

Soil Erosion Research for the 21st Century

An International Symposium sponsored by ASAE

TUESDAY, JANUARY 2

5:00 p.m.-8:00 p.m. **REGISTRATION**

WEDNESDAY, JANUARY 3

7:00 a.m.-8:00 a.m. **REGISTRATION**

OPENING PLENARY SESSION I

8:00 a.m.-8:10 a.m. **WELCOME AND CHARGE**

Chairman, Dennis C. Flanagan, USDA-Agricultural Research Service, West Lafayette, IN

8:10 a.m.-8:20 a.m. **LOCAL ARRANGEMENTS**

Samir A. El-Swaify, University of Hawaii at Manoa, Honolulu, HI

8:20 a.m.-8:50 a.m. **KEYNOTE**

John E. Stout, USDA-Agricultural Research Service, Lubbock, TX
"Erosion by Wind: Processes, Modeling and Control"

8:50 a.m.-9:20 a.m. **KEYNOTE**

Gerard Govers, Laboratory for Experimental Geomorphology, Catholic University of Leuven, Belgium
"Erosion by Water: Processes, Modeling and Control"

9:20 a.m.-9:50 a.m. **KEYNOTE**

Samir A. El-Swaify, University of Hawaii at Manoa, Honolulu, HI
"Quantification of Soil Erosion by Wind and Water"

9:50 a.m.-10:10 a.m. **BREAK**

10:10 a.m.-12 Noon **CONCURRENT TECHNICAL LECTURE SESSIONS**

SESSION 2: EXPERIMENTAL SOIL EROSION PROCESS RESEARCH I

Moderator: John E. Gilley, USDA-Agricultural Research Service, Lincoln, NE

10:10 a.m. **Introduction**

10:15 a.m. **Soil Erosion Processes: Laboratory Observations and Modeling**

Jean Y. Parlange, Cornell University, Ithaca, NY (T.S. Steenhuis, A. Heilig, M.T. Walter, D. DeBruyn, C.A. Rose, C.C. Sander, R. Hairsine, W.L. Hogarth)

10:30 a.m. **Temporal Changes in Soil Erodibility**

Guy J. Levy, The Volcani Center, Bet Dagan, Israel (I. Shainberg)

10:45 a.m. **Soil Moisture Monitoring in the Black Vermillion Watershed and Its Impact on Erosion**

Philip Barnes, Kansas State University, Manhattan, KS (G. Kluitenberg, J. Ham)

11:00 a.m. **Infiltration Characteristics of Forest Road Filter Windrows**

Randy B. Foltz, USDA-Forest Service, Moscow, ID (W.J. Elliot)

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- 11:15 a.m. **Manure Impacts on Interrill Erosion**
John E. Gilley, USDA-Agricultural Research Service, Lincoln, NE (*B. Eghball, J.M. Blumenthal, D.D. Baltensperger*)
- 11:30 a.m. **Effective Erosion Parameters for Slopes with Spatially Varying Properties**
Rao S. Govindaraju, Purdue University, West Lafayette, IN
- 11:45 a.m. **Comparing Soil Erosion Estimates from RUSLE and USLE on Natural Runoff Plots**
John F. Rapp, URS Greiner Woodward Clyde, Seattle, WA (*V.L. Lopes, K.G. Renard*)
- SESSION 3: EROSION CONTROL PRACTICES**
Moderator: William Hughey, USDA-Natural Resources Conservation Service, Washington, DC
- 10:10 a.m. **Introduction**
- 10:15 a.m. **Effectiveness of Erosion Control Blankets on Reducing Shear Stress Acting on Soil Particles**
Anita M. Thompson, University of Minnesota, St. Paul, MN (*B.N. Wilson, H.V. Nguyen*)
- 10:30 a.m. **Reducing Water Runoff and Erosion from Frozen Agricultural Soils**
William F. Schillinger, Washington State University, Lind, WA
- 10:45 a.m. **Factors Determining the Efficiency of a Sediment Retention Area**
Jussi Baade, Friedrich-Schiller University, Jena, Germany
- 11:00 a.m. **Improving Sediment Retention Efficiencies Using Combined Systems**
Richard A. McLaughlin, North Carolina State University, Raleigh, NC (*W.F. Hunt, N. Rajbhandari, D.S. Ferrante, R.E. Sheffield*)
- 11:15 a.m. **Screening of High Molecular Weight Polymers for Erosion Reduction and Water Quality Improvement on Selected Tropical Soils**
James Teo, University of Hawaii at Manoa, Honolulu, HI (*C. Ray, S.A. El-Swaify, A. Kreitzer*)
- 11:30 a.m. **Vegetative Buffer Strips in a Mediterranean Climate: Potential for Trapping Sediments and Reducing Soil Loss**
Felicia O. Rein, University of California, Santa Cruz, CA.
- 11:45 a.m. **Rainfall Runoff Relations for Vegetation Barriers in the Sahel**
Wim Spaan, Wageningen University, Wageningen, The Netherlands (*P. Helena*)
- SESSION 4: ON-SITE AND OFF-SITE IMPACTS OF SOIL EROSION I**
Moderator: James L. Baker, Iowa State University, Ames, IA
- 10:10 a.m. **Introduction**
- 10:15 a.m. **Using SWAT to Predict Erosion and Phosphorus Loads in the Rock River Basin, Wisconsin**
Kevin J. Kirsch, Earth Tech, Inc., Madison, WI (*A.M. Kirsch*)
- 10:30 a.m. **Spatial Variability of Soil Quality, a Consequence of Soil Erosion**
J.R. Marques da Silva, University of Evora, Evora, Portugal (*J.M.C.N. Soares*)
- 10:45 a.m. **Designing Sedimentation Basins for Better Sediment Capture**
Albert R. Jarrett, The Pennsylvania State University, University Park, PA
- 11:00 a.m. **Plant Tolerance to Sand-Blast Damage**
Dean V. Armbrust, USDA-Agricultural Research Service, Manhattan, KS
- 11:15 a.m. **Erosion and Phosphorus Delivery from an Agricultural Watershed in the Harz Hills of Eastern Germany**
Luna Bharati, UFZ-Environmental Research Institute, Magdeburg, Germany
- 11:30 a.m. **Effect of Land Degradation on Tea Productivity in Sri Lanka**
Aruliah Anandacoomaraswamy, Tea Research Institute of Sri Lanka, Talawakele, Sri Lanka (*S.A.B. Ekanayake, S. Anathalumaraswamy, A.H. Chishom, S. Jayassuriya*)

