RODNEY S. SKEEN

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EDUCATION

- Ph.D. Chemical Engineering, Washington State University, 1990.
- M.S. Chemical Engineering, Washington State University, 1987.
- B.S. Chemical Engineering, Washington State University, 1986.

PROFESSIONAL REGISTRATIONS

- Washington State Professional Engineering License in Chemical Engineering (33371).
- Oregon State Professional Engineering License in Chemical Engineering (19682PE).

HIGHLIGHTS OF SKILLS AND QUALIFICATIONS

- More than 20 years of experience in project management and technical management of complex, multi-discipline projects.
- More than 15 years of experience in personnel management.
- Contributed to and/or managed 25 projects with annual budgets ranging from $30K to $2MM.
- Demonstrated ability to:
  - ✓ write winning grant proposals, and
  - ✓ assemble and managed multi-discipline work teams.
- Demonstrated skills in:
  - ✓ reaction kinetic experimentation and modeling,
  - ✓ engineering evaluations of chemical processes and processing systems,
  - ✓ human health risk assessments, and
  - ✓ fate and transport modeling of chemicals in the environment,
- Strong organization and leadership skills.
- Strong oral and written communication skills.

WORK HISTORY

Duration, Employer, and Role	Job Duties and Accomplishments
2011 to 2017, CTUIR[1], Technical Leader and Manager	• Provides technical oversight for projects related to energy development, air quality, ecological restoration, and environmental protection. This work includes the CTUIR's efforts at the Department of Energy's Hanford Site. • Exercises project, budget, and personnel management responsibilities over nine to 15 technical staff and approximately $2 MM annually. • Serves as the point of contact for negotiations with federal and state agencies.

Duration, Employer, and Role	Job Duties and Accomplishments
	• Equipping and staffing a new analytical chemistry laboratory for the CTUIR. This laboratory is currently seeking accreditation through the Oregon Environmental Laboratory Accreditation Program (ORELAP).
2000-2011, CTUIR, Chemical Engineer and Program Manager	• Served as a subject matter expert on matters related to chemical weapons incineration at the Umatilla Chemical Agent Disposal Facility (UMCDF). • Analyzed and provided written comments on proposed changes to Resource Conservation and Recovery Act (RCRA) Treatment Storage and Disposal permits and CERCLA[2] activities. • Analyzed the environmental impacts of new UMCDF processes and technologies. • Completed risk assessments for the UMCDF including a human health and ecological post-trial burn risk assessment, four hazardous waste transportation risk assessments, and a human health risk assessment describing Tribal use of the depot lands in their final state.
1991-2000, PNNL[3], Staff Engineer	• Built a research program to design and implement in situ bioremediation technologies. • Guided a field demonstration of in situ bioremediation of groundwater contaminated with both carbon tetrachloride and nitrate. Was responsible for all site characterization, system design, and reaction rate modeling. • Assisted in creating computer tools for designing in situ remediation technologies. This included the Reactive Transport in 3-Dimensions (RT3D) code that was subsequently commercialized. • Managed the development of bioprocessing systems for the production of transgenic therapeutic proteins in fungi.
1991-1998, WSU[4], Adjunct Faculty	• Taught undergraduate transport phenomena and served on the graduate advisory committee of five Masters students and one Doctoral student.
1988, PNNL, Graduate Appointee	• Researched the development of a piezoelectric chemical sensor for chlorocarbons.
1986, Rockwell Summer Engineer	• Developed mathematical predictions for physical properties for a two-phase slurry of Hanford Tank Waste.
1985, Boise Cascade, Intern	• Conducted EPA compliance tests on gaseous process emissions.

[1]CTUIR denotes the Confederated Tribes of the Umatilla Indian Reservation.
[2]CERCLA denotes the Comprehensive Environmental Response, Compensation and Liability Act,
[3]PNNL denotes the Pacific Northwest National Laboratory.
[4]WSU denotes Washington State University.

PATENTS

1. Gao, J., R. S. **Skeen**, B. S. Hooker, D. B. Anderson. 2005. Isolated Yeast Promoter Sequence and a Method of Regulated Heterologous Expression. U.S. Patent 6,900,305.

2. Gao, J., R. S. **Skeen**, B. S. Hooker, D. B. Anderson. 2003. Method for Using a Yeast Alpha-Amylase Promoter. U.S. Patent 6,551,798.

3. Gao, J., R. S. **Skeen**, B. S. Hooker, D. B. Anderson. 2003. Cloning of Yeast Alpha-Amylase Promoter and its Regulated Heterologous Expression. U.S. Patent 6,541,622.

4. Gao, J., R. S. **Skeen**. 2003. Promoter Sequence of 3-Phosphoglycerate Kinase Gene 2 of Lactic Acid-Producing Fungus *Rhizopus Oryzae* and a Method of Expressing A Gene of Interest in Fungal Species. U.S. Patent 6,528,636. European Patent 1,290,176.

