



# FINAL PROGRAM

**SUNDAY, MARCH 4, 2018**

- 1:30 – 5:00 PM** Exhibitors' Display Set Up (Exhibitors' Area)
- 2:00 – 5:00 PM** Registration (Conference Reception Desk)
- 4:00 – 5:00 PM** Meeting of VLWA Board of Directors (2<sup>nd</sup> Floor York Room)
- 5:30 – 7:00 PM** Exhibitor and Early Registrants' Reception (James River Ballroom, Parlor H)

**MONDAY MORNING, MARCH 5, 2018**

- 7:00 – 8:00 AM** Registration and Check-In (Conference Reception Desk)
- 7:30 AM** Coffee and Pastries
- 7:45 – 9:00 AM** Welcome to the Conference, Stuart Stein, Conference Chair

**Keynote Address – The Municipal Separate Storm Sewer System (MS4) Program: Then, Now, and Beyond Program Development, Maturity, and Incorporation of TMDL Requirements, Mr. Andy Dinsmore, NPDES Branch Chief, U.S. Environmental Protection Agency (EPA) Region III**

**Track A–Parlor A    Track B–Parlor B    Track C–Parlor F    Track D–Parlor G    Track E–Parlor E**

**9:15 – 10:30 AM First Concurrent Sessions**

**Session 1A • Stormwater 1 • Moderator – John Paine, PE, PH, CFM, GKY & Associates, Inc.**

- (1) **The Evolving Needs of Stormwater Training**, J. Douglas Fritz, CPESC, GKY & Associates, Inc.
- (2) **Investigating Strategies for Stormwater Outreach**, Shelly Frie, PE, CH2M
- (3) **Outreach for Today, Cleaner Water for Tomorrow: An Overview of the City of Alexandria's MS4 Outreach Program**, Sara M. DeGroot, PE, CFM, City of Alexandria; Joni M. Calmbacher, PE, CFM, City of Alexandria
- (4) **Think 'Different' About Regulatory Documents**, John Paine, PE, PH, CFM, GKY & Associates, Inc.; Sharon Surita, Ph.D., City of Hampton; Fred Whitley, PE, AECOM; Sean Bradberry, ENV SP, AECOM

**Session 1B • Stormwater P3's • Moderator – David Hirschman, Hirschman Water & Environment, LLC**

**Panel Discussion on the Performance of The Public-Private Partnership Approach in Stormwater and Potential Application in Virginia**

- (1) **Overview of Community-Based Public-Private Partnership (CBP3) for Integrated Green Stormwater Infrastructure**, Seth P. Brown, PE, Storm and Stream Solutions, LLC
- (2) **Results from the Phase I of the Clean Water Partnership in Prince George's County, Maryland**, Troy Hunt, Clean Water Partnership
- (3) **The Role of Technology and Innovation in P3s and Market-Based Approaches for Stormwater**, Marcus Quigley, Opti RTCs)
- (4) **CBP3 Adaptations in Central Virginia for Small MS4s & Workforce Development**, David Hirschman, Hirschman Water & Environment, LLC

**Session 1C • Dam Safety 1 • Moderator – Robert A. Kline, Jr., PE, Gannett Fleming, Inc.**

- (1) **Virginia Dam Safety, Flood Prevention and Protection Assistance Fund Grant Program**, Wendy Howard Cooper, Virginia Department of Conservation and Recreation
- (2) **An Introduction to DCR's Dam Safety Inventory System (DSIS)**, James T. Martin, MS, GISP, Virginia Department of Conservation and Recreation

- (3) **Dam Safety Enforcement**, Elizabeth Anne Crosier, Virginia Department of Conservation and Recreation
- (4) **Dam Owner Emergency Intervention Toolbox**, Robert A. Kline, Jr., PE, Gannett Fleming, Inc.

**Session 1D • Drainage and Flooding 1 • Moderator – David Duncan, PE, Timmons Group**

- (1) **Kennebeck Avenue & Azalea Garden Road Drainage Improvements**, Eric Loescher, EIT, Timmons Group; Liz Scheessele, PE, CFM, ENV SP, Timmons Group; Rey Hernandez Jr., PE, City of Norfolk
- (2) **Floodplain Modeling Considerations During Stream Restoration Design**, Karen Hall, PE, CFM, MBA, Stantec; Ashley Hall, PE, Stantec
- (3) **SCADA Monitoring System: Stormwater Pumping in the Cloud**, Mark A. Jones, PE, City of Virginia Beach; Mike Stoup, PE, McKim and Creed
- (4) **Stormwater Pump Station Rehabilitation Challenges in Response to Hurricane Matthew**, David Duncan, PE, Timmons Group; Liz Scheessele, PE, CFM, ENV SP, Timmons Group; Eric Loescher, EIT, Timmons Group; Rey Hernandez, Jr., PE, City of Norfolk

