



## KAREN K. KEMP

### BIOGRAPHICAL SKETCH

Karen Kemp is Professor of the Practice of Spatial Science in the Dana and David Dornsife College of Letters, Arts and Sciences at the University of Southern California (USC) where she teaches in the online Geographic Information Science and Technology Programs. Since the late 1980s, Kemp has been a major figure in the evolution of GIS education in the US and abroad. Her scientific research has focused on developing methods to improve the integration of environmental models with GIS from both the pedagogic and the scientific perspectives and on formalizing the conceptual models of space acquired by scientists and humanities scholars, across a wide range of disciplines.

Before moving to the US from Canada in 1988, she taught Geography, Geology and Microcomputer Applications at Malaspina College, in Nanaimo, British Columbia (now Vancouver Island University). In 1988 she joined the National Center for Geographic Information and Analysis (NCGIA) in Santa Barbara working as Coordinator of Education Programs. After completing her Ph.D. in 1992, she worked at the Technical University of Vienna, Austria and with Longman GeoInformation in Cambridge, England on international GIS education projects. She returned to NCGIA in 1994 as Assistant Director and later Associate Director. In January 1999 she moved to University of California Berkeley to become Executive Director of the Geographic Information Science Center where she helped build the foundation for a campus-wide GIScience initiative. In September 2000, she was invited to join the faculty at the University of Redlands to create and direct their new MS GIS program.

In 2006, after building a successful, widely-respected program at the University of Redlands, Kemp stepped down as Director, retreating to the Island of Hawai'i to become an independent scholar. During this time, she completed the Sage Encyclopedia of Geographic Information Science (2008) and worked as Senior Scientist with The Kohala Center on several projects focused on achieving a vision of an Island-based GIS infrastructure integrating Hawaiian and Western sciences, connecting through place on the landscape. In September 2010, she was lured back to a full-time academic appointment with USC, continuing to live full-time in Hawai'i while teaching in the on-line Graduate Certificate and M.S. GIST Programs.

Respected internationally for her contributions to GIS education, in 1990 she co-edited the original *NCGIA Core Curriculum in GIS* and was on the editorial team for the 2006 *UCGIS Geographic Information Science and Technology Body of Knowledge*. She was a founding member of the GIS Certification Institute (GISCI) Board of Directors and maintains her GISP certification from that organization. In recognition for these and other contributions, Kemp has been honored twice by the University Consortium for Geographic Information Science. In 2004 she was named Educator of the Year and in 2011 she was inducted as a UCGIS Fellow “for her extraordinary record of accomplishment, service and contributions to the advancement of geographic information science and applications.” In 2019-2020, she will serve as the UCGIS President.

## Curriculum Vitae Table of Contents

Education .....	1
Current Full-time Appointment .....	1
Other Current Appointments.....	1
Previous Employment.....	1
Selected Consultations .....	4
Honors and Awards.....	5
Scholarly Awards.....	5
Professional Awards .....	5
Professional Certification.....	6
Publications and Presentations.....	6
Refereed Journal Articles.....	6
Refereed Conference Proceedings .....	7
Books .....	8
Other Major Publications .....	8
Edited works .....	8
Book Chapters.....	8
Proceedings .....	9
Other publications .....	11
Invited Presentations .....	13
Workshops Presented.....	14
Other Presentations .....	15
Grants Awarded .....	16
Invited Workshop Participation .....	17
Committees and Professional Service.....	18
Courses Taught .....	19
Theses Supervised.....	21
Academic Reviews.....	23
Professional Society Memberships.....	24

## CURRICULUM VITAE

### Karen Kathleen Kemp

Appointment: Professor of the Practice of Spatial Sciences  
Spatial Sciences Institute  
University of Southern California  
Los Angeles CA USA

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## EDUCATION

### Ph.D. (Geography), 1992

University of California, Santa Barbara, California, USA

Dissertation title: Environmental modeling with GIS: Strategies for dealing with spatial continuity

Advisor: Michael F. Goodchild

### M.A. (Geography, Resources), 1982

University of Victoria, Victoria, B.C., Canada

Thesis title: Municipal Energy Conservation Programs in B.C.: A Study of Innovation Decisions

Advisor: W.R. Derrick Sewell

### B.Sc., First Class Honours (Physical Geography), 1976

University of Calgary, Calgary, Alberta, Canada

## CURRENT FULL-TIME APPOINTMENT

### Professor of the Practice of Spatial Sciences

Lecturer Jan 2008 to Aug 2011, Promoted to Professor Sept 2011

Spatial Sciences Institute, University of Southern California

Teach in on-line GI Science and Technology Program (post-graduate certificate and masters degree tracks). Courses taught: Concepts for Spatial Thinking, Spatial Databases, and Spatial Analysis, and Spatial Modeling. Duties include on-line presentation and supervision of all course components, course development, MS thesis supervision, faculty mentoring.

## PREVIOUS APPOINTMENTS

### Adjunct Professor

2005-2015

Faculty of Engineering, University of Hong Kong

Courses taught: Geo-spatial information for e-business applications and Geospatial information for Location Based Services, for MSc Electronic Commerce/Internet Computing

**Senior Scientist, Kohala Center, Waimea HAWAII, USA**

2006 to 2015

**Senior Consultant, Redlands Institute, University of Redlands, Redlands California, USA**

2006 to 2012

**Professor of Geographic Information Science**

**Founder and Director of International Master's Program in GIS**

September 2000 to December 2005 (promoted from Assoc. Prof, 2004)

University of Redlands, Redlands CA

Founded and directed the MS in GIS program, an entirely new program within the largely undergraduate University of Redlands. Required design of all administrative details for a new graduate program, hiring of all faculty and development and oversight of all budget matters. In addition to on-going administrative responsibilities, advised all incoming and current students, acted as thesis committee chair for a large proportion of the students and taught "Introduction to GIS and Spatial Analysis" and "Fundamentals of Geographic Information" courses in both the graduate and undergraduate program. Also provided university-wide support for GIS initiatives in all Colleges and Schools.

**Executive Director**

January 1999 to May 2000

Geographic Information Science Center

University of California, Berkeley, California

Coordinated a campus-wide initiative to enhance the awareness and use of Geographic Information Science in research, teaching and administration. Responsible for managing the Center's activities and staff including: long-range and strategic planning; budget planning and control; organizing and delivering technical support services; coordinating the development of collaborative grant proposals; developing industrial relations; maintaining a dialog with the GIS Center Advisory Council; coordinating the instructional program; consulting on campus GIS initiatives; recruiting and supervising non-academic staff; coordinating public relations; negotiating contracts; and preparing annual reports.

**Associate Director, January 1998 to December 1998**

**Assistant Director for Development, July 1994 to December 1997**

National Center for Geographic Information and Analysis (NCGIA)

University of California, Santa Barbara, California

Develop and implement long-term plans for continued Center funding. As the senior researcher resident in the NCGIA office, oversee the technical operation of the Center, provide mentoring to Center graduate students and provide linkages between campus GIS activities and the national and international GIS community. As Senior Editor and Project Manager for the new on-line *Core Curriculum in GIS*, coordinate a major international curriculum development project. Oversee the Center's education and outreach activities. Assist center scientists develop research proposals and ensure scientific and financial viability of these activities. Conduct research on the integration of environmental models with GIS and on fundamental education needs for GIS.

**Lecturer - Geography 176A, Introduction to GIS, Fall 1994 and 1995**

Department of Geography, University of California, Santa Barbara, USA

**Distance Learning Development Manager and Technical Editor (*GIS Europe*)**

October 1993 to June 1994  
Longman GeoInformation, Cambridge, UK

Researched, prepared and presented a business plan for a Global Distance Learning Diploma in GIS. Negotiated with various organizations to participate as partners. Provided technical editorial advice to *GIS Europe*, Europe's only GIS trade magazine and *Mapping Awareness*, the UK's GIS trade magazine. Completed the technical development of the MS Windows version of *GISTutor 2*, a hypertext tutorial in GIS.

