

## General Biographical Information

### STEPHEN JOHN BURGES

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### Supplemental

Born: Newcastle, Australia, 1944  
 Married: Wife - Sylvia Ellen Burges  
 Citizenship: United States of America (Naturalized)

### Biographies

Outstanding Young Men of America (1979)  
 American Men and Women of Science  
 Who's Who in the West  
 Who's Who in America  
 Who's Who in Technology  
 Who's Who of Emerging Leaders in America (2nd Edition)  
 Who's Who in Science and Engineering  
 Who's Who in the World (12th ed. & ff.)  
 The International Directory of Distinguished Leadership  
 Men of Achievement (International Man of the Year 1992-93)  
 Personalities of America.

## Academic Background

Ph.D.	Civil Engineering	Stanford University	1970
M.S.	Civil Engineering	Stanford University	1968
B.E. (Hons. I)	Civil Engineering	Newcastle, Australia	1967
B.Sc.	Physics & Mathematics	Newcastle, Australia	1967

## Professional History

Professor, Department of Civil and Environmental Engineering, University of Washington, Seattle, WA, 1998 -  
 Professor, Department of Civil Engineering, University of Washington, Seattle, WA, 1979-1998.  
 Associate Professor, Department of Civil Engineering, University of Washington, Seattle,

WA, 1975-1979.

Assistant Professor, Department of Civil Engineering, University of Washington, Seattle, WA, 1970-1975.

Research Assistant, Civil Engineering Department, Stanford University, Stanford, CA, 1967-1970.

Assistant Construction Engineer, The Hunter District Water Board, Newcastle, Australia, 1966-1967.

### Refereed Journal Publications

Burges, S.J. and R.K. Linsley (1971) Some Factors Influencing Required Reservoir Storage, *Journal of the Hydraulics Division*, ASCE, Vol. 97, No. HY7, 977-991.

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Lettenmaier, D.P. and S.J. Burges (1975) Dynamic Water Quality Management Strategies, *Journal Water Pollution Control Federation*, Vol. 47, No. 12, 2809-2819.

Lettenmaier, D.P. and S.J. Burges (1976) Use of State Estimation Techniques in Water Resource Systems Modeling, *Water Resources Bulletin*, Vol. 12, No. 1, 83-99.

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Booth, D.B., J. R. Karr, S. Schauman, C. P. Konrad, S. A. Morley, M. G. Larson, and S. J. Burges, (2004) Reviving Urban Streams: Land Use, Hydrology, Biology, and Human Behavior, *Journal of the American Water Resources Association*, 40(5), 1351-1364.

Cherkauer, K. A., S. J. Burges, R. N. Handcock, J. E. Kay, S. K. Kampf, and A. R. Gillespie, (2005), Assessing Satellite-based Thermal Remote Sensing for Monitoring Pacific Northwest Rivers, *Journal of the American Water Resources Association*, 41(5), 1149-1159.

Kay, J. E., S. K. Kampf, R. N. Handcock, K. A. Cherkauer, A. R. Gillespie, and S. J. Burges, (2005) Accuracy of Lake and Stream Temperatures Estimated From Thermal Infrared Images, *Journal of the American Water Resources Association*, 41(5), 1161-1175.

Konrad, C. P., D. B. Booth, and S. J. Burges (2005), The effects of urban development in the Puget Lowland, Washington on inter-annual streamflow patterns: consequences for channel form and streambed disturbance, *Water Resources Research*, 41(7), W07009  
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Handcock, R.N., A. Gillespie, K.A. Cherkauer, J.E. Kay, S.J. Burges, and S.K. Kampf (2006), Accuracy and uncertainty of thermal-infrared remote sensing of stream temperatures at multiple spatial scales, *Remote Sensing of Environment*, doi:10.1016/j.rse.2005.07.007, 100 427-440.

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Sieck, L. C., S. J. Burges, and M. Steiner (2007), Correction to “Challenges in obtaining reliable measurements of point rainfall”, *Water Resour. Res.*, 43, W06701, doi:10.1029/2007WR005985.

Wong, M., G. Parker, P. DeVries, T. Brown, and S. J. Burges (2007), Experiments on dispersion of tracer stones under lower-regime plane-bed equilibrium bed load transport, *Water Resour. Res.*, 43, W03440, doi:10.1029/2006WR005172.

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Mirus, B. B., K. Loague, J. E. VanderKwaak, S. K. Kampf, and S. J. Burges (2009), A hypothetical reality of a Tarrawarra-like hydrological response, *Hydrological Processes*, 23, 1093-1103, doi:10.1002/hyp.7241.

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Maknoon, R. and S.J. Burges, Issues in Conjunctive Use of Ground and Surface Waters, Proceedings of AWWA Meeting, New Orleans, June 20-25, paper 27-4, 1976.

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## **Abstract and Non-Refereed Conference Proceedings and Other Non-Journal Articles**

### **Abstracts**

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### **Journal Editing**

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2. Interview of Peter S. Eagleson, NAE, Edmund K. Terman Professor Emeritus, Department of Civil and Environmental Engineering, and Professor Emeritus, Department of Earth, Atmosphere, and Planetary Sciences, Massachusetts Institute of Technology --

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| 1973-74 | Hydrologic data requirement of a water resources information system, State of Washington Department of Ecology   |
| 1974-75 | Optimal water quality monitoring procedures for streams, State of Washington Department of Ecology   |
| 1974-75 | Conjunctive use of ground and surface water, State of Washington Department of Ecology   |
| 1975    | Operational comparison of stochastic streamflow generation procedures, Office of Water Research and Technology   |
| 1975-76 | Analysis of runoff detention in urban and suburban watersheds, Office of Water Research and Technology   |
| 1976-78 | Improving reservoir operation through forecasting intra-seasonal snowmelt runoff, Office of Water Research and Technology                                    |
| 1977-78 | The feasibility of implementing a continuous simulation hydrologic model for urban drainage design, Office of Water Research and Technology                  |
| 1978-80 | Water resource system operation and design for drought (with D. Lettenmaier), Office of Water Research and Technology  |
| 1978-79 | Use of surface and cyclic groundwater storage systems for water resource development (with D. Lettenmaier), Office of Water Research and Technology          |
| 1980-82 | Operation of detention facilities for urban stream quality enhancement (with D. Lettenmaier and M.M. Benjamin), Office of Water Research and Technology      |
| 1980-81 | Drought in the Pacific Northwest: Relationships between atmospheric pressure patterns and fall/winter precipitation, Office of Water Research and Technology |

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- 1982-85 Developments in synthetic stream-flow modeling (with D. Lettenmaier), National Science Foundation
- 1983-84 Strategies for coping with drought (with D. Lettenmaier and R.N. Palmer), Electric Power Research Institute
- 1986-88 An assessment of a complex conceptual rainfall-runoff model and aspects of catchment response to extreme rainfall, National Science Foundation
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- 1990-93 An examination of the forms of initiation of floods from the breaching of non engineered dams, State of Washington Department of Natural Resources
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- 2000-2003 Collaborative Research -- Space-Time variability of Rainfall and its Effects on Rainfall Estimation, National Science Foundation.

- 2003-2007 Collaborative Research: Tracer Stone Studies; Field and Flume, National Science Foundation.
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## **Other Research-Related Activities**

### **Invited Lectures and Seminars (Video Taped)**

Unny Symposium: Why are you Here?, University of Waterloo, Recorded by the Department of Systems Engineering, June 1993.

