire information center created Web links from their wildfire pages to the website.

Collaboration with San Diego Fire Recovery Network (SDFRN)

- Create an on-line GIS data center for San Diego Fire Recovery Network ([HTTP://MAP.SDSU.EDU/FIRENET](http://MAP.SDSU.EDU/FIRENET)). This Website is dedicated to the distribution of GIS data, metadata, Website information, mapping efforts and other GIS-related efforts relating to the San Diego wildfires. This Web site is a collaborative effort between SDFRN and the Department of Geography at San Diego State University.
- Create DVD movies (Mobile GIS field trip) and send three copies of DVDs for the SDFRN workshops and public education programs.

Invited speeches at local San Diego communities:

- October 28, 2009 Samuel Morse High School Speech: "Geospatial Technology and the Web-based Mapping Tools".
- May 8, 2008 High Tech High School (San Diego) Speech: "*Web GIS and Geospatial Information Technology*"
- May 2, 2008 Patrick Henry High School Speech: "*Internet GIS and Geospatial Information Technology*".
- May 28, 2006 San Diego Chinese American Science and Engineering Association 2006 Spring Seminar: Topic: *Digital Earth (Google Earth) and GIS Technology: Changing the Way We Live in the 21st Century*.
- April 13, 2005 "Combining Web-based GIS and Wireless Mobile GIS for Wildfire Recovery and Watershed Management." (San Diego Fire Recovery Network -- SDFRN, Annual Meeting at the San Diego Natural History Museum).
- April 28, 2004 "SDSU Wildfire GIS Database Website" presentation at San Diego Fire Recovery Network (SDFRN) General Meeting, at the San Diego Natural History Museum.
- February 18, 2004 "Internet GIS: Explore Our World from a Hyperspace Gateway" at the Freese Elementary School (120 sixth grade students attended). This is a collaborative effort with the Mapping the Beat project, UCSD ArtsBridge (sponsored by the National Geographic Society). A Website was created

for this speech (<http://map.sdsu.edu/freese>). (A thank letter from Dr. Walton Jones, Department Chair of Theatre & Dance at UCSD).

- June 12, 2002 “Serving Imagery in Wireless and Optical Formats via the Internet” for *Technology Show and Tell* conference held by SDSU Field Station at the Visualization Center, SDSU.
- May 14, 2002 “Web-based Geospatial Information Services” for the Conference of Complex Network Visualization, Telecommunication Group, at the Visualization Center, SDSU.
- May 13, 2002 “Web-based GIS trainings and course” for NPACI Education Center, at the Immersive Visualization Center. SDSU.
- Feb. 20, 2002 “Internet GIServices for Emergency Services”, Ca(IT)2. for CA-OES at San Diego Supercomputer Center.
- March 4, 2001 “Internet mapping technologies” at San Diego Supercomputer Center, UC-San Diego.
- July 21, 2001 “Internet mapping technologies” for SDSU Field Station at the CESAR Lab, the Department of Geography.

TV-News Interview:

- November 30, 2005 KUSI/News (Morning News) interview. Introducing the recent wildfire research with GIS and remote sensing technologies with Dr. Stow.
- June 20, 2002 KUSI/News (Morning News) interview. “The introduction of mobile GIS applications and related GIS/Remote Sensing research activity in geography department, SDSU” with Dr. Stow. (on-line archive: <http://advancement.sdsu.edu/marcomm/news/clips/Archive/Jun2002/062002/062002rod-geog2.mpg>)

San Diego Chinese American Science and Engineering Association (SDCASEA):

- Board of Directors (2002 - 2004) – nominated and elected in February 2002. The San Diego Chinese-American Science and Engineering Association is one of the major Chinese-American associations in San Diego area (354 members). The goal of this association is to facilitate the understanding of Chinese/Taiwanese culture and to provide student scholarships and community services to San Diego local communities.
- Webmaster -- Design and maintain the web site of San Diego Chinese American Science and Engineering Association. (<http://www.sdcasea.com>).

Coordinate both Patrick Henry High School students (2007, 2008, 2009) and Helix High

School students (2006, 2007, 2008) visits to the GIS computer laboratory with half day tours (including one hour Web GIS demo by Tsou, one hour GPS treasure hunting, and one hour SDSU campus tour).

Exhibitor for Patrick Henry High School Engineering Academic Career Exploration Fair, 2009 and 2010. Introduce GIS technology for students as potential career paths.

Served on the Kyoto Scholarship Judging Committee (for high school students), 2005 and 2006. The Kyoto Laureate Symposium Gala. Coordinated by the San Diego Foundation.