**Visiting Lecturer** - Introduction to GIS, Fall 1993

Department of Geoinformation  
Technical University of Vienna, Austria

**Coordinator of the International Post-graduate Course on GIS**

January 1993 to September 1993  
Department of Geoinformation  
Technical University of Vienna, Austria

Coordinated a European Union funded project to develop an International Post-Graduate Course on GIS. Conducted an international survey to determine GIS educational needs and developed a course blueprint for the development of materials. Identified and contracted course authors. Coordinated promotion and logistical arrangements for presentation of course.

**Coordinator of Education Programs**, September 1990 to December 1992

National Center for Geographic Information and Analysis (NCGIA)  
University of California, Santa Barbara, California

Oversaw the education outreach activities of the NCGIA, including the worldwide distribution of the *NCGIA Core Curriculum in GIS*, the development of foreign language versions and other GIS education publications and liaison with national and international GIS organizations. Presented workshops and papers on teaching GIS at conferences in the US, Europe, Asia and Latin America.

**Teaching Associate** - Geography 3, Introduction to Physical Geography, Fall 1990

Department of Geography  
University of California, Santa Barbara, USA

**Co-editor, *NCGIA Core Curriculum in GIS***, September 1988 to August 1990

National Center for Geographic Information and Analysis (NCGIA)  
University of California, Santa Barbara, California

With Michael Goodchild, developed the outline for the curriculum contents, coordinated contributions from GIS experts worldwide, edited and compiled the draft version, managed the evaluation program and prepared the revised, final version of the widely respected Core Curriculum now used in academic institutions and commercial and government agencies around the world.

**Teaching Assistant** - GIS, Computer Cartography, Hydrology, September 1988 to June 1989

Department of Geography  
University of California, Santa Barbara, USA

**College Instructor** - Geography, Geology, Microcomputer Applications, 1980 to 1988

Department of Geography and Geology  
Malaspina College (now Malaspina University College), Nanaimo, BC, Canada

Taught first and second year Physical Geography, Geomorphology, Meteorology, Introductory Geology and Microcomputer Applications for Business in the university transfer program at a regional community college. Responsible for all aspects of instruction including preparing and presenting all lectures and laboratory sessions and student assessment. Participated on college committees and organised sessions on Computers in Geography for the Geography instructors of British Columbia colleges.

**Computer Education Coordinator and Instructor**, January 1983 to January 1984

Van Isle Industrial Education Centre Ltd.  
Nanaimo, BC, Canada

**Vice-President - Operations**, January 1979 to July 1979

Patch Work Enterprises Ltd.  
Calgary, Alberta, Canada

Co-founder of a small company offering support services to Alberta oil and gas exploration companies. Responsible for all technical operations.

**Geophysical Coordinator/Exploration Resource Specialist**, Sept. 1977 to Dec. 1978

Alberta Forest Service  
Edmonton, Alberta, Canada

Supervised a small division charged with reviewing environmental impact and regulatory aspects of applications for permission to conduct geophysical exploration in Alberta.

**Environmental Technician**, May 1977 to August 1977

Northern Engineering Services Co. Ltd.  
Calgary, Alberta, Canada

**Engineering Survey Assistant**, Summer 1975 and May 1976 to May 1977

National Parks Service  
Banff, Alberta, Canada

**SELECTED CONSULTATIONS**

**Educational Programs Consultant**

US Geospatial Intelligence Foundation, Washington DC. 2009-present.

**Consultant**

University of Redlands, MS GIS Program, 2009-2010.

**Expert Working Group Member**

Virtual Center for Humanities GIS (West Virginia University, Indiana University Purdue University Indiana and Florida State University). 2008 and 2009.

**Advisor**

Spatial Decision Support Consortium, Redlands Institute. 2008-9.

### **Information Specialist**

Pasifika Foundation Hawai'i. Grant from US Department of Health and Human Services, Administration for Native Americans for "Community-based Host/Visitor Project: Phase II: Community Asset Survey, Analysis & GIS Mapping", October 2007 to September 2008.

### **National Visiting Committee Member**

San Diego Mesa College, NSF Funded Scaleable Skills Certification Program in GIS, 2005 and 2006.

### **Member, Leadership Roundtable on the Geospatial Industry**

Wharton College/GITA/AAG, October 2005

### **External Reviewer, Unit Review**

Department of Geography, University of Calgary, September 2005

### **NSF Review Panel Participant**

National Science Digital Library, May 2003

### **Learning Resources Consultant**

May to July 2000

Center for Spatially Integrated Social Science, University of California Santa Barbara

### **Outside evaluator on NSF-ATE grant.**

Observe and evaluate training and products throughout the duration of grant "GIS Access - Geographic Information Sciences Curriculum Clearing House and Faculty Enhancement Project", Sept 1998-August 1999, awarded to Les Doak, Cypress College, CA.

### **New market development analysis for small data conversion company, January 1998.**

### **Outside evaluator for Richard Stockton College NJ**

Evaluated interim progress on NSF-CCD grant "Integrating Geographic Information Systems into Undergraduate Environmental Science Curriculum", March 1996.

## **HONORS AND AWARDS**

### **Scholarly Awards**

UCGIS Fellow, awarded 2011, presented by the University Consortium of Geographic Information Science

UCGIS Educator of the Year 2004

University of California Regents Fellowships, 1988-1991

Sara Spencer Foundation Research Fellowship, University of Victoria, 1982

Canadian Association of Geographers Undergraduate Award, 1976

Ontario Scholar, 1992

### **Professional Awards**

President's Award 2012, Hawai'i Geographic Coordinating Council (HIGICC)

Esri Special Achievement in GIS Award for Leadership in Geospatial Teaching 2005

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## Professional Certification

- Certificate in Online Teaching, awarded July 2014 by the Online Learning Consortium (formerly Sloan Consortium).
- Certified GIS Professional, certified Oct 2005, recertified Oct 2010 and 2015 by the US GIS Certification Institute.
- Certified ArcGIS Desktop 10 Associate, certified August 2011 by Esri, Inc.

## PUBLICATIONS AND PRESENTATIONS

### Refereed Articles

- Wu, An-Min, and Karen Kemp. 2019. Global Measures of Spatial Association. *The Geographic Information Science & Technology Body of Knowledge*, in press.
- Shook, Eric, Forrest J. Bowlick, Karen K. Kemp, Ola Ahlqvist, Patricia Carbajales-Dale, David DiBiase, Eun-Kyeong Kim, Scott Lathrop, Britta Ricker, Patrick Rickles, Johnathan Rush, Jennifer N. Swift and Shaowen Wang. 2019. Cyber Literacy for GIScience: Toward Formalizing Geospatial Computing Education. *The Professional Geographer*, published online 2 Jan. 2019.
- Kemp, Karen. 2016. Professional Certification. *The Geographic Information Science & Technology Body of Knowledge*, 3rd Quarter 2016 Edition.  
doi: 10.22224/gistbok/2016.3.1.
- Ferguson, W.J., K.K. Kemp and G. Kost. 2016. Using a Geographic Information System to Enhance Patient Access to Point-of-care Diagnostics in a Limited-Resource Setting. *International Journal of Health Geographics*.
- Lam, N. and K.K. Kemp. 2012. Reflections on Geographic Information Science: special issue in honor of Michael Goodchild. *International Journal of Geographic Information Science*, 26, 2193-2196.
- Kemp, K.K. 2009. What does GIS offer to History? *International Journal of Humanities and Arts Computing*, 3(1-2), 15-19.
- DiBiase, D., M. DeMers, A. Johnson, K. Kemp, A.T. Luck, B. Plewe, E. Wentz, 2007. Introducing the first edition of Geographic Information Science and Technology Body of Knowledge. *Cartography and Geographic Information Science*, 34(2), 113(118).
- Kemp, K.K. 2003. Guest Editorial: Why GIS Professional Certification Matters to Us All. *Transactions in GIS* 7(2): 159-163.
- Kemp, K.K. and L. Wiggins, 2003. Guest Editorial: Introduction to the Special Issue on GIS Education. *URISA Journal* 15(1): 4-6.
- Kemp, K.K. 2003. Update on the UCGIS Model Curricula Project. *URISA Journal* 15(1):47-49.
- Gregory, I., K.K. Kemp and R. Mostern, 2003. Geographical Information and Historical Research: Current progress and future directions. *Humanities and Computing* 13:7-22.
- Reeve, D., S. Hardwick, K. Kemp, and T. Ploszajtska, 2000. Delivering courses internationally. *Journal of Geography in Higher Education*, 24(2): 228-237.