5. Gao, J., R. S. **Skeen**. 2002. Promoter Sequence of 3-Phosphoglycerate Kinase Gene 1 of Lactic Acid-Producing Fungus *Rhizopus Oryzae* and a Method of Expressing A Gene of Interest in Fungal Species. U.S. Patent 6,465,635. European Patent 1,268,824.

6. Gao, J., R. S. **Skeen**. 2002. Method and apparatus for energy efficient self-aeration in chemical, biochemical, and wastewater treatment processes. U.S. Patent 6,395,175.

GRANTS/PROJECTS FUNDED AND ROLE (Total = 25 project with total value of $29 MM)

Client	Total Budget	Duration	Roles	Scope
USDOE [1]	$4,954,480	2016-2017	Program Manager, Technical Leader, Technical Contributor	Provide tribal input to Hanford clean-up; develop tribal monitoring and resources assessment program; develop accredited analytical laboratory.
USBIA [2]	$250,000	2015-2017	Project Planning, Technical Contributor	Prepare climate change adaptation action and implementation plans.
USBIA	$567,000	2017-2018	Project Planning, Technical Contributor	Conduct a reservation wide assessment of geothermal energy resources.
CDA [3]	$75,000	2015-2017	Project Manager, Technical Contributor	Provide environmental consulting to local governments as they plan the reuse of a closed Army depot.
USDOE	$257,411	2017-2018	Project Planning, Technical Contributor	Installation of 96.6 Kw solar photovoltaic energy production system.
USEPA [4]	$2,200,000	2010-2017	Project Manager, Technical Contributor	Implement the Clean Air Act Federal Air Rules for Reservations; includes maintaining a local meteorological and particulate monitoring system.
USDOD [5]	$6,000,000	2000-2015	Project Manager, Technical Leader, Technical Contributor	Monitor and asses the environmental impacts of chemical weapons incineration on the local community and natural resources.
ORDEQ [6]	$43,000	2011	Project Manager, Technical Contributor	Purchase and install a dedicated mercury monitor in the tribal analytical laboratory.
ORDEQ	$36,968	2011	Project Manager, Technical Contributor	Prepare a mobile air quality laboratory.
USDOD	$742,799	2009-2010	Project Manager	Develop a Base Realignment and Closure (BRAC) Local Reuse Plan for the Umatilla Chemical Depot.
USDOD	$900,000	2003	Grant Preparation, Project Planning	Construction grant to build an emergency response center for the Confederated Tribes of the Umatilla Indian Reservation.
US Navy	$220,000	1999-2000	Technical Contributor	Engineering pilot project for in situ bioremediation of chloroethenes in groundwater.
OHM Remediation Services	$325,000	1999-2000	Technical Contributor	Engineering pilot project for in situ bioremediation of chloroethenes in groundwater.
The IT Group	$35,000	1999	Project Manager, Technical Leader, Technical Contributor	Provide reaction engineering support for in situ bioremediation process design.

Client	Total Budget	Duration	Roles	Scope
Battelle	$155,000	1999	Project Manager	Isolate and characterize novel protein production promoter from fungal organisms.
USDOE	$1,600,000	1995-1998	Project Manager, Technical Contributor	Research and develop in situ treatment technologies for chlorinated solvents and other organics; reaction kinetic analysis engineering scale-up.
OHM Remediation Services	$155,000	1997-1998	Project Manager, Technical Contributor	Provide designs for in situ bioremediation processing systems for chloroethene contamination in groundwater.
Motorola	$250,000	1997	Project Manager, Technical Contributor	Research and development for bioremediation of chloroethenes in aquifers where pure phase organics are present.
Battelle	$60,000	1997	Project Manager, Technical Contributor	Research and development for advanced biological wastewater treatment processes.
USDOE	$8,000,000	1991-1996	Technical Leader, Technical Contributor	Research and development of in situ bioremediation for carbon tetrachloride in Hanford groundwater; reaction kinetic analysis, development of scale-up computation tools, field pilot test.
USDOE	$1,400,000	1994-1996	Technical Leader, Technical Contributor	Research and development of in situ bioremediation for mixtures of chlorinated solvents in groundwater, including reaction kinetic analysis and process scale-up.
Battelle	$350,000	1994-1996	Technical Leader, Technical Contributor	Research and development for bioremediation of chloroethenes in aquifers where pure phase organics are present.
DOE-EM	$500,000	1996	Technical Leader, Technical Contributor	Research and development for bioremediation of chlorinated solvents in aquifers.
Battelle	$35,000	1995-1996	Technical Contributor	Research and development on the use of enzymes and microorganisms to remediate explosives in the environment.
Battelle	$30,000	1992	Technical Contributor	Research and development of in situ bioremediation of carbon tetrachloride in unsaturated soils using vapor phase nutrient injection.

- [1]USDOE denotes the United States Department of Energy.
- [2]USBIA denotes the United States Bureau of Indian Affairs.
- [3]CDA denotes the Columbia Development Authority.
- [4]USEPA denotes the United States Environmental Protection Agency.
- [5]USDOD denotes the United States Department of Defense.
- [6]ORDEQ denotes the Oregon Department of Environmental Quality.