The Three D's of Catchment Hydrology -- Some Examples and Challenges, Melbourne Water, Melbourne Australia, August 1994. (Recorded by Monash University, Centre for Cooperative Research in Catchment Hydrology)

Climate Variability and Water Resources in the South West of Western Australia, Recorded by the "Water Corporation", Leederville, Western Australia, February 2, 1996.

Managing Water Resources in Variable Climates -- Examples from the US and the South West of Western Australia, Kiesel Memorial Lecture, University of Arizona, Recorded for the Department of Hydrology and Water Resources, March 7, 1997.

Hydrologic Variability and its Societal Importance, Langbein Lecture, American Geophysical Union, Spring Annual Meeting, Boston, Massachusetts, May 30, 2001. (Video taped and webcast). <http://www.agu.org/meetings/sm01/webcasts/burges.html>

## **Presentations Given at Conferences**

### **At Professional Societies (since 1993)**

Coho, C. and S.J. Burges, Dam-Break Floods in Low Order Mountain Channels of the Pacific Northwest, AGU Fall Meeting, San Francisco, CA December 6-10, 1993. Poster presentation made by C. Coho.

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“Spatial Variability in Radiant Stream Temperatures Estimated From Thermal Infrared Images”, AGU Fall Meeting, San Francisco, CA, December 6-10, 2002, *Eos. Trans AGU* 83(47), Fall Meet. Suppl., Abstract H72E-0896, 2002. Presentation by R Hancock

Cherkauer, K A, Hancock, R N, Kay, J E, Burges, S J, Booth, D B, and Gillespie, A “Understanding the regional controls on stream temperature”, AGU Fall Meeting, San Francisco, CA, December 6-10, 2002, *Eos. Trans AGU* 83(47), Fall Meet. Suppl., Abstract H61B-0763, 2002. Presentation by K Cherkauer.

Sieck, L C, Steiner, M, Burges, S J, and Smith, J A., “How Much Rain Reaches the Surface? Analysis of High Resolution Rainfall Observations in the Goodwin Creek Watershed”, AGU Fall Meeting, San Francisco, CA, December 6-10, 2002, *Eos. Trans AGU* 83(47), Fall Meet. Suppl., Abstract H62A-0825, 2002. Presentation by L. Sieck.

Cherkauer, K A, Hancock, R N, Kay, J E, Kampf, S K, Gillespie, A R, and, Burges, S J, Thermal infrared remote sensing and its usefulness in determining regional stream temperatures, AGU Fall Meeting, San Francisco, CA, December 8-12, 2003, *Eos. Trans AGU* 84(47), Fall Meet. Suppl., Abstract H22D-0965 2003. Presentation by K. Cherkauer.

Hancock, R N, Cherkauer, K A, Kay, J E, Kampf, S K, Gillespie, A R, and, Burges, S J, Uncertainty Associated with the Remote-sensing of Stream Temperatures at Multiple Spatial Scales, AGU Fall Meeting, San Francisco, CA, December 8-12, 2003, *Eos. Trans AGU* 84(47), Fall Meet. Suppl., Abstract H12F-08, 2003. Presentation by R Hancock.

Brown, T, Wong, M, DeVries, P, Parker, G, and Burges, S, Bedload Transport in Gravel-Bed Streams: Collaborative Field and Flume Research Using Tracer Stones, AGU Fall Meeting, San Francisco, CA, December 8-12, 2003, *Eos. Trans AGU* 84(47), Fall Meet. Suppl., Abstract H52A-1156, 2003. Presentation by T. Brown.

Sieck, L, Burges, S., Steiner, M., and Smith, J., Investigation of Rainfall Measurement from Point to Mesoscale, 8<sup>th</sup> International Conference on Precipitation, Vancouver BC, Canada, August 8-11, 2004. Poster presentation by L. Sieck.

Cristea, N. C., and Burges, S. J., Wenatchee River, Washington, Water Temperature Modeling and Assessment Using Remotely Sensed Thermal Infrared and Instream Recorded Data, AGU Fall Meeting, San Francisco, CA, December 13-17, 2004, *Eos. Trans AGU* 85(47), Fall Meet. Suppl., Abstract H13C-0449, 2004.

Kampf, S.K. and S.J. Burges. Use of an instrumented planar experimental plot to provide guidance for physically-based hydrologic modeling. *Eos Trans. AGU*, Fall Meet. Suppl., Abstract H51B-0353, 2005. Poster Presentation by Stephanie Kampf.

Kampf, S.K. and S.J. Burges. Use of an instrumented planar experimental plot to provide guidance for physically-based distributed hydrologic modeling. *GSA Annual Meeting Abstracts*, Salt Lake City, UT, Oct. 16-19, 2005. Presentation by Stephanie Kampf.

Burges, S. J. Hydrologic Impacts of Urbanization and a Mitigation Example From the

Pacific North West, *Eos*, Trans AGU, Joint Assembly Meeting Supplement, Abstract U32-02, 2006. Invited presentation.

DeVries, P., M. Wong, S. J. Burges, and T. Brown, Bedload Particle Travel Distance Increases Linearly With Cumulative Excess Shear Stress, *Eos Trans. AGU*, Fall Meet. Suppl., Abstract, OS31A-1629, 2006. Poster Presentation by Paul DeVries.

Kampf, S. K., and S. J. Burges, Data and scale of integration considerations in uncertainty assessment for distributed hydrologic models, *Eos Trans. AGU*, Fall Meet. Suppl., Abstract, H43I-02, 2006. Presentation by Stephanie Kampf.

Cherkauer, K A., R. Handcock, S. K. Kampf, S. J. Burges, and A. R. Gillespie, An assessment of thermal infrared remote sensing and its usefulness in determining regional stream temperatures, *Eos Trans. AGU*, Fall Meet. Suppl., Abstract, H33E-1560, 2006. Poster Presentation by Keith Cherkauer.

Mirus, B B, Loague, K, Kampf, S K, and Burges, S J., Physics-based simulation of surface and near-surface hydrologic response for the Tarrawarra Catchment: parameterization for a synthetic dataset, *Eos Trans. AGU*, 88(52), Fall Meet. Suppl., Abstract H21A-0169, 2007. Poster Presentation by Ben Mirus.

Cristea, N C, Kampf, S K, Mirus, B B, Loague, K, and Burges, S J., Developing a Framework for Testing Distributed Hydrologic Models at the Hillslope Scale, *Eos Trans. AGU*, 88(52), Fall Meet. Suppl., Abstract H21A-0170, 2007. Poster Presentation by Nicoleta Cristea.

Burges, S. J. Some Challenges in Determining the Water Balance and Implications for Hydrologic Design and Prediction, 2008 Ven Te Chow Lecture, American Society of Civil Engineers EWRI Annual Congress, Honolulu, Hawaii May 16, 2008

Burges, S.J. Hydrological Variability, Reservoir Storage, and Water Supply Reliability, Invited Lecture, American Water Resources Association, Seattle Section Dinner Meeting, September 18, 2008.

#### **At Other Universities (since 1994)**

Burges, S.J., The Three D's of Catchment Hydrology -- Some Examples and Challenges, Invited Seminar, Pennsylvania State University, May 18, 1994.