- Goodchild, M.F., M.J. Egenhofer, K.K. Kemp, D.M. Mark and E. Sheppard, 1999. Introduction to the Varenus Project. *International Journal of Geographic Information Science*, 13(8):731-745.
- Kemp, K. K., 1999. Strategic Change in GIScience Education. *Geographic Information Sciences*, 5(1):24-29.
- Kemp, K. K., and D.J. Unwin, 1997. Guest Editorial. From geographic information systems to geographic information studies: An agenda for educators. *Transactions in GIS* 2(2):103-109.
- Kemp, K.K., 1997. The NCGIA Core Curricula in GIS and Remote Sensing, *Transactions in GIS* 2(2):181-190.
- Foresman, T.W., T. Cary, T. Shupin, R. Eastman, J.E. Estes, N. Faust, J.R. Jensen, K.K. Kemp, 1997. "Internet teaching foundation for the Remote Sensing Core Curriculum program." *ISPRS Journal of Photogrammetry and Remote Sensing* 52: 294-300.
- Kemp, K.K., 1997. Fields as a framework for integrating GIS and environmental process models. Part one: Representing spatial continuity, *Transactions in GIS* 1(3):219-234.
- Kemp, K.K., 1997. Fields as a framework for integrating GIS and environmental process models. Part two: Specifying field variables, *Transactions in GIS* 1(3):235-246.
- Kemp, K.K., and A.U. Frank, 1996. Toward consensus on a European GIS curriculum: The International Post-Graduate Course on GIS, *International Journal of Geographical Information Systems*, 10(4):477-497.
- Leipnik, M.R., K.K. Kemp and H.A. Loaiciga, 1993. Implementation of GIS for water resources planning and management, *Journal of Water Resources Planning and Management*, 119(2):184-205.
- Kemp, K.K., and Fiona M. Goodchild, 1992. Evaluating a Major Innovation in Higher Education: the NCGIA Core Curriculum in GIS, *Journal of Geography in Higher Education* 16(1):21-35.
- Goodchild, M.F., and K.K. Kemp, 1992. NCGIA Education Activities: The Core Curriculum and Beyond, *International Journal of Geographical Information Systems* 6(4):309-320.
- Kemp, K.K., M.F. Goodchild and R.F. Dodson, 1992. Teaching GIS in Geography, *Professional Geographer* 44(2):181-191.
- Kemp, K.K., and M.F. Goodchild, 1991. Developing a Curriculum in GIS: The NCGIA Core Curriculum Project, *Journal of Geography in Higher Education*, 15(2):121-132. Reprinted in *Cartographica* 28(3):39-54, 1991.
- Kemp, K.K., 1991. The NCGIA Core Curriculum evaluation program: a review and assessment, *Cartographica* 28(3): 88-93.

### **Refereed Conference Proceedings**

- Kemp, K., W. Kuhn and C. Brox. 2012. A Delphi Survey to Rate GIScience Publication Outlets. In *Multidisciplinary Research on Geographical Information in Europe and Beyond: Proceedings of the AGILE'2012 International Conference on Geographic Information Science*, Avignon, April, 24-27, 2012, eds. J. Gensel, D. Josselin & D. Vandenbroucke. Avignon, France.

Kemp, K.K. and R. Mostern, 2001. Spatial Vagueness and Uncertainty in the Computational Humanities. *Proceedings of the First COSIT Workshop on Spatial Vagueness, Uncertainty and Granularity*, Ogunquit, ME, October 2001. CD-ROM.

Kemp, K. K., D.E. Reeve and D.I. Heywood, 1999. Interoperability for GIScience Education. In *Interoperating Geographic Information Systems*, A. Vckovski, K. E. Brassel, and H.-J. Schek, eds., Springer-Verlag, Berlin, pp. 101-114.

### **Books**

Kuhn, W. and K.K. Kemp. In preparation. *Core Concepts of Spatial Information*. Cham, Switzerland: Springer International Publishing.

McDonnell, R and K.K. Kemp, 1995. *International GIS Dictionary*. Cambridge, UK, Geo-Information International.

### **Other Major Publications**

Goodchild, M.F., K.K. Kemp, M. Theriault and Y. Roche, 1994. *Systèmes d'Information Géographique: Notes de Cours*. LATIG, Département de géographie, Université Laval, Québec. (NCGIA Core Curriculum French translation)

Goodchild, M.F., and K.K. Kemp, 1990. *NCGIA Core Curriculum in GIS*, National Center for Geographic Information and Analysis, University of California, Santa Barbara, CA.

### **Edited works**

Lam, N. and K. Kemp (eds). 2011. Reflections on Geographic Information Science: Special Issue in Honor of Michael Goodchild. *International Journal of Geographic Information Science*.

Kemp, K.K. (ed.). 2008. *Encyclopedia of Geographic Information Science*. Thousand Oaks CA: Sage Publications.

Kemp, K.K. (ed.). 2006. *The ESRI/University of Redlands Colloquium CD Set*. Redlands CA: ESRI Press.

DiBiase, D., DeMers, M., Johnson, A., Kemp, K., Luck, A., Plewe, B., et al. (eds.). 2006. *Geographic Information Science and Technology Body of Knowledge, First edition*, Washington, DC: Association of American Geographers.

Kemp, K.K. and L. Wiggins (eds.). 2003. Special Issue on GIS Education. *URISA Journal* 15(1).

### **Book Chapters**

Kemp, K.K. and N.M. Waters. In press. Michael F. Goodchild: Gamechanger in Geography, GIS and GIScience. In P.A. Atkinson (ed.). *The SAGE Encyclopedia of Research Methods*. Thousand Oaks CA: Sage Publications.

Weidemann, C.D., J.N. Swift and K.K. Kemp. 2018. Geosocial Footprints and Concerns in Geoprivacy. In Jim Thatcher, Andy Shears and Joe Eckert (eds.), *Thinking Big Data in Geography: New Regimes, New Research*. University of Nebraska Press, pp. 123-144.

Kemp, K.K. 2011. Reflections on Curriculum Development in the US and abroad: From Core Curriculum to Body of Knowledge. In N. J. Tate, K. E. Foote, D. Dibiase & D. J. Unwin (Eds.), *Teaching Geographic Information Science and Technology in Higher Education*. Wiley, pp. 47-60.

- Kemp, K.K., K. Keali'ikanaka'oleohaililani, and M.M. Hamabata, 2011. Ha'ahonua: Using GIScience to link Hawai'ian and Western knowledge about the Environment. In Dear, M., Ketchum, J., Luria, S., and Richardson, D. (eds.). 2011. *GeoHumanities: Art, History, Text at the Edge of Place*. Routledge, pp. 287-295.
- Kemp, K.K. 2010. Geographic Information Science and Spatial Analysis for the Humanities. In D. Bodenhamer, T. Harris & J. Corrigan (Eds.), *The Spatial Humanities: GIS and the Future of Humanities Scholarship*. Indiana University Press, pp. 31-57.
- Brown, D.G., G Elmes, K.K. Kemp, S. Macey and D. Mark. 2004. Geographic Information Systems. In G. L. Gaile & C. J. Willmott (Eds.), *Geography in America at the Dawn of the 21st Century* Oxford University Press, pp. 353-375.
- Heywood, D.I., K.K. Kemp, and D.E. Reeve, 1999. Interoperable education for interoperable GIS. In *Interoperating Geographic Information Systems*, M.F. Goodchild, M.J. Egenhofer, R. Fegeas, and C.A. Kottmann, eds., Kluwer, New York, pp. 443-458.
- Kemp K.K., 1996. GIS and Geography Education, in H. Chamussy, R.P. Bradshaw and M. Antrop, eds. *Intelligent Tutorial Systems in Geography*, Springer-Verlag.
- Kemp, K.K., 1996. Managing spatial continuity for integrating environmental models with GIS, in M.F. Goodchild, B.O. Parks, L.T. Stayaert and S. Glendinning, eds., *GIS and Environmental Modeling: Progress and Research Issues*, Fort Collins, CO: GIS World Books, pp. 339-343.
- Kemp, K.K., and A.U. Frank 1995. Toward consensus on a European GIS curriculum: The International Post-Graduate Course on GIS, in Frank A.U. (ed.), *Geographic Information Systems - Materials for a Post-Graduate Course*, Vienna, Austria, Department of Geoinformation, Technical University Vienna, 3: 865-895.
- Kemp, K.K., 1994. GIS Education in Europe, in P.J. Shand and P.J. Ireland, eds., *The 1994 European GIS Yearbook.*, NCC Blackwell Ltd., Oxford, pp. 90-92.
- Kemp, K.K., 1993. Spatial data: sources and issues, in M.F. Goodchild, B.O. Parks and L.T. Stayaert, eds., *Environmental Modeling with GIS*, Oxford University Press, New York, Chapter 35, pp. 363-371.