REFEREED PUBLICATIONS (Total = 48)

1. Laman, D. L., B. D. Weiler, and R. S. **Skeen**, 2013. Reducing health risk assigned to organic emissions from a chemical weapons incinerator. *Environmental Monitoring and Assessment*, **185**, 2257-2267.

2. Doty, H., B. Van Wie, G. Hooks, J. Ebaugh, A. Tester, S. Haarsma, H. Fuchida, D. Rieck, R. **Skeen**, G. Cheng, B. Liu, T. Jacroux, D. Kidwell, and I. Beattie. 2007. "Design of Hands-on Learning Modules to Enhance Educational Motivation among Native High Schoolers – Cutting Edge Nanoscience Placed in an Environmental Water Quality Context." Pp. 484-93 *In* W. Aung, et al. (eds.), Innovations, Arlington, VA: INEER.

3. Gao, J., B. S. Hooker, R. S. **Skeen**, and D. B. Anderson. 2002. Development of a Flexible System for the Simultaneous Conversion of Biomass to Industrial Chemicals and the Production of Industrial Biocatalysts. *In* R. L. Lankey and P. T. Anastas (eds.), Advancing Sustainability Through Green Chemistry and Engineering, American Chemical Society, Washington, DC.

4. Gao, J., and R. S. **Skeen**. 1999. Glocuose-Induced Biodegradation of Cis-dichloroethylene under Aerobic Conditions. *Wat. Res.* **33**:2789-2796.

5. Sherwood, J. L., J. N. Petersen, and R. S. **Skeen**. 1999. Biotransformation of Carbon Tetrachloride by Various Acetate- and Nitrate-Limited Denitrifying Consortia. *Biotech. Bioeng*. **64**:342-348.

6. Clement, T. P., B. M. Peyton, T. R. Ginn, and R. S. **Skeen**. 1999. Modeling Bacterial Transport and Accumulation Processes in Saturated Porous Media: A Review. *Advances in Nuclear Science and Technology, In* J. Lewins and M. Becker (eds.), Advances in Nuclear Science and Technology, Plenum Publishers, New York, NY.

7. Sun, Y., J. N. Petersen, T. P. Clement, and R. S. **Skeen**. 1999. Development of Analytical Solutions for Multispecies Transport with Serial and Parallel Reactions. *Water Resources Research*, **35**, 185-190.

8. Sherwood, J. L., J. N. Petersen, and R. S. **Skeen**. 1998. Biodegradation of 1,1,1-Trichloroethane by a Carbon Tetrachloride-Degrading Denitrifying Consortium. *Biotech. Bioeng*. **59**, 393-399.

9. Petersen, J. N., Y. Bereded-Samuel, and R. S. **Skeen**. 1998. The Effect of Oxygen Exposure on the Methanogenic Activity of an Anaerobic Bacterial Consortium. *Environmental Progress,* **17**, 104-110.

10. Hooker, B. S., R. S. **Skeen**, M. J. Truex, C. D. Johnson, B. M. Peyton, and D. B. Anderson. 1998. In Situ Bioremediation of Carbon Tetrachloride: Field Test Results. *Bioremediation Journal,* **3**, 181-193.

11. Franzen, M. E. L., Petersen, J. N., T. P. Clement, B. S. Hooker, and R. S. **Skeen**. 1997. Pulsing of Multiple Nutrients as a Strategy to Achieve Large Biologically Active Zones During In Situ Carbon Tetrachloride Remediation. *Computational Geosciences,* **3**, 271-288.

12. Gao, J., R. S. **Skeen**, B. S. Hooker, and R. D. Quesenberry. 1997. Effects of Several Substrates on Tetrachloroethylene Dechlorination In Anaerobic Soil Microcosms. *Water Research,* **31**, 2479-2486.

13. Clement, T. P., B. M. Peyton, R. S. **Skeen**, D. A. Jennings, and J. N. Petersen. 1997. Microbial Growth and Transport in Porous Media Under Denitrifying Conditions: Experiment and Simulations. *J. of Contam. Hydrol.*, **24**, 269-286.

14. Clement, T. P., B. S. Hooker, and R. S. **Skeen**. 1996. Macroscopic Models for Predicting Changes in Saturated Porous Media Properties Caused by Microbial Growth. *Groundwater*, **34**, 934-942.

15. Sherwood, J. L., J. N. Petersen, R. S. **Skeen**, and N. B. Valentine. 1996. Effects of Nitrate and Acetate Availability on Chloroform Production During Carbon Tetrachloride Destruction. *Biotechnol. Bioeng*., **51**, 551-557.

16. Clement, T. P., B. S. Hooker, and R. S. **Skeen**. 1996. Numerical Modeling of Biologically Reactive Transport Near a Nutrient Injection Well. *ASCE J. Env. Eng.*, **122**, 833-839.

17. Hooker, B. S., and R. S. **Skeen**. 1996. Intrinsic remediation: an environmental restoration technology. *Curr. Opin. Biotech.*, **7**, 317-320.