**Session 1E • Floodplain Management 1 • Moderator – Scott Blossom, Blossom Consulting & Engineering, Inc.**

- (1) **Mitigating Your Neighborhood Flooding Projects with Hazard Mitigation Assistance Funds**, Michael Paul Dodson, CFM, Community Planning Partners, Inc.
- (2) **Community Flood Risk Reduction Projects**, Robbie Coates, Virginia Department of Emergency Management
- (3) **Flood Damage Cost Avoidance Analysis for Community Resilience**, David Roman, PE, CFM, CPESC, Geosyntec Consultants, Inc.; Turgay Dabak, Ph.D, PE, Geosyntec Consultants, Inc.
- (4) **Visualizing Resiliency and Risk Index Point Mapping System and Planning Visualization**, Stan Slachetka, PP, AICP, T&M Associates

**10:30 – 10:45 AM      Coffee Break**

**10:45 AM – 12:00 PM   Second Concurrent Sessions**

**Session 2A • Stormwater 2 • Moderator – Jesse Jones, Timmons Group**

- (1) **Richmond Wastewater & Stormwater Facility – Light Industrial Renovation**, Nathan Rasnick, PE, RK&K; Michael Hogan, PE, RK&K
- (2) **Innovative Stormwater Solutions in Coastal Areas**, Johnny Martin, PE, Moffatt & Nichol
- (3) **Fairfax County High Priority Municipal Facility (HPMF) Evaluation**, John Burke, Fairfax County; Maxwell E. Kuker, GKY & Associates, Inc.; Susanna Orndorff, GKY & Associates, Inc.
- (4) **Do's and Don'ts of Stormwater Design: "Design Strategies Compared to Constructability,"** Jesse Jones, Timmons Group

**Session 2B • Stormwater Retrofits • Moderator – Stephen D. Thun, PE, LEED AP, Kimley-Horn**

- (1) **City of Manassas – Public Pond Assessments and Conceptual Retrofit Plans**, Brice Kutch, PE, LEED BD+C, GKY & Associates, Inc.; Jacob Renaud, PE, City of Manassas
- (2) **Ben Brenman – This Pond Has it All: Maximizing Retrofit Features on an Existing Pond**, Umar Shahid, PE, PMP, LEED AP, AECOM; Sara DeGroot, PE, CFM, City of Alexandria Department of Transportation and Environmental Services
- (3) **Broyhill McLean Estates Stormwater Management Retrofits**, Megan McCollough, PE, CFM, Stantec; Jay Johnstone, PE, Stantec; Glenn Muckley, PE, Stantec
- (4) **City of Norfolk SLAF Projects: Status Update and Lessons Learned**, Stephen D. Thun, PE, LEED AP, Kimley-Horn; Justin Shafer, City of Norfolk Department of Public Works – Environmental Management

**Session 2C • Dam Safety 2 • Moderator – Edward R. Umbrell, PE, Dewberry Engineers, Inc.**

- (1) **Virginia DCR Dam Rehabilitation Study and Report – Plans for the Rehabilitation of Aging Flood Control Dams, 2018 Update**, Amanda S. Pennington, PE, Department of Conservation and Recreation-Division of Soil and Water Conservation; David Warriner, PE, Department of Conservation and Recreation-Division of Soil and Water Conservation

- (2) **Crafting a Successful Project – Lee Hall Dam Rehabilitation**, Boyd Howard, PE, Gannett Fleming, Inc.
- (3) **Silver Lake Dam Rehabilitation, Prince William County, Virginia**, Edward R. Umbrell, PE, Dewberry Engineers, Inc.; Geoffrey L. Cowan, PE, Dewberry Engineers, Inc.; Michael Yasek, PE, ECS Mid-Atlantic, LLC