## Proceedings

- Kemp, K., W. Kuhn & C. Brox. 2012. A Delphi Survey to Rate GIScience Publication Outlets. In *Multidisciplinary Research on Geographical Information in Europe and Beyond: Proceedings of the AGILE'2012 International Conference on Geographic Information Science*, Avignon, April, 24-27, 2012, eds. J. Gensel, D. Josselin & D. Vandenbroucke. Avignon, France.
- Kemp, K.K., 2001. Using Geographic Information to Improve the Sharing of Digital Information Resources in the Humanities. *Proceedings of the Symposium on SIG-CH: Computer and the Humanities of Information Processing Society of Japan*, Osaka, Japan, December 2001, pp. 101-2.
- Kemp, K.K., 2001. Building a Global GIS Workforce: The new International Masters in GIS Program at the University of Redlands, *Proceedings of the Europe, Middle East and Africa ESRI Users Conference*, Lisbon Portugal, October 2001. CD-ROM.

- Kemp, K.K., 2000. Background on international GIS professional certification efforts. *Proceedings of the European Seminar on GIS Education*, Budapest, Hungary, September 2000. CD-ROM.
- Kemp, K.K., and A. Vckovski, 1998. Towards an ontology of fields. *Proceedings of the Third International Conference on GeoComputation*, September 17-19, 1998, Bristol, UK. CD-ROM.
- Kemp, K.K., 1997. Integrating traditional spatial models of the environment with GIS. In *Autocarto 13*, Seattle, WA. American Society of Photogrammetry and Remote Sensing and American Congress on Surveying and Mapping. pp. 23-32.
- Kemp, K.K., M.F. Goodchild, D.M. Mark and M.J. Egenhofer, 1997. Varenius: NCGIA's Project to Advance Geographic Information Science. In *Proceedings of Joint European Conference and Exhibition on Geographical Information*, Vienna, Austria.
- Kemp, K.K., and M.F. Goodchild, 1996. The new on-line Core Curriculum in Geographic Information Science, in *Proceedings of GIS/LIS '96*, Denver, CO, pp. 363-367.
- Kemp, K.K., 1996. Easing environmental models into GIS, in *Proceedings of the Third International Conference/Workshop on Integrating GIS and Environmental Modeling*, Santa Fe, NM, January 21-26, 1996. Santa Barbara, CA: National Center for Geographic Information and Analysis (CD-ROM).
- Kemp, K.K., 1995. Teaching and Learning about GIS, in *Proceedings of III Simpósio Brasileiro de Geoprocessamento*, pp. 259-292, São Paulo, Brazil.
- Kemp, K.K., 1994. GIS education in the global marketplace, in J.J. Harts, H.F.L. Ottens, & H.J. Scholten, eds., *Proceedings of EGIS/MARI '94*, EGIS Foundation, Paris, vol. 1:538-541.
- Kemp, K.K., 1993. GIS education options, in *Proceedings of 25th International Symposium, Remote Sensing and Global Environmental Change*, Graz, Austria, Environmental Research Institute of Michigan, Ann Arbor, MI. pp. I-477-483.
- Kemp, K.K., 1993. Toward a consensus on a European GIS curriculum: The International Post-Graduate Course on GIS, in *Proceedings of Urban Data Management Conference*, Vienna, Austria, ADV Handelsgesellschaft m.b.H, Vienna, Austria, pp. 42-51.
- Kemp, K.K., 1993. Environmental modelling with GIS: dealing with spatial continuity, in K. Kovar & H.P. Nachtnebel (Eds.), *Proceedings of HydroGIS '93, Application of Geographic Information Systems in Hydrology and Water Resources Management*, Vienna, Austria, International Association of Hydrological Sciences Press, Wallingford, Oxfordshire, UK, pp. 107-115.
- Kemp, K.K., 1993. Managing spatial continuity for integrating environmental models with GIS, in *Proceedings of Environmental Modeling and GIS*, Breckenridge, CO, GIS World, Ltd.
- Kemp, K.K., 1992. Spatial models for environmental modeling with GIS, *Proceedings of the Fifth International Symposium on Spatial Data Handling*, Columbia, SC, pp. 524-533.
- Kemp, K.K., 1992. Environmental modeling with GIS: A strategy for dealing with spatial continuity, in *Proceedings of GIS/LIS '92*, San Jose, CA, pp. 397-406.
- Kemp, K.K., 1991. GIS Education Around the World: Year Three of the NCGIA Core Curriculum Project, in *Proceedings of the AGI '91 Conference*, Birmingham.

- Kemp, K.K., 1990. An Update on the NCGIA Core Curriculum Project, in *Proceedings of the Tenth Annual ESRI Users Conference*, Volume 1, Environmental Systems Research Institute, Redlands, CA.
- Kemp, K.K., 1990. A Review and Assessment of the NCGIA Core Curriculum Evaluation Program, in *Proceedings of the International Symposium on Spatial Data Handling*, Zurich, 2:1053-1058.
- Goodchild, M.F., K.K. Kemp, D.M. Mark and A.U. Frank, 1989. The U.S. National Center for Geographic Information and Analysis: An Overview of the Agendas for Research and Education, in *Proceedings of Canadian National Conference on GIS: Challenge for the 1990's*, Ottawa, pp. 918-925.

### **Other publications**

- Singleton, Alex, K.K. Kemp, D. Unwin, G. Lansley and Q. Wu. 2015. *Instructor's Manual for Geographic Information Systems and Science*, 4th Edition by P.A. Longley, M.F. Goodchild, D.J. Maguire and D.W Rhind. John Wiley & Sons. Published on-line.
- Kemp, K., W. Kuhn and C. Brox. 2013. *Results of a Survey to Rate GIScience Publication Outlets*. Association of Geographical Information Laboratories in Europe (AGILE) Initiative Report. Available at: [http://www.agile-online.org/Conference\\_Paper/images/initiatives/Results\\_of\\_a\\_Survey\\_to\\_Rate\\_GIScience\\_Publications.pdf](http://www.agile-online.org/Conference_Paper/images/initiatives/Results_of_a_Survey_to_Rate_GIScience_Publications.pdf).
- Kemp, K. K. 2012. *The Hawai`i Island Crop Probability Map*. GIS Research Laboratory Technical Report No. 14. Spatial Sciences Institute, University of Southern California.
- Kemp, K.K. 2012. Geo-everything is everywhere. *Meicom Connect*. February 2012. University of Hong Kong.
- Kemp, K.K. 2011. Review of the Sage Handbook of GIS and Society. *Geographical Analysis* 43(4): 433-434.
- Kemp, K.K. and D. Unwin, 2010. *Instructor's Manual for Geographic Information Systems and Science*, 3rd Edition by P. A. Longley, M. F. Goodchild, D. J. Maguire and D. W. Rhind. John Wiley & Sons. Published on-line.
- DiBiase, D., M. DeMers, A. Johnson, K. Kemp, A.T. Luck, B. Plewe and E. Wentz. 2007. Introducing the First Edition of the Geographic Information Science and Technology Body of Knowledge. In *2007 U.S. National Report to the ICA*.
- Kemp, K.K. 2006. Future for GIS Education in a World of Embedded GIS. *GIS Development*, 10, p. 41.
- Kemp, K.K., 2005. Those of us teaching GIS must set the example. *GIS Development*. 9:1. Available on-line at [www.gisdevelopment.net/magazine/years/2005/jan/interview.htm](http://www.gisdevelopment.net/magazine/years/2005/jan/interview.htm).
- Kemp, K.K. and D. Unwin, 2005. *Instructor's Manual for Geographic Information Systems and Science*, 2nd Edition. By P. A. Longley, M. F. Goodchild, D. J. Maguire and D. W. Rhind. John Wiley & Sons. Published on-line.
- Kemp, K.K. 2002. Book Review of "Concepts and Techniques of Geographic Information Systems". *Transactions in GIS* 6(4):485-489.
- Maher, R., K.K. Kemp, and others, 2002. *Project 19122 - Geographic information/Geomatics - Qualifications and Certification of personnel*. Report N1319, Oslo, Norway, ISO/TC 211 Secretariat.