18. Bareded-Samuel, Y., J. N. Petersen, and R. S. **Skeen**. 1996. Effect of Tetrachloroethylene (PCE) on Methane and Acetate Production by a Methanogenic Consortium. *Applied Biochem. Biotechnol.*, **57/58**, 915-922.

19. **Skeen**, R. S., J. Gao, and B. S. Hooker. 1995. Kinetics of Chlorinated Ethylene Dehalogenation under Methanogenic Conditions. *Biotechnol. Bioeng*., **48**, 659-666.

20. Sherwood, J. L., J. N. Petersen, R. S. **Skeen**, and B. S. Hooker. 1995. Effect of Nitrate Availability on Chloroform Production During Carbon Tetrachloride Destruction. p. 85-90. *In* R. E. Hinchee, A. Leeson, and L. Semprini (eds.), Bioremediation of Chlorinated Solvents, Battelle Press, Columbus, OH.

21. Hanneman, T. F., D. L. Johnstone, D. R. Yonge, J. N. Petersen, B. M. Peyton, and R. S. **Skeen**. 1995. Control of Bacterial Exopolysaccharide Production and Plugging in the Subsurface. p. 323-328. *In* R. E. Hinchee, C. M. Vogel, and F. J. Brockman (eds.), Microbial Processes for Bioremediation, Battelle Press, Columbus, OH.

22. Gao, J., R. S. **Skeen**, B. S. Hooker. 1995. Effects of Temperature on Perchloroethylene Dechlorination by a Methanogenic Consortium. p. 53-59. *In* R. E. Hinchee, A. Leeson, and L. Semprini (eds.), Bioremediation of Chlorinated Solvents, Battelle Press, Columbus, OH.

23. Jennings, D. A., J. N. Petersen, R. S. **Skeen**, B. M. Peyton, B. S. Hooker, D. L. Johnstone, and D. R. Yonge. 1995. An Experimental Study of Microbial Transport in Porous Media. p. 97-103. *In* R. E. Hinchee, J. Fredrickson, and B. C. Alleman (eds.), Bioaugmentation for Site Restoration, Battelle Press, Columbus, OH.

24. Peyton, B. M., M. J. Truex, R. S. **Skeen**, and B. S. Hooker. 1995. Design of an In Situ Carbon Tetrachloride Bioremediation System. p. 111-116.*In* R. E. Hinchee, A. Leeson, and L. Semprini (eds.), Bioremediation of Chlorinated Solvents, Battelle Press, Columbus, OH.

25. Clement, T. P., B. S. Hooker, and R. S. **Skeen**. 1995. Modeling Biologically Reactive Transport in Porous Media. *Proceedings of the International Conference on Mathematics and Computations, Reactor Physics, and Environmental Analyses*, Portland, Oregon, April 1995, **1**, 192-201.

26. Jennings, D. J., J. N. Petersen, R. S. **Skeen**, B. S. Hooker, B. M. Peyton, D. J. Johnstone, and D. R. Yonge. 1995. Effects of Slight Variations in Nutrient Loadings on Pore Plugging in Soil Columns. *Applied Biochem. Biotechnol.*, **51/52**, 727-734.

27. Peyton, B. M., R. S. **Skeen**, B. S. Hooker, R. W. Lundman, and A. B. Cunningham. 1995. Evaluation of Bacterial Detachment Rates in Porous Media. *Applied Biochem. Biotechnol.* **51/52**, 785-797.

28. **Skeen**, R. S., N. B. Valentine, B. S. Hooker, and J. N. Petersen. 1995. Kinetics of Nitrate Inhibition of Carbon Tetrachloride Transformation by a Denitrifying Consortium. *Biotechnol. Bioeng*., **45**, 279-284.

29. Lenhard, R. J., R. S. **Skeen**, and T. M. Brouns. 1995. Contaminants at DOE Sites and Their Susceptibility to Bioremediation. In Bioremediation: Science and Applications, Soil Science Society of America, H. D. Skipper and R. F. Turo (eds). Chapter 10, pp. 157-172.

30. **Skeen**, R. S., K. M. Amos, and J. N. Petersen. 1994. Influence of Nitrate Concentration on Carbon Tetrachloride Transformation by a Denitrifying Microbial Consortium. *Water Research*, **28**, 2433-2438.

31. Petersen, J. N., R. S. **Skeen**, K. M. Amos, and B. S. Hooker. 1994. Biological Destruction of CCl_4 Part I: Experimental Design and Data. *Biotechnol. Bioeng*., **43**, 521-528.

32. Hooker, B. S., R. S. **Skeen**, and J. N. Petersen. 1994. Biological Destruction of CCl_4 Part II: Kinetic Modeling. *Biotechnol. Bioeng*., **44**, 211-218.

33. Hooker, B. S., R. S. **Skeen**, M. J. Truex, and B. M. Peyton. 1994. "A Demonstration of *In Situ* Bioremediation of CCl_4 at the Hanford Site" In: *In Situ Remediation: Scientific Basis for Current and Future Technologies, Part 1*, G. W. Gee and N. R. Wing, (Eds.), pp. 281-292, Battelle Press, Columbus, OH.