**Session 2D • Drainage and Flooding 2 • Moderator – Amity B. Dewey, PE, WSP**

- (1) **Challenging the Past. Innovating for the Future – Leveraging Today’s Technology to Update a 1995 Hydrology and Hydraulics Study**, P. Eric Mains, PE, Gannett Fleming, Inc.
- (2) **Cost-Effective Delivery of Floodplain Mapping Data to Federal, State and Local Partners**, Sarada Kalikivaya, PE, CFM, Atkins; Michael DePue, PE, CFM, PMP, Atkins; Henry Manguerra, PE, Ph.D., Atkins
- (3) **Using a Novel Method to Map Flood Susceptibility of the Lower Connecticut River Region**, Jason P. Giovannettone, Ph.D., PE, Dewberry; Thomas Copenhaver, Dewberry; Scott Choquette, CFM, Dewberry
- (4) **Any Way You Sluice it, it’s Going to Rain**, Amity B. Dewey, PE, WSP; Melissa Simpson, PE, WSP

**Session 2E • Floodplain Management 2 • Moderator – Mark Slauter, Slauter Industries, LLC**

- (1) **Utilizing Synthetic Aperture Radar (SAR) Based Satellite Imagery for Flood Risk Monitoring and Disaster Response Planning**, Deyang Huang, Ph.D., PE, CFM, Dewberry Consultants LLC; Mathini Sreetharan, Ph.D, PE, CFM, Dewberry Consultants LLC
- (2) **Monitoring Land Subsidence and Saline Intrusion to Support Coastal Flood Preparedness in the Hampton Roads Area of the Virginia Coastal Plain**, Kurt McCoy, U.S. Geological Survey Virginia and West Virginia Science Center; R. Russell Lotspiech, U.S. Geological Survey Virginia and West Virginia Science Center; David L. Nelms, U.S. Geological Survey Virginia and West Virginia Science Center
- (3) **Hurricane Harvey Relief – A Summary of Relief Efforts Along the Gulf Coast and Houston Metropolitan Area Under FEMA’s New Public Assistance Program Delivery Model**, Benjamin T. Green, MEM, AMEC Foster Wheeler
- (4) **Advancing Dam Emergency Action Plan (EAP) Modeling into Emergency Response – North Carolina**, Tom Langan, PE, CFM, North Carolina Floodplain Mapping Program (NCFMP); Katie Hermann, CFM, GISP, ESP Associates, P.A.

**12:15 – 1:15 PM Luncheon**

**Keynote Address – Flint Water Study: Experiences and Research Updates Since March 2016**, Ms. Rebekah Martin, Graduate Student, Virginia Polytechnic Institute and State University

## MONDAY AFTERNOON, MARCH 5, 2018

### 1:30 – 2:45 PM Third Concurrent Sessions

#### Session 3A • Stormwater 3 • Moderator – Alex Tiedemann, PE, City of Virginia Beach

- (1) **Mapping Mission: City of Richmond Outfall and MS4 Area Determination**, Amelia Wehunt, PE, Timmons Group; Laurie Coffman, PE
- (2) **Defining MS4 Outfalls in Tidally-Influenced Urban Areas**, Nathan L. Sturre, EIT, Whitman Requardt and Associates, LLP; Justin Shafer, City of Norfolk, Department of Public Works; Mike Barbachem, PE, Whitman Requardt and Associates, LLP
- (3) **Loudoun County's Evolving IDDE Approach – Part III**, Jason George, CFM, GKY & Associates, Inc.; Chris Stone, CFM, PG, Loudoun County Department of General Services
- (4) **The Use of Field Test Kits for Dry Weather Screening: A Case Study on Effective Source Identification and Tracking**, Alex Tiedemann, PE, City of Virginia Beach; Kyle Logue, PM, Brown and Caldwell; Kristina Kowalski, Brown and Caldwell

#### Session 3B • Stormwater BMPs • Moderator – Alex C. Lucado, PE, CFM, Timmons Group

- (1) **BMP Design and Construction Challenges: Where the Science for Stormwater Quality Meets Engineering Application**, Melvin E. Hopkins Jr., PE, Whitman Requardt and Associates, LLP
- (2) **Designing Stormwater to the MEP in ROW Projects**, Meredith Upchurch, RK&K
- (3) **Creative Stormwater Management for Urban Streetscapes**, Matthew Webb, PE, Timmons Group; Sheila Reeves, PE, CFM, Timmons Group
- (4) **Creative Stormwater Management for Linear Projects**, Alex C. Lucado, PE, CFM, Timmons Group; Chris M. Nelson, EIT, Timmons Group