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- 11:45 a.m. **Developing a Phosphorus Index Using WEPP**
James L. Baker, Iowa State University, Ames, IA (*J.M. Laflen*)
- SESSION 5: MODELING CLIMATIC, HYDROLOGIC, AND SOIL EROSION PROCESSES I**
Moderator: Peter I.A. Kinnell, The Australian National University, Canberra, Australia
- 10:10 a.m. **Introduction**
- 10:15 a.m. **Soil Erosion Modeling Using a Modular Systems Approach**
James C. Ascough II, USDA-Agricultural Research Service, Ft. Collins, CO (*D.C. Flanagan*)
- 10:30 a.m. **Modeling Gully Head-Cut Recession Processes in Loess Deposits**
Andrew Collison, USDA-Agricultural Research Service, Oxford, MS (*A. Simon*)
- 10:45 a.m. **Maximizing Flow Path Accuracy in Erosion Models by Optimizing Flow Algorithm Dispersion**
Theodore A. Endreny, SUNY College of Environmental Science & Forestry, Syracuse, NY
- 11:00 a.m. **The Design Philosophy Behind RUSLE2: Evolution of an Empirical Model**
George R. Foster, University of Tennessee, Knoxville, TN (*D.C. Yoder, G.A. Weesies, T.J. Toy*)
- 11:15 a.m. **Runoff, the Universal Soil Loss Equation and Event Erosion**
Peter I.A. Kinnell, The Australian National University, Canberra, Australia
- 11:30 a.m. **An Alternative Approach to Modeling Sediment Deposition and Related Sorting**
Peter B. Hairsine, CSIRO Land and Water and the Cooperative Research Center for Catchment Hydrology, Canberra, Australia (*L. Beuselinck, G.C. Sander & G. Govers*)
- 11:45 a.m. **Evaluation and Enhancement of the CLIGEN Weather Generator**
Dennis C. Flanagan, USDA-Agricultural Research Service, W. Lafayette, IN (*C.R. Meyer, B. Yu*)
- SESSION 6: APPLICATIONS OF SOIL EROSION MODELS TO AGRICULTURAL AND NON-AGRICULTURAL LANDS**
Moderator: John M. Laflen, Purdue University, West Lafayette, IN
- 10:10 a.m. **Introduction**
- 10:15 a.m. **Delivering a Single Erosion Model to Diverse Users**
Joel B. Lown, University of Tennessee, Knoxville, TN (*D.C. Yoder, J.P. Lyon*)
- 10:30 a.m. **The WEPP Model Applied to Center Pivot Irrigation**
Dennis C. Kincaid, USDA-Agricultural Research Service, Kimberly, ID
- 10:45 a.m. **Application of WEPP Model to Military Training Lands**
Prasanta K. Kalita, University of Illinois, Urbana, IL (*L. Schieferek, S. Bhuyan, P. Woodford, P. Gipson*)
- 11:00 a.m. **Watershed Application of WEPP for a Michigan Water Quality Problem**
Roel C. Vining, USDA-Natural Resources Conservation Service, West Lafayette, IN (*D.C. Flanagan, J. Grigar*)
- 11:15 a.m. **Incorporation of the Water Erosion Prediction Project (WEPP) in the Modeling of Transport of Pathogenic Microorganisms from Non-point Sources of Pollution**
Lilit L. Yeghiazarian, Cornell University, Ithica, NY (*C.D. Montemagno*)
- 11:30 a.m. **Comparison of Measured and WEPP Predicted Runoff and Soil Loss from Deep Loess Soils Watershed**
Fessehaie Ghidey, University of Missouri, Columbia, MO (*E.E. Alberts, L.A. Kramer*)
- 11:45 a.m. **Application of WEPP to Construction Sites**
John M. Laflen, Purdue University, West Lafayette, IN (*D.C. Flanagan, B.A. Engel*)
- 12 Noon-1:00 p.m. **LUNCH BREAK**

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1:00 p.m.- 2:30 p.m.

CONCURRENT TECHNICAL POSTER SESSIONS

SESSION 7: EXPERIMENTAL SOIL EROSION PROCESS RESEARCH POSTER SESSION

Moderator: Fen-li Zheng, Purdue University, West Lafayette, IN

1:00 p.m.

Introduction and 2 minute description of posters by presenters

Poster #

- # 1 **Soil Erosion and Other Factors as Indicators of Desertification Processes in an Agro-Ecosystem in the Northern Negev Desert**
Thomas Akuja, Ben Gurion University of the Negev, Mizpe, Israel (*Y. Avni, E. Zaady*)
- # 2 **Deposition Processes in a Simulated Rill**
Thomas A. Cochrane, Purdue University, Santa Cruz, Bolivia (*D.C. Flanagan*)
- # 3 **Erosion Studies from Experimental Rangeland Watersheds Impacted by Livestock Grazing**
John A. Daniel, USDA-Agricultural Research Service, El Reno, OK
- # 4 **Contrasting Effects of Surface Runoff on Erosion and Runoff**
Frederic Darboux, Purdue University, West Lafayette, IN (*C.Huang*)
- # 5 **The Hydraulic Behavior of Flexible Channel Lining Systems**
Bahram Gharabaghi, University of Guelph, Guelph, Canada (*R.S. McLaughlin, R.E. Sheffield, D.E. Line, G.D. Jennings*)
- # 6 **Effect of Rainfall on the Fluctuations of Boundary Shear Stress for Smooth Channel Flow**
Jau-Yau Lu, National Chung-Hsing University, Taichung, Taiwan (*J.H. Hong*)
- # 7 **Adhesion Flow and Regressive Gully-Head Expansion in Southern Brazil: Field Experiment Results**
Marcelo A. Teixeira de Oliveira, Universidade Federal de Santa Catarina, Brazil
- # 8 **Spatial and Temporal Variability of Erosion Patterns on Different Slope Farms**
Viktor O. Polyakov, Purdue University, West Lafayette, IN (*M.A. Nearing*)
- # 9 **Influence of the Soil Slope and Kinetic Energy of Simulated Precipitation in the Interrill Erosion Process**
Fernando F. Pruski, Federal University of Vicosa, Brazil (*R.S.S. Amorim, D.D. Silva, A.T. Matos*)
- # 10 **Laboratory Simulation of Erosion From a Partially Frozen Soil**
Brenton S. Sharratt, USDA-Agricultural Research Service, Morris, MN (*M.J. Lindstrom*)
- # 11 **Effect of Up-slope Runoff and Sediment on Erosion Process at Down-slope Areas**
Fen-li Zheng, Purdue University, West Lafayette, IN (*X. Gao*)
- # 12 **Assessment of Soil Erosion in Moss Covered Soil Surfaces**
Seonggu Hong, Hankyong National University, Republic of Korea

SESSION 8: EROSION CONTROL PRACTICES POSTER SESSION

Moderator: E. Eugene Alberts, USDA-Agricultural Research Service, Columbia, MO

1:00 p.m.