34. **Skeen**, R. S., M. J. Truex, J. N. Petersen, and J. S. Hill. 1994. "A Batch Reactor for Monitoring Process Dynamics During Biodegradation of Volatile Organics. *Environmental Progress*., **13**, 174-177.

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37. **Skeen**, R. S., D. L. Kurdikar, and B. J. Van Wie. 1994. Modeling the Kinetics of Neuron-Based Chemical Sensing: Interactions Between Observable States. *Biosensors and Bioelectronics*, **9**, 265-274.

38. Shouche, M. J., J. N. Petersen, R. S. **Skeen**, and B. S. Hooker. 1994. Alternating Extraction/Injection Well Interactions for In situ Bioremediation. *Applied Biochem. Biotechnol.*, **45**, 775-785.

39. Shouche, M. J., J. N. Petersen, and R. S. **Skeen**. 1993. Use of a Mathematical Model for Prediction of Optimum Feeding Strategies for *In situ* Bioremediation. *Applied Biochem. and Biotech.*, **39**, 763-779.

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44. Kisaalita, W. S., B. J. Van Wie, R. S. **Skeen**, C. D. Barnes, and S. J. Fung. 1991. Optimization of Glass Microelectrode Properties by Response Surface Methodology. *J. Neurosci. Met.*, **40,** 113-120.

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BOOKS EDITED

1. Hinchee, R. E., G. D. Sayles, and R. S. **Skeen**. 1995. Biological Unit Processes for Hazardous Waste Treatment. Battelle Press, Columbus, OH.

OTHER NOTABLE PUBLICATIONS AND PRODUCTS (Total = 24)

1. CTUIR 2017. CTUIR Field Station Analytical Laboratory Quality Systems, Rev 0, March 2017 (this item consists of over 80 documents, manuals, forms, and procedures and was authored by R.S. **Skeen**, P. M. Mills, K. Anderson, and M. K. Murphy).

2. CTUIR 2016. Data Quality Objectives: Hanford 100-F Area Tribal Natural Resource Damage Assessment, September 2016 (this document was developed and authored by R. S. **Skeen** and A. M. Nazarali).

3. CTUIR 2015. Test Plan: Botanical Surveys and Seed Collection for the 100-F Area Uplands, August 2015 (this document was developed and authored by R. S. **Skeen** and S. O. Link).

4. CTUIR. 2014. Human Health Risks for Native American Subsistence Use of the Umatilla Chemical Depot (UMCD), November 2014 (this risk assessment was conducted and authored by R. S. **Skeen)**.

5. CTUIR. 2013. Estimated Human Health Risks From Baseline Soil Concentrations at the Umatilla Chemical Depot (UMCD) Hermiston, Oregon, September 2013 (this risk assessment was conducted and authored by R. S. **Skeen)**.

6. CTUIR 2013. Quality Manual for the Confederated Tribes of the Umatilla Indian Reservation Department of Science and Engineering Field Station, April 2013 (this documented was authored by **R. S. Skeen** and P. M. Mills).

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8. CTUIR 2012. Updated Estimate of Transportation Risk for Off-Site Shipment of Agent Contaminated Carbon from the Umatilla Chemical Agent Disposal Facility, Hermiston, Oregon. Prepared for the United States Army Chemical Material Agency, 78080 Ordnance Road, Hermiston, Oregon; Oregon Department of Environmental Item Number 12-0195 (this risk assessment was conducted and authored by R. S. **Skeen**).

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10. CTUIR 2009. Estimated Transportation Risk for Off-Site Shipment of Agent Contaminated Carbon from the Umatilla Chemical Agent Disposal Facility Hermiston, Oregon. Prepared for the United States Army Chemical Material Agency, 78080 Ordnance Road, Hermiston, Oregon; Oregon Department of Environmental Item Number 11-0507 (this risk assessment was conducted and authored by R. S. **Skeen**).

11. CTUIR 2008. Estimated Human Health and Ecological Transportation Risk for Off-Site Shipment of HD Brines From the Umatilla Chemical Agent Disposal Facility Hermiston, Oregon. Prepared for the United States Army Chemical Material Agency, 78080 Ordnance Road, Hermiston, Oregon (this risk assessment was conducted and authored by R. S. **Skeen**).

12. CTUIR. 2008. Estimated Human and Ecological Combustion Risk for the Umatilla Chemical Agent Disposal Facility Hermiston, Oregon, Final Report, August 2008. Oregon Department of Environmental Quality Item Number 08-0972 (this risk assessment was conducted and authored by R. S. **Skeen**).

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14. Hooker, B. S., and R. S. **Skeen**. 1999. Transgenic Phytoremediation Blasts onto the Scene. Nature Biotechnology, **17**, 428.

15. Johnson, C. D., R. S. **Skeen**, M. G. Butcher, D. P. Leigh, L. A. Bienkowski, S. Granade, B. Harre, and T. Margrave. 1999. Accelerated In Situ Bioremediation of Chlorinated Ethenes in Groundwater with High Sulfate Concentrations. Proceedings of the 1999 In Situ and On-Site Bioreclamation Conference, April 19-23, San Diego, CA.