Burges, S.J., Some Observations About Hydrology and Water Resources and Environmental Engineering, Invited Address, Melbourne University, Australia, August 16, 1994

Burges, S.J., The Three D's of Catchment Hydrology, Invited Seminar, Cooperative Research Centre for Catchment Hydrology (Melbourne and Monash Universities), presented at Melbourne Water, Melbourne, Australia, August 18, 1994

Burges, S.J., Climate Variability and Water Resources in the South West of Western Australia, Utah State University, July, 1996.

Burges, S.J., A Preliminary Investigation of Two Local-Scale Measures to Mitigate Some Hydrologic Consequences of Urbanization, Invited Seminar, Pennsylvania State University, June, 1996.

Burges, S.J., Managing Water Resources in Variable Climates -- Examples from the US and the South West of Western Australia, Kiesel Memorial Lecture, University of Arizona, March 7, 1997.

Burges, S.J., Challenges in Streamflow Prediction at a Range of Space and Time Scales, Invited Seminar, Pennsylvania State University, June 13, 1997.

Burges, S.J., What is the Rainfall on a Catchment – Influence on Water Budgets?, Invited Seminar, The University of New South Wales, Australia July 30, 1998.

Burges, S.J., What on Earth is “Measured” Rain? – Implications for Hydrologic Inference, Invited Seminar, The University of Newcastle, Australia. July 31, 1998.

Burges, S.J., Rainfall Measurement and Hydrologic Inference: an old Problem With many Challenges and Opportunities, Invited Seminar, Stanford University, February 1999.

Burges, S.J., Hydrologic Variability and its Societal Importance, Invited Inaugural Seminar, 2002 Seminar Series on 'Scientific Challenges in Watershed Hydrology', University of California, Davis, May 2, 2002.

Burges, S.J., The Influence of Water Demand Levels and Variability in River Flow Volumes on Water Supply Reliability, Invited Seminar, Hydrologic Sciences Program, University of Nevada, Reno, September 19, 2003.

Burges, S.J., Physical, Hydrologic, and Hydraulic Characteristics of the Peace-Athabasca Delta, North Eastern Alberta, Canada, Invited Seminar, Department of Civil and Environmental Engineering, Duke University, June 16, 2005.

Burges, S.J., Physical, Hydrologic, and Hydraulic Characteristics of the Peace-Athabasca Delta, North Eastern Alberta, Canada, Invited Seminar, St Anthony Falls Laboratory, University of Minnesota, July 20, 2005.

Burges, S.J., Fundamental Hydrological Modeling Related to Natural Disasters, Inaugural International Invited Keynote Lecture, Disaster Prevention Research Institute Annual Meeting, Kyoto University, February 21, 2006.

Burges, S.J., Physical, Fundamental Hydrological Modeling Related to Natural Disasters

, Invited Seminar, Department of Civil and Environmental Engineering, Duke University, June 20, 2006.

Burges, S.J., Hydrologic Impacts of Urbanization and Some Mitigation Measures-Examples from the Pacific North West, Invited Seminar, Department of Civil and Environmental Engineering, Duke University, June 15, 2007.

### **At Government Labs, Industry, etc. (since 1996)**

Burges, S.J., Climate Variability and Water Resources in the South West of Western Australia, **CSIRO, Perth**, Western Australia, February 2, 1996.

Burges, S. J., Streamflow Prediction -- Capabilities, Opportunities, and Challenges, Invited presentation, National Research Council, Water Science and Technology Board, Wolman Symposium on Scientific Hydrology, **National Academy of Sciences**, Washington DC, May 6, 1997.

Burges, S.J., Challenges in Long-Term Streamflow Prediction, **CSIRO, Perth**, Western Australia, August 5, 1997.

Burges, S.J., Measured Rainfall -- Influence on Hydrologic Interpretation, **CSIRO, Perth**, Western Australia, August 8, 1997.

Burges, S.J., Hydrologic Variability and its Societal Importance, Invited Lecture, **April Meeting of the Seattle Section, ASCE**, Bellevue, WA, April 9, 2003.

Burges, S. J., The Future of Stormwater Modeling: the role of surface-subsurface interactions, National Research Council, Water Science and Technology Board, Committee on Reducing Stormwater Discharge Contributions to Water Pollution, Talaris Conference Center, Seattle, WA, August 22, 2007.

### **Professional Licenses**

Professional Engineer, Washington State, license no. 18592 (civil engineering) (February 26, 1980)

Professional Hydrologist, American Institute of Hydrology, Certificate no. 925 (April 24, 1991)

Diplomate, Water Resources Engineer, American Academy of Water Resources Engineers, Certificate no. 121 (October 8, 2005).

### **Professional Society Membership**

American Society of Civil Engineers (Life Member and Fellow)  
 American Geophysical Union (Life Fellow)  
 American Institute of Hydrology (Member)  
 Sigma Xi (Member)  
 American Association for the Advancement of Science (Fellow)  
 American Meteorological Society (Member)  
 American Water Resources Association (Member)  
 International Association for Hydraulic Research (Member)  
 International Association of Hydrological Sciences (Member)  
 Member, working group on stochastic hydrology, IAHS (1976-79)  
 Member, Committee on Hydrology, American Meteorological Society (1977-79)

## **Professional Society and Other Service**

### **American Institute of Hydrology**

Chair, Linsley Award Committee 1995-2002, 2004-2005

### **American Society of Civil Engineers**

Water Resources Planning and Management Division, Committee on Water Resource Systems (1975-1981, Chairman 1978-1979)

Hydraulics Division, Committee on Research (1987-1992 chairman 1989-1990)

Faculty Advisor, University of Washington Student Chapter ASCE (Oct. 1987 -Sept. 1990).

Co-Convenor (with D. Booth) of the “Symposium on Managing Water Resources in the Urban Environment”, August 8-11, 1999, at the ASCE International Water Resources Engineering Conference, Seattle.

Panel Discussion Moderator: Urban Hydrology - Past Accomplishments and new Challenges, 1999 ASCE International Water Resources Engineering Conference, Seattle

Session Moderator: Water Quality Management and Modeling, 1999 ASCE International Water Resources Engineering Conference, Seattle

### **American Geophysical Union**

Participant, visiting scientist program 1972  
 Hydrology Program General Chairman Fall Annual Meetings 1977-79  
 Editor, Water Resources Research Oct. 1980-Jan. 1985  
 Hydrology Section Executive 1980-present  
 Chairman, Water Resources Monograph Board 1985-1987

Chairman, Horton Award Committee 1988-1991,  
 Chairman, Horton Research Grant Committee 1990-1991  
 Chairman, Horton Medal Committee 1990-1992  
 Member, Committee on Fellows 1990-1992  
 Member, Information Technology Committee 1992-1994  
 President Elect, Hydrology Section 1992-1994  
 President, Hydrology Section, July 1994-June 1996  
 Member, Publications Committee 1996-1998  
 Chairman, Board of Journal Editors 1996-1998.  
 Member, Development Planning Committee, 1998-2000.  
 Flinn Award Committee 2000-2002.  
 Chair, Development Committee 2002-2004.  
 Member, Development Board 2004-2006.  
 Member, Budget and Finance Committee 2006-

### **U.S. National Research Council**

Member, Water Science and Technology Board, (Nov. 1985-June 1989)

Member, Committee on "Techniques for Estimating Probabilities of Extreme Floods" (1986-1987)

Member, Committee on "Opportunities in Hydrology" (1988- 1989)

Chairman, WSTB Committee on Climate Change and Water Resources Management (December 1990 - October 1992) an advisory committee to the US Bureau of Reclamation.