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- Kemp, K.K., 2001. GIS Education Center and International Master's Degree Program at the University of Redlands. *ArcNews*, Winter 2001.
- Kemp, K.K. 2001. Geography and GIS. *Geographic Information Systems & Science, Instructor's Manual*, Wiley and Sons.
- Kemp, 2000. International certification efforts. In Somers, R., Defining the GIS Profession and Debating Certification and Regulation. *Geo Info Systems*. May 2000, pp.24-25.
- Kemp, K. and N. Obermeyer, 1999. GIS Certification/Accreditation debate heats up. *AAG Newsletter*. 34 (12): 1-2.
- Kemp, K.K., D.E. Reeve, and D.I. Heywood, 1998. *Report of the International Workshop on Interoperability for GIScience Education, IGE '98*, Soesterberg, The Netherlands, May 18-20, 1998. National Center for Geographic Information and Analysis, University of California Santa Barbara.
- Kemp, K.K., 1998. Education. In *Interoperating GISs*. NCGIA Varenius Report, University of California Santa Barbara.
- Wright, R. and K. Kemp, 1998. GIScience Education Challenges. *Intergovernmental Solutions Newsletter*. Oct. 1998, <http://policyworks.gov/org/main/mg/intergov/letter/1Kemp5.html>.
- Kemp, K.K., and R. Wright, 1997. UCGIS identifies GIScience education priorities. *Geo Info Systems*, September 1997, pp. 16-20.
- Taylor, J., J. Fletcher and K.K. Kemp, 1996. *GIS Laboratory Exercises: Introduction to GIS*, 2nd edition, Technical Report 96-12, National Center for Geographic Information and Analysis, University of California, Santa Barbara, CA.
- Densham, P.J., M.P. Armstrong and K.K. Kemp, 1995. *Collaborative Spatial Decision-Making: Scientific Report for the Initiative 17 Specialist Meeting*, Technical Report 95-14, National Center for Geographic Information and Analysis, University of California at Santa Barbara.
- Kemp, K.K., 1994. GIS Education at EGIS '94, *GIS Europe*, 3(6):15-16.
- Kemp, K.K., 1993. TUW offers a new kind of course, *GIS Europe* 2(2):31.
- Kemp, K.K., W. Kuhn, A.U. Frank, 1993. GIS education for professionals: Making GIS accessible, *Geo Info Systems* 3(4):50-52.
- Kemp, K.K., 1993. *Environmental Modeling with GIS: A strategy for dealing with spatial continuity*, Technical Report 93-3, National Center for Geographic Information and Analysis, University of California at Santa Barbara.
- Goodchild, M.F., and K.K. Kemp, 1992. GIS Education and NCGIA, *Geo Info Systems* 2(3):54-56.
- Goodchild, M.F., and K.K. Kemp, 1992. GIS Research and Education in the USA, *Vestnik Moskovskogo Universiteta, Geography Series* 4:68-72, in Russian.
- Goodchild, M.F. and K.K. Kemp, 1992. GIS Accreditation: What are the options?, *ACSM Bulletin*, Nov/Dec 1992, pp. 44-47.
- Kemp, K.K., 1991. The NCGIA Core Curriculum evaluation program: a review and assessment, *Cartographica* 28(3): 88-93.

- Dodson, R.F., K.K. Kemp and S.D. Palladino, 1991. *The NCGIA Guide to Laboratory Materials, 1991*, NCGIA Technical Report 91-20, National Center for Geographic Information and Analysis, University of California, Santa Barbara, CA.
- Palladino, S.D., and K.K. Kemp, 1991. *GIS Teaching Facilities: Six case studies on the acquisition and management of laboratories*, NCGIA Technical Report 91-21, National Center for Geographic Information and Analysis, University of California, Santa Barbara CA.
- Kemp, K.K. and M.F. Goodchild, 1990. NCGIA Core Curriculum Update, *GIS World*, April/May 1990:75-77.
- Kemp McMillan, K.K. and E.A.M. Forrester, 1984. *Abstracts of papers presented at the annual meeting of the Canadian Association of Geographers*, Department of Geography, Malaspina College, Nanaimo, BC, Canada.

### **Invited Presentations**

- “Understanding and Nurturing Spatial Literacy”, Keynote presentation with Sarah Bednarz, Spatial Thinking and Geographic Information Sciences, Tokyo, Japan. September 2011.
- “Teaching GIS at University and College Level”, 5<sup>th</sup> International Conference on GIS, Istanbul, Turkey. July 2008.
- “Getting started as a GIS Professional”, University of Calgary, Department of Geography colloquium, November 2002 and University of Hong Kong, Expert’s Address Series, March 2005.
- “GIS and the Humanities”, Idaho State University, special colloquium sponsored Departments of Geology and History, the ISU Office of Research, the GIS Training and Research Center, and the Ifft Social Sciences Laboratory and funded by the ISU Speakers and Artists Committee, October 2001.
- “Extending GIS into the Humanities”, keynote presentation at Third Annual Cal Poly Pomona GIS Exposition, California State Polytechnic University Pomona, May 2001.
- “GIS for the Humanities”, invited tutorial presented at the Pacific Neighborhood Consortium Annual Conference, Hong Kong, January 2001.
- “GIS and the Humanities”, inaugural lecture in the Lecture & Workshop/Seminar Series on “Geographic Information Science & the Disciplines”, part of the Educational Program for Spatial Analysis/GIS sponsored by The Center for European Studies, The China Data Center, and The International Institute at the University of Michigan, November 2000.
- “Helping old and new geographies converge”, invited lecture, Department Colloquium Series, Department of Geography, University of Oklahoma, October 1999.
- “Geographic Information Science”, various invited departmental lectures at the University of California Berkeley and Lawrence Livermore National Labs, spring 1999.
- "Interoperability for GIS Education", First European GIS Education Seminar, EUGISES'98, Soesterberg, The Netherlands, September 1998.
- Three lectures on Geographic Information Science, Regional Workshop on Integrated Environmental Information Systems, Cairo, Egypt, January 1997.

“Teaching and Learning about GIS”, Third Brazilian Symposium on Geoprocessing, Sao Paulo, July 1995.

"Geography and GIS", Department of Geography, University of Oxford, April 1994.

"Environmental Modelling with GIS", University of Klagenfurt, Austria, June 1993; Vienna University of Economics, Austria, June 1993; University of Osnabrück at Vechta, Germany, June 1993; and Institute of Information Science, University of Bergen, Norway, October 1993; University of Sheffield, UK, February 1994; University of Cambridge, UK, March 1994.

"GIS Education and the NCGIA Core Curriculum", International Cartographic Association, Commission on Education and Training, Seminar on Surveying and Mapping Aspects of GIS and Visualization, University of Maryland at College Park, MD, August 1992.

"GIS education around the world: The role of the NCGIA Core Curriculum", Second International Symposium on Remote Sensing and Space '92, Hat Yai, Thailand, January 1992.

"GIS Education, Geography and the NCGIA Core Curriculum", NATO Workshop on Intelligent Tutorial Systems in Geography, Montpellier, France, November 1991.