VII. STUDENT ADVISING

Ph.D. student advising (committee chair/advisor):

1. Ick Hoi (Rick) Kim (Ph.D. in Geography, in progress). *Developing High Performance GIS Simulation Models with Grid Computing, Cloud Computing, and Geospatial Web Portals.*
2. Justin Shepard (Ph.D. in Geography, taking leave in Fall 2010). *VGI Credibility of Natural Disaster Response Reporting.*
3. Tong Zhang (Ph.D. in Geography, **graduated December 2007**). *Developing Grid-enabled Internet GIS Service Portals to Support Geospatial Cyberinfrastructure: A Pilot Study in Accessibility.* (Current position: Postdoctoral researcher at the National Key Laboratory for Information Engineering in Surveying, Mapping and Remote Sensing (LIESMARS), Wuhan University, P.R. China).

Ph.D. student advising (committee member):

1. Christopher D. Lippitt (Ph.D. in Geography, in progress, San Diego State University). *Science on the Fast Track: Real-Time Remote Sensing for Earth Science and Environmental Management.*
2. Nicole Simons (Ph.D. in Geography, in progress, San Diego State University). *Knowledge-based rapid assessment decision support tool for wildfire events.*
3. John Ryan (Ph.D. in Geography, **graduated May 2004**, San Diego State University). *Using Spatial Updating Bias to Explore the Robustness of a Collaborative Geovisualization Model.*

Master student advising (committee chair/advisor):

1. Nicole Stotz (M.S. in GIScience, in progress) *Usability Evaluation of Google Fusion Table for the Display of Very Large Datasets.*
2. John Urata (M.S. in GIScience, in progress). *Examining Mobile Phone Locational Privacy with Twitter's Social Networking Application.*
3. Jennifer Smith (M.S. in GIScience, **graduated in August 2011**) *Effective Animation Techniques for 3D visualizations of urban landscapes with a spatial and temporal dimension.*

4. Jeremy Hamm (M.S. in GIScience, **graduated in December 2010**). *The Optimization of a Street Network Model for Emergency Response Analysis within a Geographic Information System.*
5. Diana Smith (M.S. in GIScience, **graduated in May 2010**). *Formalizing and Evaluating Principles of Web-Based Animated Cartography Using Arctic Sea Ice Examples.*
6. Justin H. Shepard (M.S. in GIScience, **graduated in August 2009**). *Web-based GIS modeling in an adaptive management framework: A case study of the Carlsbad Habitat Management Plan.*
7. Lynn Ford (M.S. in GIScience, **graduated in August 2009**) *An Open Source Approach To Develop Web-Based Remote Sensing Tools for Clementine Lunar Imagery Analysis and 3D Visualization.*
8. Kenneth Garner Smith Jr. (M.S. in GIScience, **graduated in May 2009**). *Geovisualization and Spatial Statistical Analysis of Demographic Characteristics and Auto Collision Frequency.*
9. Charles Adler (M.S. in GIScience, **graduated in May 2008**). *Designing an Informationally Supportive Three-Dimensional Web Mapping Application for Urban Planning: A Case Study for Centre City Development Corporation (CCDC), a Redevelopment Agency.*
10. Kimberly Dodson (M.S. in GIScience, **graduated in August 2008**). *Designing Web-based Mapping Tools for Transportation Decision Making: A Case Study of Traffic Census in San Diego.*
11. Ting-Hwan Lee (M.S. in GIScience, **graduated in August 2008**). *Visualizing Web-based Information Dissemination and Diffusion Patterns: A Case Study for San Diego Wildfire 2003.*
12. Nathan G. Mendenhall (M.S. in GIScience, **graduated in 2007**). *Applying User-Centered Design Method for the Development of Web-based Mapping Services: Case Study with Biology and Environmental Planning.*
13. Jung Eun (Jesse) Hong (M.S. in GIScience, **graduated in 2007**). *Integrating a Real-Time Mobile Geographic Information System and a Web-Based Mapping Application for Campus Safety: A Case Study at San Diego State University.*
14. Jing-Yi Chen (M.S. in GIScience, **graduated in 2006**). *Web-Based GIS for High School Teachers and Students: A New Approach to Teaching and Learning with GIS.*
15. Andy Gordon (M.S. in GIScience, **graduated in 2006**). *Accommodating Hypsometrically Tinted Maps for Color-Vision.*
16. David Palomino (M.S. in GIScience, **graduated in 2005**) *Geographic Visualizations within a Web-based Mapping Environment for Water Resource Management.*
17. Judd M. Curran (M.A. in Geography, **graduated in 2005**) *Web-based Geospatial Information Services and Analytical Tools for Management of Real-time Surface Water Hydrology.*
18. Susmita Panchal (M.S. in GIScience, **graduated in 2005**) *Intranet-based GIS for Environmental Compliance Management in a Gas and Electric Utility (Geography).*
19. Yuying Li (M.A. in Geography **graduated in 2003**) *Software Agent-based Intelligent Data Processing System for Environmental Models.*
20. Rasmus H. Larsen (M.A. in Geography, **graduated in 2003**) *Distributed Cartographic Knowledge Bases: An Intelligent Software Agent Approach (Geography).*
21. Liang Guo (M.A. in Geography, **graduated in 2003**) *Web-based Geospatial Information*

Master student advising (second reader):