Member, Committee on Basic Research Opportunities in the Earth Sciences, Board on Earth Sciences, November 1998-September 2000.

Member WSTB Committee to Assess the Army Corps of Engineers Methods of Analysis and Peer Review for Water resources Project Planning: Peer Review Panel, October 2001-July 2002.

### **Commonwealth Scientific and Industrial Research Organization (CSIRO) Australia**

External (International) Member of Review Committee for CSIRO Division of Water and Land Resources, Canberra, Australia, May 1986.

Member, Search Committee for Chief of the Division of Water Resources, CSIRO, October 1986-May 1987.

### **McGraw-Hill "Handbook of Hydrology", David Maidment, Editor in Chief.**

Chairman, International Advisory Board, 1988-1991.

### **U.S. National Science Foundation**

- Member, Committee of Visitors, Division of Geosciences, National Science Foundation, 1996.
- Review Panel Member for Civil, Materials, and Environmental Engineering Graduate Research Fellowships (February 2001-2003).
- Review Panel Member for Civil, Materials, and Environmental Engineering Graduate Research Fellowships (February 2007- ).

### **Disaster Prevention Research Institute, Kyoto University**

Member International External Review Board - Five-Year Review (January – May 2004).

### **Stanford University**

- Member, Advisory Council, Department of Civil and Environmental Engineering, Stanford University, 1997-2000. Committee evaluated department, November-December 1997.
- Member Review Committee Jasper Ridge Biological Preserve, Spring 2004.

### **Australian National University, Canberra, Australia**

External Reviewer of Environmental Research Faculty (Soil and Water Science), Spring 2004

### **Tufts University**

External evaluator and member of Subcommittee on Promotion and Tenure (promotion case), Presentation to Committee, Tufts University, March 25, 1998

### **University of Minnesota**

- Member Lorenz G. Straub Award Committee (2000-2004).  
The Lawrence G. Straub Award is given each year for the most meritorious doctoral dissertation in hydraulic engineering, interpreted broadly to include hydrology, from all doctoral granting institutions in the world. Committee members read and assess all submitted dissertations.

### **Consortium of Universities for the Advancement of Hydrologic Science, Incorporated**

- Chair, nominating committee for the candidates for the Executive Committee (2001)

- Chair, search committee for the Executive Director (March, 2002-January 2003)
- Proposal evaluator and site visit team member for NSF National Hydrological Synthesis Center (October-December 2004)
- Chair Board of Directors nominating committee, 2005.
- Member Scientific Advisory Team (September 2005 - ) – contributor to “Hydrology of a Dynamic Earth – A decadal research plan for hydrologic science”, May 2007.

### **University of Nevada Reno**

- Chair, External review committee for The Interdisciplinary Graduate Program of Hydrologic Sciences, March 2005.

### **University of Washington/University of British Columbia Annual 1-day Hydrology and Water Resources Symposium – January 1980 – September 2007**

- Principal coordinator, and principal coordinator and host in alternate years when the meeting is held on the University of Washington Campus. This gathering provides an exceptional forum for intellectual exchange and discussion of developing research ideas and plans of our graduate student colleagues.

### **Assessment Letters for: Appointments, Promotion, Tenure, Honors (Since 1994)**

More than 25 per year (1994-1997), 39 letters Sept 1997- Sept 1998, 24 Sept 1998- Sept 1999, 22 Sept 1999-Sept 2000, 18 Sept 2000-Sept 2001, 24 Sept 2001- Sept 2002. (ongoing activity)

### **Reviews Made**

Journal or Other	Number
<i>ASCE Hydraulics, Irrigation and Drainage</i>	
<i>ASCE Water Resources Planning and Management Division</i>	
<i>AGU Water Resources Research</i>	
<i>Geophysical Research Letters</i>	
<i>Journal of Hydroclimatology</i>	
<i>Hydrologic Processes</i>	
<i>Journal of Hydrology</i>	
<i>National Science Foundation</i>	
<i>NRC Water Science and Technology Board</i>	
<i>NASA</i>	
<i>Australian Research Council</i>	
<i>Environmental Protection Agency</i>	
<i>Reviews exceed twenty papers and proposals per year</i>	

### **Awards and Honors**

Fulbright-Hayes Travel Grant, 1967

Fellow, American Society of Civil Engineers, 1988

Fellow, American Geophysical Union -- Citation: "For contributions to an extraordinary range of hydrologic enquiry, particularly to predictions and their uncertainties", 1990

Fellow, American Association for the Advancement of Science, 1996

Faculty Honor Member, University of Washington Chapter of Chi Epsilon, Civil Engineering Honor Society, 1996

Kisiel Memorial Lecture, The University of Arizona March 7, 1997, "Managing Water Resources in Variable Climates -- Examples From the US and the South West of Western Australia".

Outstanding Practice Paper Award, American Society of Civil Engineers, Water Resources Planning and Management Division, for the paper "Relationships Between n-Day Flood Volumes for Infrequent Large Floods", 1995.

Department Chairman's Award for Extraordinary Service in the Department of Geological Sciences at the University of Washington, May 1997.

Langbein Lecture, American Geophysical Union, Spring Annual Meeting, Boston, Massachusetts, May 30, 2001 "Hydrologic Variability and its Societal Importance". (webcast - The American Geophysical Union - <http://www.agu.org/webcast/burges.html>).

Ray K. Linsley Award, American Institute of Hydrology, October 2003, Citation "for major contributions to engineering hydrology".

Department of Civil and Environmental Engineering, University of Washington, 2007 Henry Roy Berg Lecture "Fundamental Hydrological Modeling Related to Natural Disasters – Three Decades of Personal Enquiry", February 14, 2007.

American Society of Civil Engineers Ven Te Chow Award, (for lifetime achievement in hydrologic engineering) May 2008, Citation "For an exceptional career in education and research in engineering hydrology and water resources management, outstanding service to the profession, and mentoring of young hydrologic engineers."

Honorable Mention – 2008 Marsha L. Landolt Distinguished Graduate Mentor Award, University of Washington.

Honorable Mention – 2009 Marsha L. Landolt Distinguished Graduate Mentor Award, University of Washington (one of four finalists).