Introduction and 2 minute description of posters by presenters

Poster #

- # 1 **Sediment Deposition within a Watershed with Stiff-Stemmed Grass**
E. Eugene Alberts, USDA-Agricultural Research Service, Columbia, MO (*L.A. Kramer, F. Ghidry*)
- # 2 **Evaluating Forest Road Management Practices for Reducing Sediment Production and Transport from Forested Watersheds**
Timothy W. Appelboom, North Carolina State University, Raleigh, NC (*G.M. Chescheir, R.W. Skaggs, D.L. Hesterberg*)

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- # 3 **Irrigation Management Practices for Erosion Control in the Salton Sea Watershed**
Khaled M. Bali, University of California Cooperative Extension, Holtville, CA (*M.E. Grismer*)
- # 4 **Soil Stabilization by Soil Pinning: A Low Tech Approach with Worldwide Application**
Pierre Bordenave, InterMountain Resources, Sandpoint, ID
- # 5 **The Influence of Polyacrylamide Application to Soil on Movement of Microorganisms in Irrigation Water**
James Entry, USDA-Agricultural Research Service, Kimberly, ID (*R.E. Sojka*)
- # 6 **Impact of Grass Species on Erosion Control from Forest Road Sideslopes**
J. McFero Grace III, USDA-Forest Service, Raleigh, NC
- # 7 **Land Imprinting Specifications for Erosion Control**
Robert M. Dixon, The Imprinting Foundation, Tucson, AZ
- # 8 **PAM and Straw Residue Effects on Irrigation Furrow Erosion and Infiltration**
Rick D. Lentz, USDA-Agricultural Research Service, Kimberly, ID (*D.L. Bjorneberg*)
- # 9 **Engineering Design Aids for Sediment Control Practices**
Billy J. Barfield, Oklahoma State University, Stillwater, OK (*E. Stevens, C.T. Haan, J.C. Hayes, K.F. Holbrook*)
- # 10 **Coconut Fiber (Coir) Products for Environmentally Friendly Erosion Control Practices**
B. Lanka Santha, RoLanka International, Inc., Stockbridge, GA (*C.R. Santha*)
- # 11 **Use of PAM and Gypsum for Erosion Control in South Brazil**
Belle H. Wallace, Purdue University, West Lafayette, IN (*L.D. Norton, F. Eltz, J.M. Reichart*)
- # 12 **Evaluation of Different Soil Conservation Practices on a Tea Plantation in Taiwan**
Li-Ling Lin, National Chung-Shing University, Taichung, Taiwan

SESSION 9: MEASUREMENT TECHNIQUES IN SOIL EROSION RESEARCH POSTER SESSION

Moderator: Larry A. Kramer, USDA-Agricultural Research Service, Council Bluffs, IA

1:00 p.m.

Introduction and 2 minute description of posters by presenters

Poster #

- # 1 **Application of Low Cost Strobe-Photography on Visualization of Droplet Impact**
W.J. Chang, National Pingtung University of Science and Technology, Pingtung, Taiwan
- # 2 **Approaches to Economic Analysis of Erosion and Soil Conservation: The State of the Art**
J. Calatrava Leyva, Center for Agricultural Research and Development, Granada, Spain
(*M.C.G. Roa*)
- # 3 **A Comparison of Methods for Measuring Standing Residue**
Fred A. Fox, Jr., USDA-Agricultural Research Service, Manhattan, KS (*L.E. Wagner*)
- # 4 **Comparing Soil Types with Airborne Particle Erosion Amounts in the Jornada Basin of New Mexico**
Joseph Hupy, New Mexico State University, Las Cruces, NM
- # 5 **Seasonal Soil Loss from a Small HEL Watershed**
Larry A. Kramer, USDA-Agricultural Research Service, Council Bluffs, IA
- # 6 **Cesium-137 - An Under-used Tool for Measuring Erosion Rates and Patterns**
Jerry C. Ritchie, USDA-Agricultural Research Service, Beltsville, MD
- # 7 **Intensive Water Content and Discharge Measurements in a Hillslope Erosion Gully in China, Part I: System Setup and Performance**
Erik van den Elsen, Alterra, Wageningen, The Netherlands (*B. Liu, J. Stolte, W. Yonqiu, C.J. Ritsema*)

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- # 8 **Use of Magnetic Measurements to Study Topsoil Redistribution at Two Sites in the Southeastern U.S.**
Dan Royall, University of Alabama, Tuscaloosa, AL (*C. Landgraf*)
- # 9 **Comparison of Different Methods to Determine Soil Shear Stress**
Angelika S. Zartl, University of Agricultural Sciences, Vienna, Austria (*A. Klik*)
- # 10 **A New Measuring Device for Field Erosion Plots**
Andreas Klik, University of Agricultural Sciences, Vienna, Austria (*W. Sokol*)
- # 11 **Techniques for Simultaneous Quantification of Wind and Water Erosion in Semi-arid Zones**
Saskia Visser, Wageningen University, Wageningen, The Netherlands (*G. Sterk*)
- # 12 **Tracing Soil Erosion and Soil Aggregation with Rare Earth Elements**
John Zhang, Purdue University, West Lafayette, IN (*M.A. Nearing, L.D. Norton*)

SESSION 10: IMPACTS OF EROSION RESEARCH AND EROSION PREDICTION, REGULATION AND LAND-USE PLANNING

Moderator: Clint C. Truman, USDA-Agricultural Research Service, Tifton, GA

1:00 p.m.

Introduction and 2 minute description of posters by presenters

Poster #

- # 1 **Wind Erosion in an Entic Haplustoll of Argentina Under Three Tillage Systems**
Daniel E. Buschiazso, Universidad Nacional de La Pampa, Santa Rosa, Argentina
- # 2 **TMDLs & the CWA Section 303(d)**
Bonnie Goodweiler, Wisconsin Department of Natural Resources, Madison, WI
- # 3 **Tillage Effects on Rainfall Partitioning, Sediment Yield, and Facilitated Agrichemical Transport Potential**
Clint C. Truman, USDA-Agricultural Research Service, Tifton, GA (*J.N. Shaw, D.W. Reeves*)
- # 4 **Evaluation of Soil Erosion from Long Term Crop Systems: Preliminary Results Following Two Years of Monitoring**
John D. Williams, USDA-Agricultural Research Service, Pendleton, OR (*C.L. Douglas Jr.*)
- # 5 **A Multi-faceted Design Approach to Minimizing Sediment Movement from Roads in Forestry Environments**
Peter B. Hairsine, CSIRO Land and Water and the Cooperative Research Center for Catchment Hydrology, Canberra, Australia (*J.C. Croke*)
- # 6 **Mapping Debris Flow Hazard Zones at Mudan Reservoir Watershed in Taiwan**
Sheng Liang, National Chung Hsing University, Taichung, Taiwan
- # 7 **Adoption of Conservation Production Systems within the North Central Region of the United States**
Ted L. Napier, The Ohio State University, Columbus, OH
- # 8 **Web-Based GIS Applications for Soil Erosion Prediction**
Da Ouyang, Michigan State University, East Lansing, MI (*J. Bartholic*)
- # 9 **Testing and Development of a Simple Field-based Erosion Hazard Assessment Scheme**
Gary J. Sheridan, Department of Natural Resources and Environment, Victoria, Australia (*P. Lane, S. Murphy*)
- # 10 **Simplifying Design of Sediment Controls in Jefferson County, Kentucky**
John C. Hayes, Clemson University, Clemson, SC (*A.L. Akridge, B.J. Barfield, K.F. Holbrook*)
- # 11 **Impacts of Climate Change on Erosivity in the United States: 2000-2100**
Mark A. Nearing, USDA-Agricultural Research Service, West Lafayette, IN
- # 12 **Implications of Future Changes in Rainfall Intensity for WEPP-Predicted Soil Loss**

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Mintae Choi, University of Oxford, Oxford, United Kingdom

2:30 p.m.-3:00 p.m.

BREAK

3:00 p.m.-4:30 p.m.