#### Session 3C • Dam Safety 3 • Moderator – Thomas I. Roberts, PE, CFM, VA DCR Dam Safety

- (1) **Virginia Soil and Water Conservation Districts Dam Riser Structure Assessment Project (Do You Know if Your Dewatering Valve Works?)**, Charles T. Wilson, PE, Virginia Department of Conservation and Recreation, Division of Soil and Water Conservation; Chris Kuhn, Stantec
- (2) **Cumberland Marsh Preserve Dam Removals**, Bill Weihbrecht, AECOM
- (3) **Some Problems in Dam Break Inundation Study and Dam Maintenance**, Zhengang Wang, Ph.D., PE, Virginia Department of Conservation and Recreation, Division of Dam Safety and Floodplain Management
- (4) **Realistic and Worthwhile Required Emergency Action Plan Table Top Exercises and Drills in Virginia**, Thomas I. Roberts, PE, CFM, VA DCR Dam Safety

#### Session 3D • Environmental Restoration • Moderator – Mark Sievers, Tetra Tech, Inc.

- (1) **Brunswick Town/Fort Anderson (NC) Shoreline Stabilization – A Living Shoreline Alternative**, Randy Boyd, PE, Atlantic Reefmaker; Phillip C. Todd, North State Environmental, Inc.
- (2) **Combining Species Distribution Models and High-Resolution Habitat Mapping to Prioritize Restoration for an Endemic Fish**, Joseph Famularo, College of Natural Resources and Environment, Virginia Polytechnic Institute and State University; Ryan McManamay, Ph.D., Oak Ridge National Laboratory
- (3) **Four Mile Run Tidal Restoration Project: The Challenges and Successes of a Major TMDL Project**, Brian Finerfrock, PE, RK&K; Eliana Rios, PE, RK&K
- (4) **Adaptive Management: The Next Step in Restoration Planning**, Mark Sievers, Tetra Tech, Inc.; Aileen Molloy, Tetra Tech, Inc; Jon Ludwig, Tetra Tech, Inc.

#### Session 3E • Floodplain Management 3 • Moderator – Jeff Smith, PE, PMP, CFM, AECOM

- (1) **What's Next for Flood Modeling? Seven Trends to Track**, Shane C. Parson, Ph.D., PE, CFM, AECOM
- (2) **Innovative and Cost-Effective River Engineering Methods**, M. Troy Biggs, PE, PH, D.WRE, AMEC Foster Wheeler
- (3) **Technological Advances in Zone A: "Not so Approximate" Modeling**, Laura Arnold, PE, CFM, AECOM; David Rubenstein, CFM, AECOM

(4) **Modeling of Long Culverts and Storm Drains: A Comparison of Different Methods**, Shrinivas Kaulgud, PE, CFM, AECOM; Cheryl Hannan, PE, CFM, LEED-AP, AECOM

**2:45 – 3:15 PM Coffee Break**

**3:15 – 4:30 PM Fourth Concurrent Sessions**

**Session 4A • Stormwater 4 • Moderator – Amy Ballard, Brown and Caldwell**

- (1) **The Importance of Regular BMP Inspections: Problem Identification, Deficiency Correction, and Prevention of Large Future Costs**, Katherine Atkinson, EIT, Timmons Group; Matthew Webb, PE, Timmons Group
- (2) **Street Sweeping Monitoring: Plan Design and Preliminary Results**, June Whitehurst, City of Norfolk, Department of Public Works; Casey Magruder, City of Norfolk, Department of Public Works; Mike Barbachem, PE, Whitman Requardt and Associates
- (3) **Virginia Beach Floatables Monitoring Program**, Diana St. John, PE, City of Virginia Beach; Shelly Frie, PE, JACOBS
- (4) **Stormwater Management Facilities Without Maintenance Agreements: Program Element Considerations**, Amy Ballard, Brown and Caldwell; Mira Micin, Brown and Caldwell

**Session 4B • Green Infrastructure • Moderator – Jeremy Bailey, ASLA, GreenBlue Urban**

- (1) **Making Urban Trees Count: A Stormwater Credit Framework for Urban Tree Planting**, Neely L. Law, Ph.D., Center for Watershed Protection, Inc.; Bill Stack, PE, Center for Watershed Protection; Karen Cappiella, Center for Watershed Protection, Inc.; Deb Caraco, PE, Center for Watershed Protection, Inc.; Justin Hynicka, American Forests
- (2) **New Code and Ordinance Worksheet (COW) Encourages Green Infrastructure in MS4s**, Karen Cappiella, Center for Watershed Protection, Inc.; Neely Law, Ph.D., Center for Watershed Protection, Inc.; Ellen Zagrobelny, EIT, Center for Watershed Protection, Inc.
- (3) **Quantifying Nuisance Flooding Reduction with Green Infrastructure and Storage Retrofits in Norfolk's Chesterfield Heights Community**, Brian Joyner, PE, Moffatt & Nichol; Katie Finegan, EIT, Moffatt & Nichol; J. Timothy Hare, PE, Arcadis
- (4) **The Stormwater Benefits of High-Performance Urban Trees**, Jeremy Bailey, ASLA, GreenBlue Urban