**Teaching (courses taught at the University of Washington) – From 1998**

Course	Quarter	No. of Students	Course Title	Instructor's	
				Avg Line 3	Avg Line 4
CEWA446	W88		Analysis Techniques for Groundwater Flow		
CEWA449	W88		Water Resources and Hydraulic Engineering Design		
CEWA547	W88		Advanced Hydrology		
CIVE342	Sp88	28	Fluid Mechanics		
CEWA447	A88	32	Physical Hydrology		
CEWA446	W89		Analysis Techniques for Groundwater Flow		
CEWA449	W89		Water Resources and Hydraulic Engineering Design		
CEWA547	W89		Advanced Hydrology		
CIVE342	Sp89	36	Fluid Mechanics		
CEWA447	A89	37	Physical Hydrology		
CEWA446	W90	24	Analysis Techniques for Groundwater Flow		
CEWA449	W90		Water Resources and Hydraulic Engineering Design		
CEWA547	W90		Advanced Hydrology		
CIVE342	Sp90	41	Fluid Mechanics		
CEWA447	A90	47	Physical Hydrology		
CEWA446	W91	27	Analysis Techniques for Groundwater Flow		
CEWA449	W91		Water Resources and Hydraulic Engineering Design		
CEWA547	W91		Advanced Hydrology		
CIVE342	Sp91	60	Fluid Mechanics		
CEWA520	A91	48	Seminar		
CEWA447	A91	57	Physical Hydrology	3.09	2.77
CEWA446	W92	31	Analysis Techniques for Groundwater Flow	3.96	3.67
CEWA547	W92	12	Advanced Hydrology		
CIVE342	Sp92	81	Fluid Mechanics	3.60	3.25
CIVE476	A92	37	Physical Hydrology	4.20	4.07
CIVE475	W93	21	Analysis Techniques for Groundwater Flow	3.78	3.39
CEWA547	W93	8	Advanced Hydrology		
CIVE342	Sp93	71	Fluid Mechanics	4.00	3.69
CIVE476	A93	40	Physical Hydrology	4.19	4.00
CIVE475	W94	20	Analysis Techniques for Groundwater Flow	4.24	3.94
CEWA547	W94	8	Advanced Hydrology		
ON LEAVE	Sp94				
CIVE476	A94	43	Physical Hydrology	3.73	3.36
CIVE475	W95	27	Analysis Techniques for Groundwater Flow	4.00	3.79

Course	Quarter	No. of Students	Course Title	Instructor's	
				Avg Line 3	Avg Line 4
CEWA547	W95	10	Advanced Hydrology	4.50	4.25
ON LEAVE	Sp95				
CIVE476	A95	24	Physical Hydrology	4.0	3.5
CIVE475	W96	22	Analysis Techniques for Groundwater Flow	3.5	3.4
CEWA547	W96	5	Advanced Hydrology	3.7	2.1
CIVE342	Sp96	61	Fluid Mechanics	3.5	3.1
CIVE476	A96	26	Physical Hydrology	4.5	4.2
CIVE444	W97	21	Water Resources and Hydraulic Engineering Design	4.1	4.1
CEWA547	W97	10	Advanced Hydrology	2.9	2.3
CIVE342	Sp97	52	Fluid Mechanics	2.21	1.95
CIVE476	A97	32	Physical Hydrology	3.65	3.14
CEWA547	W98	4	Advanced Hydrology	3.83	2.83
CIVE444	W98	30	Water Resources and Hydraulic Engineering Design	4.20	3.63
CIVE475	W98	29	Analysis Techniques for Groundwater Flow	3.64	3.17
CIVE342	S98	29	Fluid Mechanics	3.83	3.32
CIVE476	A98	12	Physical Hydrology	4.34	4.07
CIVE444	W99	17	Water resources and Hydraulic Engineering Design	4.8	4.63
CEWA547	W99	10	Advanced Hydrology	3.67	3.67
CIVE342	S99	40	Fluid Mechanics	3.83	3.75
CIVE475	A99	15	Analysis Techniques for Groundwater Flow	3.36	2.87
CIVE476	A99	22	Physical Hydrology	3.98	3.74
CEWA520	A99	42			
CIVE444	W00	24	Water resources and Hydraulic (Form X Items 1-4) Engineering Design	3.63 4.0	3.5
CEWA547	W00	8	Advanced Hydrology	3.50	3.50
CEE476	A00	13	Physical Hydrology	3.42	3.00
CEE444	W01	28	Water resources and Hydraulic Engineering Design (Form X Items 1-4)	3.80 3.84	3.79
CEE574	W01	8	Advanced Hydrology	4.50	3.83
CEE476	A01	29	Physical Hydrology	3.97	3.89
CEE475	A01	12	Analysis Techniques for Groundwater Flow	3.99	3.20
CEE342	S99	40	Fluid Mechanics (Mentored K. Cherkauer)		
CEE574	S02	11	Advanced Hydrology	4.4	3.6
CEE476	A02	24	Physical Hydrology	3.5	3.4
CEE475	A02	17	Analysis Techniques for Groundwater Flow	4.7	4.2
CEE444	W03	9	Water resources and Hydraulic Engineering Design (Form X Items 1-4)	2.8 3.0	2.9

Course	Quarter	No. of Students	Course Title	Instructor's	
				Med Line 3	Med Line 4
CEE574	W03	14	Advanced Hydrology	4.6	3.9
CEE476	A03	23	Physical Hydrology	4.6	4.2
CEE475	A03	17	Analysis Techniques for Groundwater Flow	4.1	4.0
CEE444	W04	24	Water resources and Hydraulic Engineering Design (Form X Items 1-4)	4.1	3.9
CEE574	W04	6	Advanced Hydrology	4.0	
CEE477	S04	14	Open-Channel Engineering	4.5	4.2
CEE476	A04	31	Physical Hydrology	4.4	4.4
CEE475	A04	12	Analysis Techniques for Groundwater Flow	4.6	4.3
CEE574	W05	8	Advanced Hydrology	4.4	4.2
CEE477	S05	27	Open-Channel Engineering	4.8	4.8
CEE476	A05	35	Physical Hydrology	4.9	4.3
CEE475	A05	25	Analysis Techniques for Groundwater Flow	4.1	3.2
CEE444	W06	16	Water resources and Hydraulic Engineering Design	4.1	3.7
CEE574	W06	9	Advanced Hydrology	4.1	4.1
CEE477	S06	22	Open-Channel Engineering	4.3	3.9
CEE476	A06	29	Physical Hydrology	4.1	4.0
CEE475	A06	8	Analysis Techniques for Groundwater Flow	3.3	2.9
CEE444	W07	13	Water resources and Hydraulic Engineering Design (Form X Items 1-4)	4.6	3.8
CEE574	W07	9	Advanced Hydrology	3.5	
CEE477	S07	27	Open-Channel Engineering	4.4	3.3
CEE476	A07	24	Physical Hydrology	4.5	4.1
CEE475	A07	8	Analysis Techniques for Groundwater Flow	4.5	3.8
CEE574	W08	4	Advanced Hydrology	3.6	2.7
				4.2	3.5

Course	Quarter	No. of Students	Course Title	Instructor's Median Lines			
				1	2	3	4
CEE477	S08	18	Open-Channel Engineering	4.3	4.1	4.8	4.6
CEE476	A08	26	Physical Hydrology	3.2	3.4	3.4	3.0
CEE475	A08	8	Analysis Techniques for Groundwater Flow	3.4	3.1	3.7	3.5
CEE574	W09	6	Advanced Hydrology	4.5	4.2	4.8	3.5
CEE477	S09	24	Open-Channel Engineering	4.6	4.6	4.6	4.6

### Short Courses, Workshops, and Other Educational Programs (Convened by S. Burges)

Alternative On-Site Stormwater Management Techniques, Sept. 23, 24, 1997, PEPL Program, University of Washington

Alternative On-Site Stormwater Management Techniques, March 25, 26, 1999, PEPL Program, University of Washington

### Chaired Doctoral Degrees

Lettenmaier, Dennis P., "Design of Monitoring Systems for the Detection of Trends in Stream Quality," p203, 1975.

Froise, Syver, "Least Cost Control Strategies in Urban Drainage Design - A Dynamic Programming Approach," p241, 1975.