CONCURRENT TECHNICAL POSTER SESSIONS

SESSION 11: MODELING CLIMATIC, HYDROLOGIC AND SOIL EROSION PROCESSES - POSTER SESSION I

Moderator: L. Mark Risse, University of Georgia, Athens, GA

3:00 p.m.

Introduction and 2 minute description of posters by presenters

Poster #

- # 1 **Modeling the Impacts of Manure on Runoff and Soil Loss**
L. Mark Risse, University of Georgia, Athens, GA (*J.E. Gilley*)
- # 2 **Climate Simulation to Understand Soil Erosion in North America During El Niño Years**
Mario Tiscareno, National Institute For Agricultural Research (INIFAP) Aguascalientes, Mexico
(*A.D. Baez, C. Izaurralde, N.J. Rosenberg*)
- # 3 **Evaluations of Models to Predict the Deflation Threshold of a Wet Sand Dune**
Wim M. Cornelis, Ghent University, Ghent, Belgium (*D. Gabriels*)
- # 4 **Inter-regional Atmospheric Transport of Australian Dust**
Hamish A. McGowan, Victoria University of Wellington, Wellington, New Zealand
(*G.H. McTainsh, A.P. Sturman, P. Zawar-Resa*)
- # 5 **Validation of the Wind Erosion Equations (WEQ) and the Environmental Policy Integrated Climate (EPIC) Wind Erosion Submodel for Discrete Periods and Single Events**
R. Scott Van Pelt, USDA-Agricultural Research Service, Big Spring, TX (*T.M. Zobeck, K.N. Potter*)
- # 6 **Rainfall Erosivity for East and Central Poland**
Kazimierz Banasik, Warsaw Agricultural University, Warsaw, Poland (*J.K. Mitchell, D. Gorski*)
- # 7 **Watershed-scale Parameters in Soil Erosion**
Marius M. Agua, Iowa State University, Ames, IA
- # 8 **Modification of Curve Number Adjustment Technique for Prediction of Runoff and Water Quality Data**
Philip Barnes, Kansas State University, Manhattan, KS (*S. Bhuyan, J. Koelliker*)
- # 9 **Hydrologic and Sediment Transport Modeling of the Big Ditch Watershed in Illinois**
Deva Borah, Illinois State Water Survey, Champaign, IL (*M. Bera*)
- # 10 **Using GIS and Hydrologic Modeling for Erosion Hazard Assessment in Lebanese Mountainous Areas**
Faraj El-Awar, American University of Beirut, Beirut, Lebanon (*H. Hodeib, R.A. Zurayk*)
- # 11 **Runoff and Soil Erosion Modeling of a Small Sicilian Watershed**
Francesca Somma, University of Catania, Catania, Italy (*S. Barbagallo, G. Mazzola, S.M. Zimbone*)
- # 12 **A Proposed Modification to the WEPP Erosion Process Model Concept**
Chi-hua Huang, USDA-Agricultural Research Service, West Lafayette, IN (*F. Darboux*)

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SESSION 12: MODELING CLIMATIC, HYDROLOGIC AND SOIL EROSION PROCESSES - POSTER SESSION II

Moderator: Aleksey Sidorchuk, Moscow State University, Moscow, Russia

3:00 p.m.

Introduction and 2 minute description of posters by presenters

Poster #

- # 1 **Performance of ¹³⁷Cs Fallout Redistribution Analysis, USLE and WEPP as Erosion Prediction Technology in a Complex Landscape Watershed Under Sugarcane Cultivation**
Gerd Sparovek, FAL-PB, Braunschweig, Germany (*O. Bacchi, S. Ranieri, D.C. Flanagan*)
- # 2 **Modification of the WEPP Hillslope Model for Subsurface Drained Cropland**
Larry C. Brown, The Ohio State University, Columbus, OH (*T. Oztekin*)
- # 3 **Analysis of Sources of Variability in Runoff Plots Studies Using A Numerical Model: A Case Study From a 40 Fallow Plots Experiment**
Jose A. Gomez, Purdue University, West Lafayette, IN (*M.A. Nearing, E.E. Alberts*)
- # 4 **REE Method and Algorithm for Estimating Soil Detachment Rate by Concentrated Sediment-Loading Flow**
Tingwu Lei, Institute of Soil and Water Conservation, Yangling, China (*J. Zhao, Q. Zhang, Z. Tang, K. Zu*)
- # 5 **Sediment Transport Analysis Using Finite Element Method with Bubble Element**
Junichi Matsumoto, Chuo University, Tokyo, Japan (*M. Kawahara*)
- # 6 **Modeling Water Flow and Sediment Processes in a Small Gully System on the Loess Plateau of China**
Jannes Stolte, Alterra, Wageningen, The Netherlands (*C.J. Ritsema, E. van den Elsen, B. Liu*)
- # 7 **Stochastic Model to Predict Water Erosion of Cohesive Soil**
Aleksey Sidorchuk, Moscow State University, Moscow, Russia
- # 8 **PAU-REMO - A Two Dimensional Finite Element Runoff and Soil Erosion Model for Agricultural Lands**
Amonjot-Singh, Technical University of Braunschweig, Braunschweig, Germany (*A. Herrmann, M.P. Kaushal*)
- # 9 **Development of an Ephemeral Gully Erosion Model: The Role of Undercutting in Bank Failure of Small Channels**
Lyndsay Street, Cranfield University, Silsoe, United Kingdom (*J. Quinton*)
- # 10 **Estimation of SCS Curve Number for Tile Drained Watershed in East Central Illinois using ArcView**
Ashok Verma, BTG, Inc., Delta Research Division, Cape Canaveral, FL (*R. Cooke, P.K. Kalita, M. Torry, N. Mora*)
- # 11 **Soil Translocation Induced by Tillage Under Austrian Farming Conditions**
Andreas Klik, University of Agricultural Sciences, Vienna, Austria (*B. Frauenfeld, G. Govers*)
- # 12 **Application of the Wind Erosion Prediction System (WEPS) on Austrian Cropland**
Andreas Klik, University of Agricultural Sciences, Vienna, Austria (*W. Madl, E. Skidmore, L. Wagner, L. Hagen*)

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SESSION 13: APPLICATION OF SOIL EROSION MODELS POSTER SESSION

Moderator: William J. Elliot, USDA-Forest Service, Moscow, ID

3:00 p.m.