16. Gao, J., B. S. Hooker, R. S. **Skeen**, and D. B. Anderson. 1999. Transgenic Fungal-Based Conversion of Waste Starch to Industrial Enzymes, Proceedings of the 4th Biomass Conference of the Americas Spectrum '92 Conference, August 29-September 2, Oakland, CA.

17. Johnson, C. D., R. S. **Skeen**, D. P. Leigh, T. P. Clement, and Y. Sun. 1998. Modeling Natural Attenuation of Chlorinated Ethenes Using the RT3D Code, Proceedings of the Water Environment Federation 71st Annual Conference & Exposition: Remediation of Soil & Groundwater, October 3-7, Orlando, FL, **3**, 225-247.

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19. Truex, M. J., C. D. Johnson, D. R. Newcomer, L. A. Doremus, B. S. Hooker, B. M. Peyton, R. S. **Skeen**, and A. Chilikapati' "Deploying *In Situ* Bioremediation at the Hanford Site," Proc. 33rd Hanford Symposium on Health and the Environment, Richland, WA, November 1994.

20. Johnson, C. D., L. M. Bagaasen, T. C. Chan, D. A. Lamar, J. L. Buelt, C. J. Freeman, and R. S. **Skeen**. "Overview of Technology Modeling in the Remedial Action Assessment System (RAAS)," Proc. Spectrum '94 Conference, August 14-18, Atlanta Georgia, 1994.

21. **Skeen**, R. S., S. M. Cote, M. J. Truex, and J. N. Petersen, "Kinetics of *In Situ* Bioremediation of Hanford Groundwater," Proc. Spectrum '92 Conference, August 12-27, Boise, Idaho, 1209-1213 1992.

22. **Skeen**, R. S., K. R. Roberson, D. J. Workman, J. N. Petersen, and M. Souche, "*In Situ* Bioremediation of Hanford Groundwater," Proc. Federal Environmental Restoration '92 Conference, April 15-17, Vienna, Virginia, 113-117, 1992.

23. Brouns, T. M., D. B. Anderson, J. K. Fredrickson, S. P. Luttrell, R. S. **Skeen**, and D. J. Workman. "Bioremediation of Hanford Groundwater," Proc. Environmental Remediation *'91*, 101-106, 1991.

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25. Barnes, C. D., R. S. **Skeen**, B. J. Van Wie, and S. J. Fung. "Dual Actions of n-Butanol on Electrical Excitability of Molluscan Neurons," Proc. West. Pharmacol. Soc., **31**, 13-15, 1988.

PRESENTATIONS (Total = 57)

1. Link S., P. Mills, and **R. Skeen**. 2016. Using a bulk soil moisture sensor in small pots to control greenhouse irrigation. 2016 Intertribal Nursery Council Annual Meeting, Buffalo, NY, Oct. 12-13.

2. R. S. **Skeen**. 2015. Application of AERMOD to Native American Human Health Risks from Chemical Weapons Incineration at the Umatilla Chemical Depot, Presented at the Institute for Tribal Environmental Professionals training course on Air Pollution Modeling, 22-25 September 2015, Flagstaff AZ.

3. R. S. **Skeen**. 2013. Application of AERMOD to Native American Human Health Risks from Chemical Weapons Incineration at the Umatilla Chemical Depot, Presented at the Institute for Tribal Environmental Professionals training course on Air Pollution Modeling, 29-31 May 2013, Flagstaff AZ.

4. Weiler, D., D. Laman, and R. **Skeen**. 2011. Reducing Uncertainty of Risk Assigned to Unspeciated Nonvolatile Organic Emissions at a Hazardous Waste Combustion Facility, Presented at the 14th International Chemical Weapons Demilitarization Conference – 23-26 May 2011 Interlaken, Switzerland.

5. **Skeen**, R. S., D. Laman, M. Strong, B. Harper, and S. Harris. 2010. Application of a Native American Subsistence Scenario to Assessment of Human Health Risks form Chemical Weapons Incineration at the Umatilla Chemical Depot. Paper presented at the 2010 First Conference on Sustainability of the Pacific Northwest, March 24-26, Seattle, WA.

6. **Skeen**, R. S, T. Bailor, J. Tessman, and A. Minthorn. 2001. Rights, Resources, and Responsibility: Chemical Demilitarization and the CTUIR. Paper presented at the 2001 Environmental Forum on the United States Chemical Weapons Destruction Program, October 16-17, Atlanta, GA.

7. Johnson, C. D., R. S. **Skeen**, M. G. Butcher, D. P. Leigh, L. A. Bienkowski, S. Granade, B. Harre, and T. Margrave. 1999. Accelerated In Situ Bioremediation of Chlorinated Ethenes in

Groundwater with High Sulfate Concentrations. Paper presented that the 1999 In Situ and On-Site Bioreclamation Conference, April 19-23, San Diego, CA.