Maknoon, Reza, "Analysis of a Conjunctively Managed Surface-Ground Water Systems", p184, 1977.

Leytham, K. Malcolm, "Physical Considerations in the Analysis and Synthesis of Hydrologic Sequences," p238, 1982.

Gan, Thian Yew, "Applications of Scientific Modeling of Hydrologic Responses From Hypothetical Small Catchments to Assess a Complex Conceptual Rainfall-Runoff Model," p259, 1987.

Wigmosta, Mark S., "Modeling and Monitoring to Predict Spatial and Temporal Hydrologic Characteristics in Small Catchments", p183, 1991.

Liang, Xu, "A Two-Layer Variable Infiltration Capacity Land Surface Representation for General Circulation Models", p208, 1994. (Co-advisor with D. P. Lettenmaier)

Costa Cabral, Mariza, "Effects of Spatial Constraints on Channel Network Topology: Implications for Geomorphological Inference", p209, 1997. (*1997 University of Minnesota Straub Award for best doctoral dissertation in Hydraulic Engineering*).

De Vries, Paul E., "Scour in Low Gradient Gravel bed rivers: patterns, processes, and Implications for the Survival of Salmonid Embryos", p365, 2000.

Konrad, Christopher P., "The Frequency and Extent of Hydrologic Disturbances in Streams in the Puget Lowland, Washington", p212, 2000 (Co-advisor with D. B. Booth).

Kampf, Stephanie K., "Towards Improved Representation of Hydrologic Processes: Linking Integrated and Distributed Hydrologic Measurements to a Physically-Based Model for a Planar Hillslope Plot", 214p, 2006.

Lee, Se-Yeun, "Development of Optimized Flood Control Rule Curves for the Columbia

River Basin in Response to Climate Change and Interannual Climate Variability”, 86p, 2009.

### **Candidate in Philosophy:**

Brown, Timothy M. (April 27, 1972 – September 15, 2007), Proposed dissertation title: “The use of tracer stones in predicting streamwise particle displacement and bedload transport rate during flow competence in gravel bed streams”.(6/28/2006)

### Current

Lisa Sieck (Passed General Examination 4/26/2004)

Nicoleta C. Cristea (Passed General Examination 5/27/2009)

### **External Dissertation Examiner**

Nathan, R.J., “Low Flow Hydrology: Application of a Systems Approach,” Department of Civil Engineering, Melbourne University, Clayton, Victoria, Australia, p383. Examiner’s report prepared August 1990.

Sabur, M., “A Distributed Numerical Model for Watershed Hydrology,” Department of Civil Engineering, University of Alberta, p371. Conducted examination, May 24, 1990 at University of Alberta, Edmonton.

Young, J.R., “Error in the Frequency Analysis of Flood Data from a Single Site,” Lincoln University , Canterbury, New Zealand, 1990, Examiner’s Report prepared March 1990.

Rahman, A., “Flood Estimation for Ungauged Catchments: A Regional Approach Using Flood and Catchment Characteristics”, p292, Monash University, Australia, 1997. Examiner’s report prepared, March 1997.

Ayral, Santosh K., “A Similarity Approach to Characterize the Hydrologic Behavior of Landscapes”, p245, Monash University, Australia, 1998. Examiner’s report prepared, June 1998.

Richards, Betty, "Scale Invariance Analysis on Channel Network Structure and Possible Implications for Flood Behaviour" p204, Monash University, Australia, 1999. Examiner’s report prepared, January 2000.

Charles, Stephen, P., "Statistical Downscaling from Numerical Climate Models", p224, Murdoch University, Australia, March 2002. Examiner’s report prepared, June 2002.

Vrugt, Jasper, “Towards Improved Treatment of Parameter Uncertainty in Hydrologic Modeling” p253, University of Amsterdam, Holland, 2004. Examiner’s report prepared, May 2004.

### **Chaired Master Degrees**

Hillmer, John S., "Two District Flood Plain Zoning," 88 p., 1973.

Beyerlein, Douglas C., "Flood Routing by the Method of Characteristics - A Critical

- Review, p76., 1973.
- Haapala, John C., "an Adaptation of the Stanford Watershed Model to Two Suburban Watersheds," p93., 1973.
- Fitz, Allen C., "The Effect of Flow Smoothing on Sewage Pump Station Costs," p.98, 1974.
- Pardo, Robert S., "Continuous Public Participation in Natural Resources Planning," p95, 1974.
- Bates, Courtney L., "Analysis of Time Series Modeling Errors with Application to the Lake Sammamish Hydrologic System," 1975.
- Hardt, Richard A., "Ramifications of Blanket Runoff Control Strategies for Urban Watersheds," p70, 1976.
- Noetzelman, James O., "A Linear Programming Approach to Estimating Probability Bounds for Extreme Flood Events," p84, 1976.
- Miller, James W., "The Effects of Minimum and Peak Cedar River Streamflows on Fish Production and Water Supply," p230, 1976.
- Olivers, Clair H., "Use of Porous Pavements in Urban Watersheds as a Peak Runoff Mitigation Measure," 84 p., 1976.
- Stefero, Nicholas R., "An Empirical Investigation into the Nature of Water Supply Deficits in a Single Purpose Reservoir System," p47, 1977.
- Zuzel, John F. "A Review of Water Supply Forecasting Methods in Areas of Seasonal Snowcover", 1977 (non-thesis project).
- Kemp, Gary J., "Hydrologic Modeling and Data Requirements for Analysis of Urban Streamflow Management Alternatives," p210, 1978.
- Waddle, Terry J., "Continuous Snowmelt Runoff Simulation of the Cedar River Watershed, Washington," p79, 1978.
- Garen, David C., "An Analysis of the Effects of Parameter Uncertainty on Runoff Predictions Using the Stanford Watershed Model," p81, 1979.
- Parkinson, David, "Snowmelt Runoff Forecasting Using a Continuous Water Balance Model on the Cedar River Watershed, Washington," p96, 1979.
- Forsyth, Grant W., "Examination of Some Effects of Stochastic Streamflow Model Structures and Parameter Uncertainty on Reservoir Reliability Estimates", 1981 (non-thesis project).
- Rudloff, Edwin J., "Uncertainty in Maximum Economic Benefits From Flood Damage Mitigation", 1983. (non-thesis project).
- Wolff, C. Gary, "An Analysis of the Influence of River Channel Properties on Flood Frequency", p96 1983.
- Williamson, Mark, S., "Methodologies for Estimating Uncertainties in Net Benefits for Flood Damage Mitigation Design", p67, 1984.
- Kuriki, Minoru, "Hydrologic Estimation for Sizing of Small Hydropower Generation Facilities", p92 1984.
- Juel, Jeff, "Computer Aided Solutions to Two Dimensional Steady State Groundwater Flow Problems, p217, 1985.
- Jensen, Bruce, W. "A Preliminary Investigation Into the Feasibility of Using Infiltration Basins for Storm Water Management in King County, Washington, 1987 (non-thesis project).
- Stoker, Bruce A., "Determination of Hydrologic Process Zones for Urban Stormwater Management, P164, 1988.