Introduction and 2 minute description of posters by presenters

Poster #

- # 1 **The Modular Soil Erosion System (MOSES)**
Charles R. Meyer, USDA-Agricultural Research Service, West Lafayette, IN (*L.E. Wagner, D.C. Yoder, D.C. Flanagan*)
- # 2 **Demonstration of the RUSLE2 Model**
Daniel C. Yoder, University of Tennessee, Knoxville, TN (*G.R. Foster, J.B. Lown*)
- # 3 **Simulating Small Watersheds with Water Erosion Prediction Project (WEPP) Technology**
Dennis C. Flanagan, USDA-Agricultural Research Service, West Lafayette, IN
(*J.R. Frankenberger, C.S. Renschler, J.M. Laflen, B.A. Engel*)
- # 4 **WEPS 1.0 Wind Erosion Model Demonstration**
Larry E. Wagner, USDA-Agricultural Research Service, Manhattan, KS (*J. Tatarko*)
- # 5 **WEPS 1.0 - What it is and What it isn't**
Larry E. Wagner, USDA-Agricultural Research Service, Manhattan, KS
- # 6 **WEPS and WEPP Science Commonality Project**
Larry E. Wagner, USDA-Agricultural Research Service, Manhattan, KS (*D.C. Flanagan, F. Fox, L. Deer-Ascough*)
- # 7 **Common Plant Growth Model for WEPP and WEPS**
Amare Retta, Kansas State University, Manhattan, KS (*L.W. Wagner, L.A. Deer-Ascough, D.V. Armbrust, D.C. Flanagan, L.J. Hagen*)
- # 8 **Application of Erosion Prediction Models by a User Agency on Private Lands in the United States**
Glenn A. Weesies, USDA-Natural Resources Conservation Service, West Lafayette, IN
(*G.L. Tibke, D.L. Schertz*)
- # 9 **Comparing RUSLE to WEPP Cropland and Rangeland Formats for Predicting Rangeland Erosion**
William J. Elliot, USDA-Forest Service, Moscow, ID
- # 10 **Enhancements to the CLIGEN Weather Generator for Mountainous or Custom Applications**
Dayna L. Scheele, USDA-Forest Service, Moscow, ID (*W.J. Elliot, D.E. Hall*)
- # 11 **A Simulation Study of Non-Point Pollution on an Upland Agricultural Watershed Using AGNPS-GRASS**
Sanghyun Kim, Pusan National University, Pusan, South Korea
- # 12 **Calibration and Validation of GLEAMS for Predicting Soil Erosion and Non-Point Source Pollution from Four Tillage and Cropping Systems**
Allah Bakhsh, Iowa State University, Ames, IA (*R.S. Kanwar*)

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WEDNESDAY, JANUARY 3

SESSION 14: SOIL EROSION PREDICTION, ENVIRONMENTAL REGULATION, AND LAND-USE PLANNING POSTER SESSION

Moderator: M. Reza Savabi, USDA-Agricultural Research Service, Miami, FL

3:00 p.m.

Introduction and 2 minute description of posters by presenters

Poster #

- # 1 **Turbidity Based on Sediment Characteristics for Southeastern U.S. Soils**
John C. Hayes, Clemson University, Clemson, SC (*E.E. Godbold, N.R. Johnson, B.J. Barfield*)
- # 2 **Rill Slope: A Pedotransfer Function for Soil Erodibility for Semiarid Rangeland Watersheds**
Howard E. Canfield, USDA-Natural Resources Conservation Service, St. Michaels, AZ
- # 3 **Soil Erosion Index Model for Sustainable Development in Taiwan**
Su-Chin Chen, National Chung-Hsing University, Taichung, Taiwan
- # 4 **Comparison of Soil Erosion Simulations Using WEPP, RUSLE and EROSION 2D/3D with Field Measurements Under Different Tillage Practices**
Angelika Zartl, University of Agricultural Sciences, Vienna, Austria (*A. Klik*)
- # 5 **GIS Application to Calculate Wind Erosion in the Elbe-Elster County**
Roger Funk, ZALF Muencheberg, Muencheberg, Germany (*D. Deumlich, J. Steidl*)
- # 6 **Study of Sediment Transport in Taleghan Basin in Iran**
Ali Vali Khojeini, University of Arizona, Tucson, AZ (*P. Morgan*)
- # 7 **An Automated Delineation of Slope Length for Watershed Upland Erosion and Sediment Yield Estimation**
Chao-Yuan Lin, National Chung-Hsing University, Taichung, Taiwan (*W.T. Lin*)
- # 8 **Appropriate Land Use Planning for Slope Land in Taiwan**
Kwong F. Lo, Chinese Culture University, Taipei (*C.C. Huang*)
- # 9 **Wind Eroded Versus Deposited Mineral Dust: A Mass Budget for a Sahelian Village Land Unit in Niger**
Jean L. Rajot, IRD-LISA, Creteil, France (*C. Valentin*)
- # 10 **An Interdisciplinary Approach for Soil and Water Conservation Planning to Improve the Sustainability of Land-Use on the Loess Plateau in China**
Coen J. Ritsema, Alterra, Wageningen, The Netherlands (*V. Jetten, S. Ledin, L. Rui, B. Liu, F. Boije*)
- # 11 **Everglades Agricultural Hydrology Model (EAHCM)**
M. Reza Savabi, USDA-Agricultural Research Service, Miami, FL (*D. Shinde, D. Bosch, F. Davis*)
- # 12 **Soil Erosion in Himalayan Region: An Interdisciplinary Approach for Formalizing the System Behavior**
Bishal K. Sitaula, Agricultural University of Norway, As, Norway

5:00 p.m.-6:30 p.m.

RECEPTION

7:30 p.m.-9:00 p.m.

INFORMALRAP SESSION

Discussion Leader - John M. Laflen, Purdue University, West Lafayette, IN

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THURSDAY, JANUARY 4

8:00 a.m.-9:30 a.m.

THREE CONCURRENT PANEL DISCUSSION SESSIONS

An integral part of the symposium program is participation in Panel Sessions and small group discussions. In order to assist us in assigning attendees to the most appropriate Panel Session, please indicate your first and second choice of the session you would like to participate in, or no preference on the registration form (Panels will meet on both Thursday morning and Friday morning). You will receive your assignment upon registration at the symposium.

PANEL #1 (SESSION 15):

EROSION BY WIND: PROCESSES, MODELING AND CONTROL

Chair/Moderator - John Leys, Centre for Natural Resources, Gunnedah, Australia

PANEL #2 (SESSION 16):

EROSION BY WATER: PROCESSES, MODELING AND CONTROL

Chair/Moderator - John Boardman, University of Oxford, Oxford, United Kingdom

PANEL #3 (SESSION 17):

QUANTIFICATION OF SOIL EROSION BY WIND AND WATER

Chair/Moderator - Chia-Chun Joseph Wu, National Pingtung University of Science & Technology, Pingtung, Taiwan

9:30 a.m.-9:40 a.m.

BREAK

9:40 a.m.-11:45 a.m.

CONCURRENT TECHNICAL LECTURE SESSIONS

SESSION 18: EXPERIMENTAL SOIL EROSION PROCESS RESEARCH II

Moderator: Andreas Klik, University of Agricultural Sciences, Vienna, Austria

9:40 a.m.

Introduction

9:45 a.m.

The Role of Pore-Water Pressures and Upward-Directed Seepage Forces in the Erosion of Cohesive Materials

Andrew Simon, USDA-Agricultural Research Service, Oxford, MS (A. Collison)

10:00 a.m.

Effects of Freeze/Thaw Conditions on Soil Strength

Joan Q. Wu, Washington State University, Pullman, WA (M.K. Place, D.K. McCool)

10:15 a.m.

Predicting the Effect of Slope Gradient on Soil Erosion Rates for Steep Landscapes

Gary J. Sheridan, Department of Natural Resources and Environment, Victoria, Australia (H.B. So)

10:30 a.m.