1. Bahador Nosrat (M.S. in GIScience, **graduated in 2010**) *Identifying Spatial Relationships Between Microbial Metabolism and Human Impact.*
2. Leigh Schwartz (M.A. Geography, **graduated in 2004**) *The Digital Ground Beneath Our Feet: Cultural Geography in the Suikoden Video Game Series.*
3. Mark T. Cunningham (M.A. Geography, **graduated in 2001**) *The San Diego Bay Marine Information System: The Application of a Real-time Geographical Information System to Maritime Operational Decision Making.*

Master student advising (third committee member):

1. Laura Haislip. (M.S. City Planning Department, in progress, San Diego State University). *An Examination of Utilitarian Bicycle Trip Routes.*
2. Luis Cayetano Ynigo-Becerril (M.S. in Computer Science, in progress, SDSU). *High School Campus Map Creation Toolkit.*
3. Jason Hasbrouck (MA Psychology Department, in progress, SDSU) *Examining Benefits of Two-Dimensional and Three-Dimensional Displays.*
4. Alexander R. Gaos (M.S. in Biology, in progress, SDSU). *Migratory Ecology, Habitat Use and Dive Behavior of Hawksbill Turtles (*Eretmochelys imbricata*) in the Eastern Pacific Ocean.*
5. Victoria Lynn Kline (M.A. in Anthropology, **graduated in 2009**). *Regional Network Analysis Situating Lost Valley in the Inter-Site Landscape.*
6. Tricia Brooke Toomey (M.S. in Homeland Security, **graduated in 2008**). *Strategies to Prepare Emergency Management Personnel to Integrate Geospatial Tools in the Form of Geographic Information Systems (GIS), Geovisualization, and Cartography into Emergency Management.*
7. Deepak Kundra (M.S. in Computer Science, **graduated in 2008**). *Natural Disasters GIS Teaching Aid.*
8. Deepthi Pavagada (M.S. in Computer Science, **graduated in 2008**). *GIS Skills Certificate Test Bank.*
9. Arjun Dheer (M.S. in Computer Science, **graduated in 2008**). *MapServer User Interface.*
10. Parekh, Nirav (M.S. in Computer Science, **graduated in 2007**). *Agent for Map Information Using Cartography.*
11. Chawla, Shantanu (M.S. Computer Science, **graduated in 2007**). *Personal Location Advisor System: A Location Based Service on cell phone.*
12. Gupta, Rajan, (M.S. Computer Science, **graduated in 2007**). *Multi-Lingual Map Tool*
13. Amandeep S. Virk (M.S. in Computer Science, **graduated in 2007**). *SDSU campus-parking routing mashup using Mapquest OPENAPI.*
14. Jason P. Holzman (M.S. in Biology, **graduated in 2006**) *Genetic Structure of the Palm Seed Bark Beetle *Coccotrypes dactyliperda* in California Examined at Fine and Course Geographic Scales.*
15. Gagan Deep Arora (M.S. in Computer Science, **graduated in 2006**). *Content Provider for Mobile Devices Server application acting as a Decision Support System.*

16. Koji Tsunoda (M.A. in Antropology, **graduated in 2006**). *GIS-Based Archaeological Settlement Pattern Analysis at Cuyamaca Rancho State Park, San Diego County, California.*
17. Hoang J. Pham (M.S. Computer Science, **graduated in 2005**) *Developing GIS Applications using MapObjects and Java IDE or Java Components.*
18. Jaime Marso (M.S. Geological Science, **graduated in 2005**). *Paleogeography of the Miocene Tectonostratigraphy and Basin Geometry of the East Java Region.*
19. Min Zou (M.S. Computer Science, **graduated in 2005**). *Study and Implementation of J2ME Wireless Applications for Mobile Devices.*
20. Dishu Singla (M.S. Computer Science, **graduated in 2005**). *A Comparative Performance Study of Oracle's Spatial Indexing Algorithms.*
21. Dhawal Sheth (M.S. Computer Science, **graduated in 2005**). *POCKETVIEWER: A GIS Toolkit for PocketPC.*
22. Mark Holtze (M.S. Computer Science, **graduated in 2005**). *Web Application Frameworks and the Storm Platform.*
23. Sunil Ramaiah (M.S. Computer Science, **graduated in 2005**). *Multiple Choice Test Automation, Training Engine.*
24. Dawn D. Yang (M.S. Computer Science, **graduated in 2004**). *Mobile GIS application with Real-time tracking capabilities.*
25. Hongzhi Xu (M.S. Computer Science, **graduated in 2004**). *The Research of Spatial Data Model and Design and Implementation of Shapefile tool.*
26. Andrew W. Rigor (M.S. Geological Science, **graduated in 2004**) *Quaternary and Recent Deformation along the Palos Verdes Fault Zone in San Pedro Bay.*
27. Rend M. Auro (M.P.H., Public Health, **graduated in 2002**) *Outcome of Pediatric Surgical Admissions to A Government Referral Hospital in the Gambia.*