- Michalek, Margaret, R., "Application of Two Numerical Models in Simulating Flow and Mass Transport in a Heterogeneous Aquifer", P107, 1989 (non-thesis project).
- Villholth, Karen, "Physical Properties of Structured Soils and Associated Fluid Transport", p24, 1989 (non-thesis project).
- Balocki, James B., "A Preliminary Examination of Relationships Between Catchment Characteristics and Volumes of Infrequent Large Floods", p125, 1990.
- Ducken, Sherry, A., "A Water Budget for a Small Forested Catchment -- Evaporation Estimation and Hydrologic Modeling With Limited Data", p70, 1990. (d. Dec 9, 1997) (non-thesis project).
- Tuthill, Andrew, "HSPF Modeling of a Small Urban Catchment -- Calibration by Regional Parameters versus Site Specific Calibration", p50, 1991 (non-thesis project).
- Moeller, Rodney A., "Application of Geographic Information Systems to Hydrologic Modeling", p51, 1992.
- Coho, Carolyn, S. "Dam-Break Floods in Low Order Mountain Channels of the Pacific Northwest", p68, 1993.
- Snell, Jonathan, Matthew, "Application of Hydrologic Simulation Program -- FORTRAN (HSPF) to Urbanized Catchments in the Puget Sound Basin", p50, 1993 (non-thesis project).
- Meena, Jack, M., "Use of a Spatially-Distributed Moisture Accounting Model With Measured Precipitation and Streamflow and Estimated Potential Evapotranspiration Data to Determine the Hydrologic Budgets for two Small Catchments in King County, Washington", p25, 1994 (non-thesis project).
- DeVries, Paul. E., "Characteristics of Turbulent Velocity Profiles in Natural Coarse Bed Channels", p45, 1994 (non-thesis project).
- Konrad, Christopher, P., "An Examination of Stormwater Detention and Infiltration at the Scale of an Individual Residence in the Sammamish Plateau Region of King County, Washington", p89, 1995.
- Lukas, Andrew, B., "WASHFLOW -- A Generalized Form of a Continuous Simulation Hydrologic Model for use in Small Catchments: Program Structure and User's Manual", p33, Appendices A-E, 1995 (non-thesis project).
- Kolsti, Kyle, F. "Hydrologic Response of Lawns Growing in Till Plots Containing Various Amounts of Compost Amendment, p131, 1995
- Koivusalo, Harri. "Use of a One-Dimensional Snow Cover Model to Analyze Measured Snow Depth and Snow Temperature Data From Southern Finland", p109, 1996.
- Kurtz, Timothy, E. "Modeling the Hydrologic Response of Lawns on Till With and Without Compost Amendments", p74, 1996.
- Hielema, Eric, J. "Hydrologic Simulation of the Klahanie Catchment, King County, Washington, With and Without a Landscape Consisting of Soil Amended With Compost", p110, 1996.
- Chollak, Tracy, "Guidelines for Improving the Hydrologic Properties of Soils by Amendment With Compost", 50, 1997 (non-thesis project).
- Schultz, Daniel, "Current Status of Vegetation Management in Roadside Ditches and Stormwater management Facilities: Implications for Stormwater Quality", 15 p, 1998 (non-thesis project).
- Tucker, David, A., "Oak lake Creek: A Case Study of Fish Passage Through Culverts, p 79, 1999 (non-thesis project).

- Daigneau, Julie, L. "Development, Testing, and Application of a Scour Monitoring Instrument to Measure the Temporal progression of Scour in Gravel bed Rivers", p 107, 1999. (Co-advisor with C. Petroff).
- Miller, Adrienne, V., "Hydrologic Monitoring of Seattle's Ultra-Urban Stormwater Management Projects", p150, 2001.
- Cristea, Nicoleta, C., "Wenatchee River, Washington, Water Temperature Modeling an Assessment Using Remotely Sensed Thermal Infrared and Instream Recorded Data", p92, 2004.
- Stefansdottir, Maria, "A Simulation of the 9500 Year Glacial Sediment Delivery and Deposition History of Lake Lagarfljot, Eastern, Iceland", p71, 2006.
- Maurer, Mark W., "Design and Construction of a Field Test Site to Evaluate the Effectiveness of a Compost Amended Bioswale for Removing Metals from Highway Stormwater Runoff", xxp, 2009.

- Comanor, Kyle (Course work degree), Spring 2002.
- Scheibner, Deborah, (Course work degree), Autumn, 2002
- Fitzgerald, Carolyn (Course work degree), Spring 2003.
- Brackett, Chapin (Course work degree), Spring 2003.
- Bjarnason, Petur (Course work degree), Autumn 2003
- Kays, Gus (Course work degree), Spring 2005
- Park, Hyoseok (Course work degree), Spring 2005
- Prociv, Matthew (Course work degree), Spring 2005
- Donnelly, Quinn, (Course work degree), Autumn 2005
- Jansen, Karl (Course work degree), Autumn 2006
- Lim, Heungkook (Course work degree), Spring 2007
- Davis, Rex (Course work degree), Autumn 2007

Current Students:

Taryn Sass

### **Other Student Supervision (service on graduate degree committees)**

**Ph.D. Committees (since 1989)** R = Reading Committee Member, G = Graduate School Representative, N = Never completed

D. Pei (N), M. Moinpour (R), M. Balise (R), K. Loague (R), J. Yearsley (R), L. Dally (N), W. Zhang (R), A. Fountain (R), D. Miller (G), L. Reid (G), R. Jackson (R), L. Wilson (N), A. Barros (R), H-S. Lu (R), R. Stockstill (R), Y.O. Kim (R), F. Abdulla (R), K. Schmidt (R), P. Storch (R), B. Nijssen (R) K. Sepp (G), K. Cherkauer (R), M. Harrell (G), E. Maurer (R), L. Bowling (R), A. Wood (R) N Naveh (N), J-J. Park (G), S. Eichelberger (G), M. Barcrania (G), J. H. Ryu (R), A Hamlet (R) H. Lim (N), C. Zu, B. Polagye (G).

Current:

A Polebitski, N. Voisin

### **M.S. Committees (since 1989)**

R. Munger, T. Scheibe, J. Holmes, B. Horton, R. Brockhaus, C. Luce, M. Surowiek, J. Zukauskas, M. Shrestha, E. Hooper, K. Brettmann, C. Wagoner, T. Butler, B. Smugden, T. Christiansen, C. Ridolfi, C. Chenlai, A. Arola, F. Krogstad, T. Kenward, J. Sias, D. Schwaegler, R. Kirschbaum, L. Bowling, J. LaMarche, A. Dubin, C. Doberstein, D. Mekkers, D. Miller, J. McIntyre (26, deceased 1-13-1999), J. Leavitt, K. Comings, T. Camp, J. Delorie, P. Henshaw, E. Nelson, M. Larson, J. Vanshaar, A Sansone, J. Payne, J. Kay, T. Bailey, M. McGuire, K Kudamik, A Ball, D. Thurman, L Traynham, A Venturato, J Theilmann (MSME).