Investigation of the Dynamics of Pollutant Delivery into Surface Tile Inlets from Snowmelt and Rainfall Runoff

J.F. Moncrief, University of Minnesota, St. Paul, MN (D. Ginting, A.H. Ranaivoson, S.C. Gupta)

10:45 a.m.

Overwinter Processes Effects on Dry Soil Aggregate Stability

John Tatarko, USDA-Agricultural Research Service, Manhattan, KS (L.E. Wagner, C.A. Boyce)

11:00 a.m.

Rainfall and Surface Roughness Effects on Soil Loss and Surface Runoff

Andreas Klik, University of Agricultural Sciences, Vienna, Austria (W. Jester, G. Hauer, B. Hebel, C.C. Truman)

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- 11:15 a.m. **Field Investigations of Soil Surface Roughness Effects on Soil Erosion**
Andreas Klik, University of Agricultural Sciences, Vienna, Austria (*G. Hauer, W. Jester, C.C. Truman*)
- 11:30 a.m. **Empirical Analysis of Rainfall Intensity and Slope Effects on Interrill Erosion Processes**
Yongshan Wan, South Florida Water Management District, West Palm Beach, FL
(*S.A. El-Swaify*)
- SESSION 19: WIND EROSION RESEARCH**
Moderator: Ted M. Zobeck, USDA-Agricultural Research Service, Lubbock, TX
- 9:40 a.m. Introduction
- 9:45 a.m. **Validation of the Revised Wind Erosion Equation (RWEQ) for Single Events and Discrete Periods**
Ted M. Zobeck, USDA-Agricultural Research Service, Lubbock, TX (*S. Van Pelt, J.E. Stout, T.W. Popham*)
- 10:00 a.m. **Dust Trends in the Southern High Plains**
John E. Stout, USDA-Agricultural Research Service, Lubbock, TX.
- 10:15 a.m. **Field Measurement of Soil Erosion by Wind for Evaluating Prediction Models**
Edward L. Skidmore, USDA-Agricultural Research Service, Manhattan, KS
- 10:30 a.m. **Validation of the Wind Erosion Prediction System (WEPS) Erosion Submodel on Small Cropland Fields**
Lawrence J. Hagen, USDA-Agricultural Research Service, Manhattan, KS
- 10:45 a.m. **Test Results of TEAM (Texas Tech Erosion Analysis Model)**
James M. Gregory, Texas Tech University, Lubbock, TX (*M.M. Darwish*)
- 11:00 a.m. **Reconstructing the Recent Wind Erosion History of East Anglia, UK**
Adrian Chappell, University of Salford, Manchester, United Kingdom (*A. Thomas*)
- 11:15 a.m. **Assessing the Impact of Wind Erosion on Soil Degradation Using Nebkha Dunes in the Molopo Basin, South Africa and Botswana**
Andrew D. Thomas, University of Salford, Greater Manchester, United Kingdom (*A.J. Dougill*)
- 11:30 a.m. **On-Farm Evaluation of Field-Scale Soil Losses by Wind Erosion Under Traditional Management in the Sahel**
Charles L. Bielders, Universite Catholique de Louvain, Louvain-la-Neuve, Belgium (*A.Vrieling, J-L. Rajot, E.L. Skidmore*)
- SESSION 20: SOIL EROSION PREDICTION, ENVIRONMENTAL REGULATION, AND LAND-USE PLANNING I**
Moderator: Manuel R. Reyes, North Carolina A&T State University, Greensboro, NC
- 9:40 a.m. Introduction
- 9:45 a.m. **How will Future Climate Change and Land-Use Change Affect Rates of Erosion on Agricultural Land?**
John Boardman, University of Oxford, Oxford, United Kingdom (*D. Favis-Mortlock*)
- 10:00 a.m. **Integration of Soil Erosion Modeling and Participatory Soil Conservation Planning**
Kim O. Trouwborst, Alterra, Wageningen, The Netherlands (*C.J. Ritsema, M.H. Fagerstrom*)
- 10:15 a.m. **Challenges and Approaches for WEPP Erosion Model Adaptation in the Ukraine**
S. Yu Bulygin, Institute for Soil Science and Agrochemistry Research, Kharkov, Ukraine
- 10:30 a.m. **Land-Use Planning Using Participatory Approach**
Minh H. Fagerstrom, Swedish University of Agricultural Sciences, Uppsala, Sweden
(*I. Messing*)

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- 10:45 a.m. **Data Accuracy Issues in Spatially Distributed Soil Erosion Modeling: What Does Decision Making Gain?**
Chris Renschler, Purdue University, West Lafayette, IN (*D.C. Flanagan, B.A. Engel*)
- 11:00 a.m. **The European Awareness Scenario Workshop (EASW): A Possible Tool to Mitigate the Effects of Urbanization on Desertification and Soil Erosion at the Local and Global Level**
Walter Ganapini, National Agency for Protection of the Environment, Rome, Italy (*S. Cantoni, F.A. Pasquare*)
- 11:15 a.m. **Comparing GLEAMS and EPIC Nitrogen Predictions with Results from a Long Term Tillage Study and NCA&T State University**
Manuel R. Reyes, North Carolina A&T State University, Greensboro, NC (*C.W. Raczkowski, G.A. Gayle, G.B. Reddy*)
- 11:30 a.m. **The Effect of Tillage Operational Parameters on Residue Burial**
Randy L. Raper, USDA-Agricultural Research Service, Auburn, AL

SESSION 21: MEASUREMENT TECHNIQUES IN SOIL EROSION RESEARCH

Moderator: Michael C. Hirschi, University of Illinois, Urbana, IL

- 9:40 a.m. **Introduction**
- 9:45 a.m. **Using Acoustic Emission Testing to Monitor Kinetic Energy of Raindrop and Rainsplash Erosion**
Hasan Guzel, Harvard University, Cambridge, MA (*A.P. Barros*)
- 10:00 a.m. **Settling Velocity of Soil Aggregates, Aggregate Stability, and Interrill Erodibility of High Clay Soils**
Jose M. Reichart, Fedear University of Santa Maria, Santa Maria, Brazil (*L.D. Norton, N. Favaretto*)
- 10:15 a.m. **A Dielectric Method of Sediment Concentration Measurement in Runoff Waters**
Gordon C. Starr, USDA-Agricultural Research Service, Tucson, AZ (*R. Simanton, B. Lowery, S. Moran*)
- 10:30 a.m. **Measurement and Stabilization of Streambank Erosion in North Carolina**
Greg D. Jennings, North Carolina State University, Raleigh, NC (*W.A. Harman*)
- 10:45 a.m. **Silt Fences: An Economical Technique for Measuring On-Site Soil Erosion**
Peter R. Robichaud, USDA-Forest Service, Moscow, ID (*D.K. McCool, C.D. Pannkuk, R.E. Brown, P.W. Mutch*)
- 11:00 a.m. **C-Factor Development for Sugarcane in Hawaii**
Carl I. Evensen, University of Hawaii at Manoa, Honolulu, HI (*S.A. El-Swaify, C.W. Smith*)
- 11:15 a.m. **Research Method Effects on Measured Erosion Rates**
Michael C. Hirschi, University of Illinois, Urbana, IL (*P.K. Kalita, J.K. Mitchell, Y. Zhao*)