8. Gao, J., B. S. Hooker, R. S. **Skeen**, and D. B. Anderson. 1999. Transgenic Fungal-Based Conversion of Waste Starch to Industrial Enzymes, Paper presented at the 4th Biomass Conference of the Americas Spectrum '92 Conference, August 29-September 2, Oakland, CA.

9. **Skeen**, R. S., J. Gas, B. S. Hooker, and D. B. Anderson. 1999. Transgenic Fungal-Based Conversion of Waste Starch to Industrial Enzymes, Paper presented at the 21st Symposium on Biotechnology for Fuels and Chemicals, May 2-6, Fort Collins, CO.

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11. **Skeen**, R. S., J. Gao, and B. S. Hooker, Process Scale-up Considerations for In Situ Reductive Dechlorination of Chloroethenes. 1997. Paper presented that the 1997 In Situ and On Site Bioremediation Conference, April 28 - May 1, New Orleans, Louisiana.

12. **Skeen**, R. S. Screening of Indigenous Potential Fore Complete In Situ Destruction of Tetrachloroethene. 1996. Paper presented that the 1996 International Business Communications Natural Attenuation Conference, December 5-6, Annapolis, Maryland.

13. Sherwood, J. L., J. N. Petersen, and R. S. **Skeen**. Biodegradation of Trichloroethane Under Denitrifying Conditions. 1996. Paper presented at the 1996 I&EC Special Symposium, American Chemical Society, September 9-11, Birmingham, Alabama.

14. Gao, R. S. **Skeen**, M. M. Shah, and B. S. Hooker. Dechlorination Treatability Test of Different Contaminated Site Sediments in Microcosm Culture with Various Substrates. 1995. Paper presented at the 1995 American Chemical Society Meeting, September 17-20, Atlanta, Georgia.

15. Shah, M. M., J. Gao, R. S. **Skeen**, B. S. Hooker. Characterization of Anaerobic Perchloroethylene Dehalogenation Activity at Varying Substrate and Perchloroethylene Concentrations. 1995. Paper presented at the 1995 American Chemical Society Meeting, September 17-20, Atlanta, Georgia.

16. Hooker, B. S., R. S. **Skeen**, J. Gao, and M. M. Shah. Kinetic Characterization of Tetrachloroethylene Utilizing Microbial Consortium. 1995. Abstract submitted to the *34th Hanford Symposium*, Richland, WA.

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24. Jennings, D. A., J. N. Petersen, R. S. **Skeen**, B. M. Peyton, B. S. Hooker, T. P. Clement, D. L. Johnstone, and D. R. Yonge. 1995. An Experimental Study of Microbial Transport in Porous Media. Paper presented at the Third International Symposium on In Situ and On Site Bioreclamation, April 1995, San Diego, CA.

25. Peyton, B. M., M. J. Truex, R. S. **Skeen**, and B. S. Hooker. 1995. The Use of Bench- and Field-Scale Data for Design of an In Situ Carbon Tetrachloride Bioremediation System. Paper presented at the Third International Symposium on In Situ and On Site Bioreclamation, April 1995, San Diego, CA.

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27. Clement, T. P., B. S. Hooker, and R. S. **Skeen**. 1995. Numerical Modeling of In Situ Biological Destruction of Carbon Tetrachloride Under Denitrifying Conditions in a Radial Flow Field. Paper presented at the Annual Meeting and Exhibition of the Air & Waste Management Association, June 1995, San Antonio, TX.

28. Clement, T. P., B. S. Hooker, and R. S. **Skeen**. 1995. Modeling Biologically Reactive Transport in Porous Media. Paper presented at the International Conference on Mathematics and Computations, Reactor Physic, and Environmental Analyses, May 1995, Portland, OR.

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31. Jennings, D. J., J. N. Petersen, R. S. **Skeen**, B. S. Hooker, and D. J. Johnstone. 1994. Effects of Slight Variations in Nutrient Loadings on Pore Plugging in Soil Columns. Paper presented at the 16^{th} Symposium on Biotechnology for Fuels and Chemicals, May 9-13, Gatlinburg, TN.

32. Truex, M. J., C. D. Johnson, D. R. Newcomer, L. A. Doremus, B. S. Hooker, B. M. Peyton, R. S. Skeen, and A. Chilikapati. 1994. Deploying *In Situ* Bioremediation at the Hanford Site. Paper presented at the 33rd Hanford Symposium on Health and the Environment, November 1994, Richland, WA.

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38. Hooker, B. S., R. S. **Skeen**, and J. N. Petersen. 1994. Kinetic Modeling of the Biological Destruction of Carbon Tetrachloride. Paper presented at the 1994 California ACS Meeting, March 13-18, San Diego, CA.

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40. Amos, K. M., S. M. Caley, J. N. Petersen, and R. S. **Skeen**. 1993. Kinetics of Carbon Tetrachloride Destruction by a Denitrifying Consortium. Paper presented at the 1993 International Symposium on *In situ* and On-site Bioreclamation.