### Current:

### **Departmental Service**

1987-1997	Department Executive Committee (Space Coordinator)
1997	Member Search Committee, Aquatic Systems
2002-	Admissions Committee, Scholarship Committee
2002-2008	Chair, Evans Lecture Committee
2003	Member Search Committee, Construction, Transportation, Environmental Fluids
2004	Member Construction Search Committee
2007	Member Departmental Search Committee
2007-2008	Program Director, Environmental Engineering & Science
2006-2008	Member Departmental Promotion and Tenure Committee
2002-2008	Member Undergraduate Admission Committee
2002-2008	Member Undergraduate Scholarship Committee

### **College Service**

1991-1997	ENGR250 Oversight Committee (Chairman)
1991-1997	ENGR 315 Oversight Committee
1997-1998	Member Promotion and Tenure Committee
1998-1999	Chairman, Promotion and Tenure Committee
1999-2000	Member Promotion and tenure Council
2005-2008	Member College Council

### **University Service**

1986-1988	Committee on Admissions and Academic Standards
1988-1989	Faculty Senate
1996	Search Committee, Department of Geological Sciences—Geomorphology Position
1996-1997	Search Committee, Department of Geological Sciences—Cosmogenic Isotopes Position
1997-1999	Search Committee, Departments of Geological Sciences and Oceanography, two positions in Surface Processes, one position in Geodynamics
1998-2000	Faculty Senate

1998-1999 Chairperson Search Committee, Department of Geological Sciences  
 1999-2000 Graduate School Review Committee of Departments of Atmospheric Sciences, Geophysics, Geological sciences, and Ocean Sciences. This is the first time multiple units have been evaluated concurrently (completed, April 2000).  
 2000-2003 Member, Graduate Council  
 2003-2004 Member, Precision Forestry Chair Search Committee  
 2004 Member, Search Committee, Director School of Oceanography  
 2005-2007 Faculty Senate

### **Student Service**

1987-1990 Faculty Advisor to ASCE Student Chapter

### **Community Service**

#### **National Service (Since 1994)**

Review Board Member, Natural Resources Defense Council, "Examination of Causes of the Mississippi Flooding in 1993," review performed Dec. 1994.

### **All Other Service**

### **Consulting Experience**

Hydrologic Analysis and Water Budget for the White River, Washington -- for legal Services, Seattle (1970)

Hydraulic Behavior of the Lummi Project -- recommendations for closure of a dyke in tidal waters (1971) (with E.P. Richey)

Establishment of Storage-Yield Analysis Methodologies and Reservoir Operation Models that Employ Stochastic Hydrology Techniques -- for Bechtel Corporation, San Francisco, (July-August, 1971)

Development of a Three-Parameter Log Normal Markov Runoff Generator -- for Bechtel Corporation San Francisco (April, 1972)

Member Task Advisory Committee for Cedar-Green River Basin Study -- for Cornell, Howland, Hayes, Merryfield-Hill, Bellevue, Washington, (December, 1971 to December, 1973)

Field Determination of Hydrologic and optimum Hydraulic Flow Conditions to Enhance Spawning and Rearing of Some Species of Fish, White River, Washington -- for Sportfish and Wildlife Service, U.S. Department of Interior, Portland, Oregon, (June-September, 1972)

Expert Witness -- Whatcom County Superior Court, Bellingham, Washington; Walton et al.

v. Georgia Pacific; for J.P. Cook, Seattle Attorney (Hydrologic evaluation of extreme flood event) (October, 1972)

Expert Witness -- Whatcom County Superior Court, Bellingham, Washington; Walton et al. v. The City of Bellingham; for R. Morrow, Seattle Attorney for City of Bellingham (evaluation of water supply reservoir management during extreme flooding conditions), (June, 1973)

Stochastic Analysis and Feasibility Study of Water Supply, Gag Island, near West Irian -- for Bechtel Corporation, San Francisco (July, 1973)

Evaluation of Multi-site Multi-lag Flow Forecasting Model -- Bechtel Corporation, San Francisco (March, 1974)

Development of a Multi-site, Multi-lag Forecasting Model -- Bechtel Corporation, San Francisco (April, 1974)

Development of Multi-site Stochastic Flow Generation Model; Development of Multi-Reservoir Analysis Algorithm -- Bechtel Corporation, San Francisco (June, 1974)

Stochastic Analysis for Flow Yield Evaluation, Bull Run River, Oregon; Hydrocomp, Palo Alto, California (July, 1974)

Examination of Flow Diversion Features, White River, Washington, State of Washington Department of Fisheries and Department of Game (March-August, 1974)

Assessment of a Stormwater Runoff Modeling Approach for the Seattle Metro System, Metropolitan Engineers (August, 1976)

Evaluation of a Novel Evaporation Suppression Scheme, Robert W. Beach, Patent Attorney, Seattle (May, 1977)

Reliability Analysis for City of Portland Bull Run Reservoir System, December, 1977.  
Evaluation of the Stochastic Hydrology Software Package Developed by the U.S. Bureau of Reclamation -- U.S. Bureau of Reclamation Engineering Research Center, Denver (June-December, 1978)

Evaluation of Alternative Plans for Draining an Industrial Park Development, Kent, WA -- Upland Industries (November 1979-February 1980)

Analysis of Water Yield for the Seattle Water Supply System -- Seattle Water Department and URS Company, Seattle (October 1979-May 1981)

Stochastic Modeling of Streamflow, Feather River at Oroville Dam, CA -- California Department of Energy/Linsley Kraeger Associates - (July-October 1980)

Evaluation of Seepage Losses From Chester Morse Lake -- City of Seattle/ Hart Crowser - (May 1982 - June 1983)

Evaluation of Green River Flow and Yield Studies Conducted by Charles Howard and Associates -- City of Tacoma, Superintendent, Water Division (September 1982)

Overview Analysis of Feasibility Assessment of Small Scale Hydroelectric Projects -- Hymet Company, Seattle (August - September, 1982)

Review Team Member, Divisions of Water and Land Resources -- Commonwealth Scientific and Industrial Research Organization, Canberra, Australia (April-July, 1986)

Expert Testimony -- Knight et al. vs. The City of Seattle et al., (Superior Court, WA) -- James E. Kennedy, Attorney (for plaintiffs) (Jan. 1, 1987-Jan. 30, 1987)

Expert witness (Deposition) in Gustafson et al vs Turner et al (Flooding problems in upper reaches of Thornton Creek, Seattle), Court testimony (June 1988); (May 14, 1987 - July 1, 1988)

Review of Draft "King County, Washington, Surface Water Design Manual", for Counsel to the King County Council and Northwest Hydraulic Consultants, (June - September 1989)

Expert Witness (Coordinator of technical expertise) in Reinsvold et al v. City of Tacoma, Expert evaluation of flooding problems, Leach Creek, Tacoma, for Smith, Smart, Hancock, Tabler, and Schwensen. (June 1992 - March 1993)

Evaluation of the summary of water resources for the Snohomish River Basin presented in: "Initial Watershed Assessment, Water Resources Inventory Area 7, Snohomish River Watershed", Open-File Technical Report 95-06, for the Director of Public Works, City of Everett, Washington. (September - October, 1995)

Keynote participant -- Seminar and Workshop on Climate Variability and Water Resources in South-West Western Australia, for Water Corporation of Western Australia and CSIRO. (January - February, 1996)

Expert Witness (deposition and affidavit) concerning flooding situation in "Southampton Associates vs City of Tacoma et al", Pierce County Cause #96-2-13430-4, for Attorney General of Washington (defendant), June 1997-April 1998.

Expert Witness (affidavit) concerning flooding situation in "Wilbur v. Turner v. State et al., Pierce County Superior Court N0. 99-2-04893-3, for Attorney General of Washington (defendant), May 2000 - December 2000.

Expert advisor to BC Hydro, Vancouver, BC Canada – Peace-Athabasca Delta Studies. December 2000-December 2006.

June, 2009