"NCGIA Core Curriculum", North Carolina GIS Conference, Raleigh, NC, January 1991.

"A Review and Assessment of the NCGIA Core Curriculum Evaluation Program," GIS Education and Training Conference, Midlands Regional Research Laboratory, Leicester, UK, March 1990.

"The NCGIA Core Curriculum: An interim report on the evaluation program," GIS/DIP Workshop for California State University Faculty, San Diego, CA, February 1990.

"The NCGIA Core Curriculum", with M.F. Goodchild, GIS Educator's Conference, Ohio State University, June 1989.

### **Workshops Presented**

“CyberGIS Education Workshop”, Annual Conference of the Association of American Geographers, Chicago, IL. April 2015.

“GIS for Humanities”, Annual Conference of the Pacific Neighborhood Consortium, Hong Kong, January 2001.

"Interoperability for GIS Education", GISPlaNET'98, Lisbon, Portugal, September 1998.

Presenter in "Training of Trainers Workshop on Geographical Information Systems in the field of environmental management", UNITAR and Swiss Federal Institute of Technology, Lausanne, Switzerland, October 1993.

Presenter in "Workshop on Spatial Data Modelling", EGIS '93, Genoa, Italy, March 1993.

"Laboratories for GIS education: Hardware, software and exercises", Annual Conference of the Association of American Geographers, San Diego, April 1992.

Selected units from the NCGIA Core Curriculum presented during course on Remote Sensing and GIS held at FORMEZ, Naples, Italy, November 1991.



Presenter in "Third Latin American Course on Geographic Information Systems, Seminar on the introduction of GIS in university teaching and the creating of GIS laboratories", Santiago, Chile, October 1991.

"Teaching GIS", GIS/LIS '91, Atlanta, October 1991.

"Teaching GIS and the NCGIA Core Curriculum", International Symposium on Environmental Change and GIS, Asahikawa, Japan, August 1991.

"Materials for Teaching GIS Workshop", International Symposium on Spatial Data Handling, Zurich, July 1990 and LIS/GIS '90, Anaheim, November 1990.

### **Other Presentations**

"Teaching CyberGIS", Esri International User Conference, San Diego CA, July 2015.

"The landscape of emerging and maturing change in GIScience education", University of Salzburg, Austria, September 2014.

"A rising tide of Professional Masters degrees: What does this mean for the academy?", Ninth European GIS Education Symposium, Cork Ireland, September 2014.

"The Hawai`i Island Crop Probability Model", Association of American Geographers Annual Meeting, Los Angeles CA, April 2013.

"Location for Location Based Services", Kailua-Kona, October 2011.

"Exploring Kona's Development Future Through GIS", Kailua-Kona, April 2010.

"Revisiting GIS and Environmental Modeling", University of Hawai`i Hilo, March 2010.

"County of Hawai`i Agricultural Suitability Web Application", Hawai`i County Department of Planning, Hilo Hawai`i, October 2009.

"GIS Certification", ESRI Survey Summit, San Diego CA, August 2004.

"Getting started as a GIS Professional". Europe and Middle East and Africa ESRI Users Conferences, Brugges Belgium and Dubai UAE, October 2002 and GISMAP, Honolulu HI, June 2004.

"Education for GIS Professionals around the world". Third European GIS Education Seminar, Girona, Spain, September 2002.

"Report on Project 19122: Qualifications and Certification of Personnel", Europe, Middle East and Africa ESRI Users Conference, Lisbon Portugal, October 2001.

"Master of Science in Geographic Information Systems", ESRI International Users Conference, San Diego CA, July 2001.

"Digital Earth: A global village for the Humanities", Digital Earth 2001, Fredericton NB Canada, June 2001.

"Digital Earth, Digital People: Where is the Humanity in GIS", Electronic Cultural Atlas Initiative Conference: Towards an Electronic Cultural Atlas: E-Publishing and data interoperability in the Humanities, Sydney Australia, June 2001.

Organizer, discussant and presenter in sessions on "GIS Professional Certification", Association of American Geographers Annual Conference, New York City, March 2001

Discussant, “The Electronic Cultural Atlas Initiative” session, Annual meeting of the Association of American Geographers, New York City, February 2001.

“Certification for GIS”, European GIS in Education Seminar (EUGISES), Budapest Hungary, September 2000.

Session organizer and presenter on "New Strategies for GIS Education", Annual meeting of the Association of American Geographers, 1999.

Co-organizer of panel discussions on "What does it take to be a GIS professional?: Exploring the skills required in the GIS profession" and "How can we be sure?: On evaluating the competency of the GIS professional" at URISA '98.

Co-organizer of panel discussions on “The Role of GIS Education in the Schools, Colleges and Universities” and on “Convincing your colleagues that GIS is more than technology”, Annual Conference, Association of American Geographers, March 1995.

"Integrating environmental modeling and GIS: Dealing with continuity", International Geographical Congress, Washington D.C., August 1992.

Co-organizer of panel discussion on GIS laboratory facilities, Annual Conference, Association of American Geographers, San Diego, April 1992.

"GIS education needs and the NCGIA Core Curriculum", EGIS '92, Munich, Germany, March 1992.

Participant on panel discussions on GIS Education at GIS/LIS '89, Orlando, URISA '91, San Francisco and Remote Sensing and Space '92, Thailand, and many others since then.

"The NCGIA," with M.F. Goodchild *et al*, Annual Conference, American Association of Geographers, April 1989.

## **GRANTS AWARDED**

“Hour of Cyberinfrastructure: Developing Cyber Literacy for Geographic Information Science,” National Science Foundation. \$480,000. Aug 2018-July 2021. PI: Eric Shook, Co-PIs: Forrest Bowlick, Karen Kemp, Anand Padmanabhan.

CyberGIS Education Fellow. CyberGIS Center for Advanced Digital and Spatial Studies, University of Illinois at Urbana-Champaign. \$4,000. Aug 2014-July 2015.

“Update of the Crop Growth Parameters for the Hawai`i County Crop Model”, County of Hawai`i, Department of Research and Development. \$5,000. Aug. 2011-Sept 2012. Project Director.

“Kahalu`u Ahupua`a – a Blended-Science Prototype Decision Tool for Coastal Zone Climate Change Impacts in High Volcanic Islands”, NOAA Sector Application Research Program (SARP). \$300,000. September 2010-April 2013. Principal Investigator.

“Hawai`i County Agricultural Suitability GIS”, County of Hawai`i, Research and Development Department to The Kohala Center, Waimea HI. \$75,000. July 2008-June 2009. Project Director.

“Hawai`i Island Digital Geocollaboratory”, National Endowment of the Humanities, Digital Humanities Initiative. \$30,000. April 2007-March 2008. Principal Investigator.

“Using the Community College System to Train and Certify GIS Technicians for Framework Data Production and Integration: A Feasibility Study”, FGDC, \$58,080 for the period 10/1/98 to 5/31/99, PI: Elizabeth Johns, NC Department of Community Colleges, Collaborators: Robert Pittman, NC Community College System, Karen Siderelis, NC Center for Geographic Information and Analysis, Tom Tribble, NCCGIA Karen Kemp, NCGIA.

“Information Technologies, Social Movements and Civil Society”, National Science Foundation, Social, Economic and Behavioral Sciences Directorate, Cultural Anthropology Program, \$16,240 for the period 6/1/98 to 5/31/99, PI: Susan Stonich, UCSB Sociology, co-PI: Karen Kemp.

“A GIS Core Curriculum for Technical Programs”, National Science Foundation, Education and Human Resources Directorate, Undergraduate Education Division, Advanced Technological Education Program, \$ 188,500 for the period 7/1/96 to 6/30/98, PI: Michael Goodchild, co-PIs: Stephen Palladino and Karen Kemp.

“Mastering the Technical Issues of GIS: A problem solving approach using Arc/Info”, Instructional Development Office, University of California, Santa Barbara, \$12,000, for the period 7/96 to 6/97, PI: Michael Goodchild, co-PIs: Paul Sutton and Karen Kemp.