41. Hooker, B. S., R. S. **Skeen**, S. M. Cote, M. J. Truex, and J. N. Petersen. 1993. Application of a Structured Kinetic Model to *In Situ* Bioremediation of Hanford Groundwater. Paper presented at the 1993 International Symposium on *In situ* and On-site Bioreclamation.

42. Shouche, M. J., J. N. Petersen, R. S. **Skeen**, and B. S. Hooker. 1993. Alternating Extraction/Injection Well Interactions for *In situ* Bioremediation. Paper presented at the 1993 International Symposium on *In situ* and On-site Bioreclamation.

43. Truex, M. J., R. S. **Skeen**, S. M. Caley, and D. J. Workman. 1993. Comparative Efficiency of Microbial Systems for Destroying Carbon Tetrachloride Contamination in Hanford Ground Water. Paper presented at the 1993 International Symposium on In situ and On-site Bioreclamation.

44. Stensel, H. D., L. LeJong, T. M. Brouns, and R. S. **Skeen**. 1993. Biodegradation of Carbon Tetrachloride Under Anoxic Conditions. Paper presented at the 1993 International Symposium on In situ and On-site Bioreclamation.

45. **Skeen**, R. S., D. L. Kurdikar, and B. J. Van Wie. 1992. Modeling of Neuronal Biosensing: Interactions Between Observable States. Paper presented at the AIChE 1992 Annual Meeting, November 1-6, Miami Beach, Florida.

46. Van Wie, B. J., D. L. Kurdikar, R. S. **Skeen**, H. Sutigna, S. R. Reiken, D. F. Moffet, A. R. Koch, M. Silber, W. C. Davis, N. S. Dogan, M. Eray, and L. Liu. 1992. Neuronal Membrane-Based Solid-State Biosensors. Paper presented at the AIChE 1992 Annual Meeting, November 1-6, Miami Beach, Florida.

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50. Brouns, T. M., D. B. Anderson, J. K. Fredrickson, S. P. Luttrell, R. S. **Skeen**, and D. J. Workman. 1991. Bioremediation of Hanford Groundwater. Paper presented at the Environmental Remediation 1991 Conference, September 8-11, Pasco, Washington.

51. **Skeen**, R. S., B. J. Van Wie, C. D. Barnes, and S. J. Fung. 1990. Advances in Neuron-Based Chemical Sensing. Paper presented at the American Chemical Society Annual Meeting, August 26-31, Washington D.C.

52. Kurdikar, D. L., R. S. **Skeen**, B. J. Van Wie, C. D. Barnes, and S. J. Fung. 1990. Neuron-Based Biosensors. Paper presented at Frontiers in Bioprocessing II, June 17-21, Boulder, Colorado.

53. **Skeen**, R. S., W. S. Kisaalita, B. J. Van Wie, W. C. Davis, S. J. Fung, and C. D. Barnes. 1989. Development of Neuron-Based Biosensors. Paper presented at the American Institute of Chemical Engineers Annual Meeting, November 4-10, San Francisco, CA.

54. Kisaalita, W. S., R. S. **Skeen**, B. J. Van Wie, C. D. Barnes, S. J. Fung, and W. C. Davis. 1989. Neuron-Based Sensors for Biochemical Quantitation. Paper presented at IEEE Engineering in Medicine and Biology Society Annual International Conference, November 9-12, Seattle, WA.

55. **Skeen**, R. S., W. S. Kisaalita, B. J. Van Wie, S. J. Fung, and C. D. Barnes. 1989. Development of a Neuron-Based Serotonin Sensor. Paper presented at the American Chemical Society Biosensor Workshop, September 7-9, Chapel Hill, North Carolina.

56. **Skeen**, R. S., B. J. Van Wie, C. D. Barnes, S. J. Fung, and W. S. Kisaalita. 1988. Neuron-Based Chemical Sensors for Biotechnology and Biomedical Applications. Paper presented at the American Institute of Chemical Engineers Annual Meeting, November 27 - December 2, Washington D. C.

57. Kisaalita, W. S., B. J. Van Wie, R. S. **Skeen**, C. D. Barnes, S. J. Fung, and K. Chun. 1988. Crossdisciplinary Biotechnology Research/Biosensor Development. Paper presented at the

American Institute of Chemical Engineers Annual Meeting, November 27 - December 2, Washington D.C.

ACTIVITIES AND HONORS

- CTUIR Representative to the Umatilla Depot Local Reuse Authority, 2001 to 2013.
- Senior Pastor and Bible teacher for Calvary Chapel of Pendleton, 1997 to present.
- Featured teacher on the At the Cross daily Bible teaching radio program, 1998 to 2010.
- Member of the American Chemical Society, 2002 to present.
- Battelle Outstanding Performance Award, 1999.
- Battelle Software Creator Award, 1997.
- Appointed to the Washington State University Industrial Advisory Board, 1996.
- National Institute of Health Traineeship in Biotechnology, 1989/90.
- Battelle Pacific Northwest Laboratories Energy Research Fellowship, 1988/89.
- Reaugh Scholarship, 1986/87.
- Washington State University Outstanding Junior in Chemical Engineering, 1985/86.
- Chevron Academic Scholarship, 1985/86.