SESSION 22: SEDIMENT TRANSPORT MODELING

Moderator: Sam S.Y. Wang, University of Mississippi, Oxford, MS

- 9:40 a.m. **Introduction**
- 9:45 a.m. **The Current Development and Future Needs in Modeling Stream Sedimentation - The NCCHE Perspective**
Sam S.Y. Wang, University of Mississippi, Oxford, MS (*Y. Jia*)
- 10:00 a.m. **Estimating Local Scour At Bridge Abutments Located In Regions Of High Shear Flow**
Ron Townsend, University of Ottawa, Ottawa, Canada
- 10:15 a.m. **Sediment Transport Modeling for Stream Channel Scour Below a Dam**
Howard H. Chang, San Diego State University, San Diego, CA

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- 10:30 a.m. **Flood Flow and Morphology of the Lower Mekong River, Vietnam**
Tawatchai Tingsanchali, Asian Institute of Technology, Pathumthani, Thailand (*D.C. San*)
- 10:45 a.m. **Analysis and Modeling of Morphological Field Data in the Western Scheldt Estuary**
Bartele de Jong, University of Twente, Enschede, The Netherlands (*A. Langerak, D. van Maldegem*)
- 11:00 a.m. **Use of GIS and Regional Relationships to Determine Subbasin Sediment Yields for Input to a Sediment Transport Model**
David T. Williams, WEST Consultants, Inc., San Diego, CA (*M.J. Teal, J.B. Bradley*)
- 11:15 a.m. **A Unified Approach for Erosion and Sediment Transport Studies**
C. Ted Yang, USDI-Bureau of Reclamation, Denver, CO
- 11:30 a.m. **Soil Erosion Does Not Occur Everywhere**
J. Kent Mitchell, University of Illinois, Urbana, IL (*K. Bansik, M.C. Hirschi, R.A.C. Cook, P.K. Kalita*)
- 11:45 a.m. - 6:00 p.m. **FIELD TECHNICAL TOUR OF THE ISLAND OF OAHU**
Tour Leader, Samir A. El-Swaify, University of Hawaii at Manoa, Honolulu, HI
Preregistration is required.

FRIDAY, JANUARY 5

- 8:00 a.m. - 9:30 a.m. **Small Discussion Group Meetings**
- 9:30 a.m. - 10:00 a.m. **Break**
- 10:00 a.m. - 12 Noon **Panel Discussion Groups (Reconvene)**
- PANEL #1 (SESSION 23):**
EROSION BY WIND: PROCESSES, MODELING AND CONTROL
Chair/Moderator - John Leys, Centre for Natural Resources, Gunnedah, Australia
- PANEL #2 (SESSION 24):**
EROSION BY WATER: PROCESSES, MODELING AND CONTROL
Chair/Moderator - John Boardman, University of Oxford, Oxford, United Kingdom
- PANEL #3 (SESSION 25):**
QUANTIFICATION OF SOIL EROSION BY WIND AND WATER
Chair/Moderator - Chia-Chun Joseph Wu, National Pingtung University of Science & Technology, Pingtung, Taiwan
- 12 Noon - 1:50 p.m. **Banquet Luncheon**

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FRIDAY, JANUARY 5

1:50 p.m.-3:40 p.m.

Concurrent Technical Lecture Sessions

SESSION 26: EXPERIMENTAL SOIL EROSION PROCESS RESEARCH III

Moderator: Angelika S. Zartl, University of Agricultural Sciences, Vienna, Austria

1:50 p.m.

Introduction

1:55 p.m.

Influence of Kinetic Energy on Infiltration and Erosion

Allen L. Thompson, University of Missouri, Columbia, MO (F. Ghidry, C. Gantzer)

2:10 p.m.

Cyclic and Non-Cyclic Patterns of Bed Roughness in Eroding Rills

Katharina Helming, Center for Agricultural Landscape and Land-Use Research, Muencheberg, Germany (M.J.M. Romkens, S.N. Prasad)

2:25 p.m.

Determining the Erodibility Parameter for Palouse Soils Using USLE Runoff Plot Data

Erin S. Brooks, University of Idaho, Moscow, ID (D.K. McCool, J. Boll)

2:40 p.m.

Effect of Slope Steepness on Soil Loss for Steep Slopes

Chia-Chun Wu, National Pingtung University of Science & Technology, Pingtung, Taiwan (A.-B. Wang)

2:55 p.m.

Surface-Cover Subfactor for Gravel-Rich Surfaces

Chia-Chun Wu, National Pingtung University of Science & Technology, Pingtung, Taiwan

3:10 p.m.

Discussion of a Lab Methodology to Investigate Erosion Processes on Small Areas

Angelika S. Zartl, University of Agricultural Sciences, Vienna, Austria (A. Klik)

3:25 p.m.

The Influence of Manure Loading Rate on Sediment and P Transport

Douwe S. Vanderwel, Alberta Agriculture Food and Rural Development, Edmonton, Canada (C.R. Wright, M. Amrani)

SESSION 27: MODELING CLIMATIC, HYDROLOGIC, AND SOIL EROSION PROCESSES II

Moderator: Ramesh P. Rudra, University of Guelph, Guelph, Canada

1:50 p.m.

Introduction

1:55 p.m.

A New Conceptual Framework for Understanding and Predicting Erosion by Water from Hillslopes and Catchments

John Wainwright, King's College London, London, United Kingdom (A.J. Parsons, D.M. Powell)

2:10 p.m.

An Energy Budget Approach to Simulate Snow Melt and Soil Frost Depth

Chun-hsu Lin, Washington State University, Pullman, WA (D.K. McCool, D.C. Flanagan, B.S. Sharratt)

2:25 p.m.

An Empirical Model of Hydraulic Roughness for Overland Flow

Carlos J. Lopez-Sabater, University of Arizona, Tucson, AZ (K.G. Renard, V.L. Lopes)

2:40 p.m.

Topographic Factors for RUSLE in the Continuous-Simulation Watershed Model for Predicting Agricultural, Non-point Source Pollutants (AnnAGNPS)

Fred D. Theurer, USDA-Natural Resources Conservation Service, Gaithersburg, MD (R.L. Bingner)

2:55 p.m.

Erosion Processes Modeling Using Microwave Remote Sensing at a Catchment Scale

Peter van Oevelen, Wageningen University, Wageningen, The Netherlands (G. Sterk)

3:10 p.m.

Simulation of Tillage and Other Management Operations in WEPS

Larry E. Wagner, USDA-Agricultural Research Service, Manhattan, KS (F.A. Fox)

3:25 p.m.