"Practical Learning in Geographic Information Systems", Instructional Development Office, University of California, Santa Barbara, \$11,568, for the period 7/95 to 4/96, PI: Michael Goodchild, co-PIs: Karen Kemp, Stephen Palladino.

"The Conduct of Information Science Research Related to the Development of an EOSDIS User Model", National Aeronautics and Space Administration (NASA), \$129,746, for period 12/94 to 8/95, PIs: John Estes, Michael Goodchild, co-PIs: Joseph Scepan, Karen Kemp.

### **INVITED WORKSHOP PARTICIPATION**

Harvard Center for Geographic Analysis Annual Conference, Harvard MA, May 2014.

Space-Time Modeling and Analysis Workshop, ESRI Redlands, CA. February 2010.

Geodesign Summit 2010, ESRI Redlands, CA. January 2010.

Specialist Meeting on Spatial Concepts in GIS and Design, University of California Santa Barbara, December 2008.

Language in Landscape, NSF funded workshop organized by David Mark, University at Buffalo and others. Canyon de Chelly, Arizona. October 2008.

NASA's National Workforce Development Education and Training Initiative (NWDETI) Planning Workshop for the GeoSpatial Workforce Development Project, January 2001 and March 2001.

National Science Foundation workshop "Portal to the Future: A Digital Library for Earth System Education", August 9-11, 1999, Berkeley Springs WV.

Federal Geographic Data Committee workshop on Metadata Education Materials, June 3-5, 1999, Herndon VA.

International Symposium on Learning and Teaching Geography in Higher Education, March 23, 1999, Honolulu HI.

National Science Foundation workshop on the Digital Government Initiative: Geographic Information Systems, July 8-9, 1998, in Arlington VA.

National Research Council workshop on Distributed Geolibraries, June 15-18, 1998, Washington DC.

## **COMMITTEES AND PROFESSIONAL SERVICE**

President, University Consortium for Geographic Information Science, 2019-2020.

President-elect, University Consortium for Geographic Information Science, 2018-2019.

Co-Organizer, University Consortium for Geographic Information Science Annual Symposium, 2016 and 2018.

Board of Directors, University Consortium for Geographic Information Science, 2015 to 2018.

Member of Academic Advisory Board, US Geospatial Intelligence Foundation, 2010 to 2016.

Member of Program Committee, Hawai'i Conservation Conference 2015.

Member of Program Committee, AGILE Annual Conference 2014, 2015, 2016.

Member of Organizing Committee, Hawai'i Pacific GIS Conference 2012, Honolulu Hawai'i, March 2012.

Member of Organizing Committee, Geodesign Summit 2011, ESRI Redlands, CA. January 2011.

Member of Scientific Committee, International Conference on Spatial Thinking and Geographic Information Sciences, Japan, September 2011.

Founding Member of the Board of Directors, GIS Certification Institute, 2004 to 2006.

Member of the Editorial Team, UCGIS Geographic Information Science Body of Knowledge, 2004 to 2006.

Member of the Organizing Committee, EduEdCon 2003 (European Education Users Conference), Innsbruck, Austria, October 2003.

Member of the Strategic Planning Committee, Electronic Cultural Atlas Initiative (ECAI), 2001 to 2004.

Education Editor, *URISA Journal*, January 2000 to 2006.

GIS Team Leader, Electronic Cultural Atlas Initiative (ECAI), 2000 to 2004.

Member of Certification Task Force, American Association of Geographers (AAG), 1999.

Technical Expert to the ISO/TC 211 Working Group "Certification of GIS Professionals" project, 1999 to 2004.

Member of Education Committee, Urban and Regional Information Systems Association, ongoing, 1998-2005.

Member of Task Force for the UCGIS Model Curriculum Project, 1998-2003.

Member of the International Review Panel for the ESRI Virtual Campus GIScience Curriculum, 1998.

Member of National Advisory Committee, Work/Site Alliance: Community Based GIS Education, an NSF funded project at Eastern Michigan University, 1998-2000.

- Member of Program Advisory Committee, First International Conference on GIS Education, Ypsilanti, Michigan, October 29-November 1, 1998.
- Member of Steering Committee, First European GIS Education Seminar: EUGISES '98, Soesterberg, The Netherlands, September 3-6, 1998.
- Member of Steering Committee, GISPlaNet 1998, Lisbon Portugal, September 1998.
- Co-leader, An International Workshop on Interoperability for Distributed GIScience Education, Soesterberg, The Netherlands, May 1998.
- Program Chair and Member of Organizing Committee, Third International Symposium on Geographic Information Systems in Higher Education, Chantilly VA, October 1997.
- Co-chair, University Consortium for Geographic Information Science Assembly and Summer Retreat, Bar Harbor Maine, June 1997.
- Member of Education Committee, University Consortium for Geographic Information Science, 1996-2006.
- Member of Executive Committee, National Center for Geographic Information and Analysis, 1997-98.
- Program Chair and Member of Organizing Committee, Second International Symposium on Geographic Information Systems in Higher Education, Baltimore MD, September 1996.
- Member of Board of Directors, University Consortium for Geographic Information Science, 1995-99.
- Co-leader, NCGIA Research Initiative 17: Collaborative Spatial Decision-Making, 1995-1997.
- Member of Steering Committee, NCGIA Core Curriculum for Remote Sensing, 1995-1997.
- Member of Editorial Committee, Proceedings of the EOSDIS Potential User Group Development Effort Conference, Leeburg, VA, June 19-22, 1995.
- Member of Interim Executive, University Consortium for Geographic Information Science (UCGIS), Dec. 1994 - Nov. 1995.
- Member of Steering Committee, MRRL/SERRL Visualization Toolkit Project, Leicester UK, 1994.
- Student Director, GIS Special Interest Group, Association of American Geographers, 1990-1992.
- Member of Local Organizing Committee, Annual Meeting, Canadian Association of Geographers, Nanaimo BC, 1984.
- Member of Promotion and Recruitment Committee, Malaspina College, Nanaimo BC, 1980-1988.

## **COURSES TAUGHT**

### **University of Southern California (2008 to present)**

- SSCI 581/GEOG 581 – Concepts for Spatial Thinking
- SSCI 582/GEOG 582 – Spatial Databases
- SSCI 583 – Spatial Analysis
- SSCI 584 – Spatial Modeling
- SSCI 594a/b/z – Master's Thesis

**University of Hong Kong** (2005 to 2015)

ECOM 6028 – Geospatial information for e-business applications  
ECOM 6033 – Geospatial information for Location Based Services

**University of Redlands** (2001-2006)

GIS 611 – Fundamentals of Geographic Information

**University of California Santa Barbara** (1994-95)

GEOG 176A – Introduction to Geographic Information Systems

**Malaspina College** (now Vancouver Island University), Nanaimo BC Canada (1980-1988)

Introduction to Physical Geography  
Geomorphology  
Weather and Climate  
Historical Geology  
Physical Geology  
Microcomputer Applications for Business

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## THESES SUPERVISED

### University of Southern California, 2011 to present

- 2018 Donald Borer, *Creating a Water Quality Geodatabase for the West Hawai'i Island Region*
- Raymond Danser, *Applying Least Cost Path Analysis to Search and Rescue Data: A Case Study in Yosemite National Park*
- William Dickey, *Spatial Analysis of Human Activities and Wildfires in the Willamette National Forest*
- Nicholas Gliserman, *Assessing the Reliability of the 1760 British Geographical Survey of the St. Lawrence River Valley*
- Christina Haworth, *Developing Art-Based Cultural Experiences in North Kohala: A Community Engagement Project with OneIsland*
- Joel Kerbrat, *Questioning the Cause of Calamity: Using Remotely Sensed Data to Assess Successive Fire Events*
- Joseph Toland, *A Model for Emergency Logistical Resource Requirements: Supporting Socially Vulnerable Populations Affected by the (M) 7.8 San Andreas Earthquake Scenario in Los Angeles County, California*
- 2017 Samantha Bamberger, *Determining the Suitability of Yak-Based Agriculture in Illinois: A Site Suitability Analysis Using Fuzzy Overlay*
- Bailey Baumann, *Finding Environmental Opportunities for Early Sea Crossings: An Agent-Based Model of Middle to Late Pleistocene Mediterranean Coastal Migration*
- Jessica Eselius, *Predicting Post-wildfire Revegetation Rates: An Application of Multi-factor Regression Modeling*
- Robert Grotfend, *A Web GIS Application for Airport Pavement Management*
- Melodie Grubbs, *Beach Morphodynamic Change Detection using LiDAR during El Niño Periods in Southern California*
- Matthieu Munoz, *Modeling Geopolitics in Tikal Through Least Cost Paths*
- Carrie Steves, *Trends in the Alaskan Bottom-Trawl Fishery from 1993-2015: A GIS-Based Spatiotemporal Analysis*
- Neil Stone, *Social Media Canvassing Using Twitter and Web GIS to Aid in Solving Crime*
- Alvin Yeung, *Generating Trail Conditions Using User Contributed Data Through a Web Application*
- 2106 Robert Alexander, *A Comparison of GLM, GAM, and GWR Modeling of Fish Distribution and Abundance in Lake Ontario*
- Crystal Curtis, *Preparing for Earthquakes in Dallas-Fort Worth: Applying HAZUS and Network Analysis to Assess Shelter Accessibility*
- Mark Johnson, *Evaluating the Utility of a Geographic Information Systems-Based Mobility Model in Search and Rescue Operations*

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- Ebrahim (Tony) Khan, *A Unified Geodatabase Design for Sinkhole Inventories in the United States*
- Mary Nienkamp, *Evaluating Surface Casing Depths of Oil & Gas Operations in an Effort to Protect Local Groundwater: A GIS Enabled Process*
- Megan Oyarzun, *Predicting Archaeological Sites in Northeastern California's High Desert using the Maxent Model*
- Matthew Pugh, *Residential Housing Code Violation Prediction: A Study in Victorville, CA Using Geographically Weighted Logistic Regression*
- David Robert Scobie. *Design and Implementation of an Enterprise Spatial Raster Management System*
- Melissa Faith Webster, *Spatial and Temporal Patterns of Long-term Temperature Change in Southern California from 1935 to 2014*
- Patricia Wright. *Predicting the Presence of Historic and Prehistoric Campsites in Virginia's Chesapeake Bay Counties*
- 2015 Jeffrey Block, *Spread Global, Start Local: Modeling Endemic Socio-Spatial Influence Networks*
- Alfredo Cisneros, *Population Disaggregation for Trade Area Delineation in Retail Real Estate Site Analysis*
- Solomon Kailihiwa, *Using Maxent to Model the Distribution of Prehistoric Agricultural Features in a Portion of the Hōkūli'a Subdivision in Kona, Hawai'i*
- Elizabeth Mamer, *Exploring Urban Change Using Historical Maps: The Industrialization of Long Island City (LIC), New York*
- Ryan Reeves, *Deriving Traverse Paths for Scientific Fieldwork with Multicriteria Evaluation and Path Modeling in a Geographic Information System*
- Yonatan Rosen, *A Fire Insurance Map GeoCoder for Pre-Earthquake San Francisco*
- Christine Schultz, *Crowdsourced Maritime Data: Examining the Feasibility of Using Under Keel Clearance Data from AIS to Identify Hydrographic Survey Priorities*
- Mark Wimmer, *Selection of Future Bridge Locations over the Merrimack River in Southern New Hampshire: A Comparison of Site Suitability Assessments*
- 2014 Meagan Calahan, *Investigating Electoral College Reform: Geography's Impact on Elections, and How Maps Influence Our Perception of Election Outcomes*
- Jerry Corum, *Using Pattern Oriented Modeling to Design and Validate Spatial Models: A Case Study in Agent-Based Modeling*
- William Ferguson, *Modeling Patient Access to Point-of-Care Diagnostic Resources in a Healthcare Small-World Network in Rural Isan, Thailand*
- Anna Fischer, *Preparing for Immigration Reform: A Spatial Analysis of Unauthorized Immigrants*
- Jared Hyneman, *A GIS-based Model to Identify Locations Where Risks to Clean Water Wells are Minimal and Access to People is Maximized: A Case Study in Rural Uganda*



- Steven Rubinyi, *Spatiotemporal Visualization and Analysis as a Policy Support Tool: A Case Study of the Economic Geography of Tobacco Farming in the Philippines*
- Federico Tallis, *Evaluating Transit and Driving Disaggregated Commutes through GTFS in ArcGIS*
- 2013 Lucian Schrader, *Demonstrating GIS Spatial Analysis Techniques in a Prehistoric Mortuary Analysis: A Case Study in the Napa Valley, California*
- Jeffrey Schroeder, *Surface Representations of Rainfall at Small Extents: A Study of Rainfall Mapping Based on Volunteered Geographic Information in Kona, Hawai`i*
- 2012 Craig Bartosh, *Integrating Land Survey Data into Measurement-Based GIS: An Assessment of Challenges and Practical Solutions for Surveyors in Texas*
- Justin Eddings, *Geographic Information Systems Eelgrass (Zostera Marina) Habitat Restoration Suitability Model Long Island Sound, USA – A ‘Sound-Wide’ Model*
- Samuel Krueger, *Delimiting the PostModern Urban Center: An Analysis of Urban Amenity Clusters in Los Angeles*
- 2011 Ronald Lehman, *Concentrated Solar Thermal Facilities: A GIS Approach for Land Planning*

Additional committee duties: 31 theses, 2 PhDs

### **University of Redlands 2001 to 2006**

Ammari Abdelhakim, Yadira Abreu-Garcia, Salvador Aguliar, Jr., Richard Ashe, Ani Balikian, Paul Billock, William Burmeister, Joel Cappello, Patricia Carbajales, Jesse Cohen, Steven Dague, Alfonso Davila, Jose Diaz-Marin, Marilyn Drucker, Gary (Mike) Espey, Makinde Falade, Adrian Fitzgerald, Travis Hamrick, Rick Harris, Ihab Hijazi, Eric Horowitz, Kevin Johnson, Robert Johnson, Forrest Jones, Jinho Kang, Eric Kooser, Andrew Land, Petya Maneva, Rodney Miceli, Andrew Minor, Ruth Nakitare, Thangu Narasimhan, Peter Ndunda, Christy Noonan, Melanie Rubinson, Brian Shaw, Linda Shen, Michael Thorne, Rod Thornton, Anthony Turner, Nathan Warmerdam, Mary Whelan, Linda Wimberly, Eric Wittner, Michael Wood, John Wood, Manda Wood

### **ACADEMIC REVIEWS**

#### **Grant Proposals**

California Space Institute  
Canadian Social Sciences and Humanities Research Council of Canada  
European Research Council  
Hong Kong Research Council  
Swiss National Research Council  
University of California Digital Media Innovation Program  
US Department of Education  
US Environmental Protection Agency  
US National Science Foundation  
WM Keck Foundation

### **External PhD Examiner**

University of Hong Kong

### **Book Manuscripts**

Oxford University Press  
Smithsonian Institution Scholarly Press  
Wiley Publishing, Inc.

### **Academic Journals**

*ASCE Journal of Environmental Engineering*  
*Cartography and GIS*  
*Computers and Geosciences*  
*Computers Environment and Urban Systems*  
*Cartography and GIS*  
*Decision Support Systems*  
*Geographical Analysis*  
*Environmental Modelling and Software*  
*International Journal of Geographical Information Systems*  
*Journal of Geography*  
*Journal of Geography in Higher Education*  
*Photogrammetric Engineering and Remote Sensing*  
*Professional Geographer*  
*Transactions in GIS*

### **Promotion Review Committees**

Ad Hoc Deans Committee on NTT Reappointment, USC Dornsife College, 2014  
Faculty Review Committee, Spatial Sciences Institute, 2013 to present  
Promotion and Recruitment Committee, Malaspina College, Nanaimo BC, 1980-1988

### **PROFESSIONAL SOCIETY MEMBERSHIPS**

Association of American Geographers, member since 1989.  
Hawai'i Geographic Information Coordinating Council, member since 2007.