Lessons Learned from the Use of Erosion and NPS Models

Ramesh P. Rudra, University of Guelph, Guelph, Canada (W.T. Dickinson, H.R. Whitely)

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FRIDAY, JANUARY 5

SESSION 28: ON-SITE AND OFF-SITE IMPACTS OF SOIL EROSION II

Moderator: *Larry C. Brown, The Ohio State University, Columbus, OH*

- 1:50 p.m. **Introduction**
- 1:55 p.m. **Tillage Effects on Soil Erosion, Nutrient and Pesticide Losses**
Andreas Klik, University of Agricultural Sciences, Vienna, Austria (A.S. Zartl, J. Rosner)
- 2:10 p.m. **Linking the Field to the River: Soil Erosion and Sediment Delivery on the North Carolina Coastal Plain**
Michael C. Slattery, Texas Christian University, Ft. Worth, TX (P.A. Gares, J.D. Phillips)
- 2:25 p.m. **Solving the Off-Site Impacts of Soil Erosion by an Integrated Environmental Watershed Management?**
Gert Verstraeten, Laboratory for Experimental Geomorphology, K.U. Leuven, Belgium (J. Poesen, A. Van Rompaey)
- 2:40 p.m. **How Near-Surface Moisture Gradients Affect Phosphorous and Nitrate Losses**
Fen-li Zheng, Purdue University, West Lafayette, IN (C. Huang, L.D. Norton)
- 2:55 p.m. **Applying ANSWERS2000 to Simulate BMPEffects on Sediment and Runoff for Two Watersheds in the Three Gorges Area, Southern China**
Zhiming Niu, Beijing Forestry University, Beijing, China (M. Xie, G. Sun, S.G. McNulty, W. Byne)
- 3:10 p.m. **Evaluation and Testing of the Hydrology Components of WEPPHillslope and WEPP-WTM Models for Subsurface Drained Cropland**
Larry C. Brown, The Ohio State University, Columbus, OH (T. Oztekin, N.R. Fausey)
- 3:25 p.m. **Modeling and Evaluation of Alternative Agricultural Management Practices in Sand Creek Watershed**
Brent J. Dalzell, University of Minnesota, St. Paul, MN (P.H. Gowda, D.J. Mulla)

SESSION 29: EROSION CONTROL PRACTICES AND EROSION PREDICTION

Moderator: *Jussi Baade, Friedrich-Schiller University, Jena, Germany*

- 1:50 p.m. **Introduction**
- 1:55 p.m. **Field Fabricated Plastic Liners for Erosion and Seepage Control**
Gerald L. Westesen, Montana State University, Bozeman, MT (L. Payne)
- 2:10 p.m. **Crop Response, Soil Loss and Runoff Results from a Long Term Tillage Study at North Carolina A&T State University**
Charles W. Raczkowski, North Carolina A&T State University, Greensboro, NC (G.A. Gayle, M.R. Reyes, G.B. Reddy)
- 2:25 p.m. **Surface Losses of N, P and Herbicides from a Long Term Tillage Study at North Carolina A & T State University**
Gudigopuram B. Reddy, North Carolina A&T State University, Greensboro, NC (C.W. Raczkowski, M.R. Reyes, G.A. Gayle)
- 2:40 p.m. **Evaluating WEPP-predicted Furrow Irrigation Erosion**
David L. Bjorneberg, USDA-Agricultural Research Service, Kimberly, ID
- 2:55 p.m. **Probability of Using Remotely Sensed Data to Determine Soil Erosion Stability**
Andrey B. Achasov, Institute for Soil Science and Agrochemistry Research, Kharkiv, Ukraine (O.A. Sendetskaya)
- 3:10 p.m. **Predicting Erosion Along the Thunder Bay River Using Various Monitoring Techniques**
Andrew R. Blystra, Thunder Bay Power Company, Holland, MI
- 3:25 p.m. **Performance of the Wind Erosion Assessment Model**
John Leys, Center for Natural Resources-Australia, Gunnedah, Australia (Y. Shao)

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FRIDAY, JANUARY 5

SESSION 30: SOIL EROSION PREDICTION, ENVIRONMENTAL REGULATION, AND LAND-USE PLANNING II

Moderator: Seth M. Dabney, USDA-Agricultural Research Service, Oxford, MS

1:50 p.m.

Introduction

1:55 p.m.

Quantification of Nutrient Erosion by Wind and Water in Burkina Faso

Saskia Visser, Wageningen University, Wageningen, The Netherlands

2:10 p.m.

Erosion and Deposition History Derived by Depth-Stratigraphy of CS-137 and Soil Organic Carbon

Bert J. VandenBygaart, University of Guelph, Guelph, Canada (*R. Protz, V. Witt*)

2:25 p.m.

Physical Modeling of Rainfall Induced Erosion

Michael V. Harding, CPESC, San Diego, CA (*H.H. Chang, C. Forrest, E. Kegel*)

2:40 p.m.

Modeling Erosion on Unpaved Roads: Validation of KINEROS2 and Dynamic Erodibility Method

Alan D. Ziegler, University of Hawaii, Honolulu, HI

2:55 p.m.

Estimating the Risk of Soil Erosion in a Semiarid Watershed of Central Mexico Using a Geographical Information System

Eusebio Ventura, Jr., University of Queretaro, Queretaro, Mexico (*M.A. Domínguez-Cortazar*)

3:10 p.m.

Establishing a Sediment & Erosion Control Research and Education Center (SECREC) at North Carolina

William F. Hunt, North Carolina State University, Raleigh, NC (*R.S. McLaughlin, R.E. Sheffield, D.E. Line, G.D. Jennings*)

3:25 p.m.

Modeling Temporal Changes in Erosion Rates Due to Benching Between Vegetative Barriers

Seth M. Dabney, USDA-Agricultural Research Service, Oxford, MS (*D.C. Flanagan, D.C. Yoder, J. Zhu, J. Douglas*)

3:40 p.m.-4:00 p.m.

BREAK

CLOSING PLENARY SESSION 31

Chairman, Dennis C. Flanagan, USDA-Agricultural Research Service, West Lafayette, IN

4:00 p.m.-4:10 p.m.

SUMMARY REPORT

Erosion by Wind: Processes, Modeling and Control - Panel & Discussions

4:10 p.m.-4:20 p.m.

SUMMARY REPORT

Erosion by Water: Processes, Modeling and Control - Panel & Discussions

4:20 p.m.-4:30 p.m.

SUMMARY REPORT

Quantification of Soil Erosion by Wind and Water - Panel & Discussions

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FRIDAY, JANUARY 5

- 4:30 p.m.-4:55 p.m. **PRESENTATION OF SYMPOSIUM STATEMENT, DISCUSSION, ACTION**
Discussion Leader, Daniel C. Yoder, University of Tennessee, Knoxville, TN
- 4:55 p.m.-5:05 p.m. **RESPONSE from “Erosion by Wind” Keynote Speaker**
John E. Stout, USDA-Agricultural Research Service, Lubbock, TX
- 5:05 p.m.-5:15 p.m. **RESPONSE from “Erosion by Water” Keynote Speaker**
Gerard Govers, Laboratory for Experimental Geomorphology,
Catholic University of Leuven, Belgium
- 5:15 p.m.-5:25 p.m. **RESPONSE from “Quantification of Soil Erosion” Keynote Speaker**
Samir A. El-Swaify, University of Hawaii at Manoa, Honolulu, HI
- 5:25 p.m.-5:30 p.m. **RECOGNITIONS AND CLOSING**

SATURDAY, JANUARY 6

- 5:30 a.m.-7:20 p.m. **OPTIONAL FIELD TOUR OF ISLAND OF HAWAII**
Leader: Samir A. El-Swaify, University of Hawaii at Manoa, Honolulu, HI