**Session 4C • Dam Safety 4 • Moderator – Robert J. VanLier, PE, Virginia DCR**

- (1) **The Effect of a Stabilized Stone Drainage Layer on ACB Performance in Open Channel Flow Applications**, Jim Nadeau, ACF Environmental
- (2) **La Antigua, Vera Cruz, Mexico River Control and Bank Stabilization Using Sustainable Geotextile Tube Structures**, Chris Timpson, MS, TenCate Geosynthetics USA; Tom Stephens, BBA, TenCate Geosynthetics USA
- (3) **Off with the Rule of Thumbs: Rethinking Hydrologic Impacts on Stormwater Infrastructure**, Matthew Anderson, PE, CFM, Innovyze
- (4) **Dams in War Creating Floods as Weapons, from Ancient Times Until Today**, Robert J. VanLier, PE, Virginia DCR

**Session 4D • Water Quality and Quantity 1 • Moderator – John D. Jastram, U.S. Geological Survey, Virginia and West Virginia Water Science Center**

- (1) **Regenerative Stream Channel Serves as a Nature-Like Fish Passageway**, Roman Jesien, Ph.D., Maryland Coastal Bays Program; Kevin M. Smith, Maryland Department of Natural Resources; Keith Underwood, Underwood and Associates
- (2) **Combatting Sea Level Rise to Preserve Waterfowl Habitat at Curles Neck**, Daniel Proctor, PE, Stantec; Karen Hall, PE, CFM, MBA, Stantec
- (3) **Spring Developments: Utilizing Springs as Alternative Water Sources for Livestock as Part of Stream Exclusion for Water Quality Improvement**, Raleigh Coleman, Department of Conservation and Recreation-Division of Soil and Water Conservation

(4) **USGS Water Science in Virginia**, John D. Jastram, U.S. Geological Survey, Virginia and West Virginia Water Science Center

**Session 4E • Floodplain Management 4 • Moderator – David Gunn, Henrico DPW**

(1) **Analysis and Use of FEMA's Summary of Discharge Data**, Robert Pierson, PMP, Federal Emergency Management Agency; Jeff Smith, PE, PMP, CFM, AECOM; William Jiang, PE, CFM, AECOM

(2) **It's Not What FRPS Can do for You, It's What You Can do with FRPS**, Mike Onufrychuk, CFM, AECOM

(3) **Levee Analysis and Mapping Procedures – An Overview**, M. Tariq Makhdoom, Ph.D, CFM, Atkins

(4) **Addressing FEMA's Flood Opening Compliance Regulations on the Elevation Certificate**, Kurt Luecke, CFM, Smart Vent Products, Inc.

**MONDAY EVENING, MARCH 5, 2018**

**4:45 – 6:00 PM Reception (James River Ballroom Parlor H)**

**6:00 – 6:30 PM Virginia Lakes and Watersheds Association Business Meeting, Parlor F**

## TUESDAY MORNING, MARCH 6, 2018

**7:15 – 8:15 AM Virginia Floodplain Management Association Business Meeting, Parlor E**

**7:30 AM Coffee and Pastries**

**8:30 – 9:45 AM Fifth Concurrent Sessions**

### **Session 5A • Stormwater 5 • Moderator – Sheila Reeves, PE, CFM, Timmons Group**

(1) **Take Some Credit: Innovative Stormwater Utility Credit Alternatives to Incentivize Chesapeake Bay TMDL Reductions**, Douglas H. Moseley III, AICP, CFM, GKY & Associates, Inc.; Hannah Somers, GKY & Associates, Inc.

(2) **A BMP Toolbox for Implementing Small Scale Stormwater Improvements**, Richard E. Jacobs, PE, Culpeper Soil and Water Conservation District

(3) **Incorporating Climate Resiliency into Common Stormwater Designs**, Matthew P. Jones, Ph.D., PE, Hazen and Sawyer

(4) **Using Stormwater Management Incentives in Economic Development**, Sheila Reeves, PE, CFM, Timmons Group

### **Session 5B • Watersheds and TMDLs 1 • Moderator – Mike Barbachem, PE, Whitman Requardt and Associates, LLP**

(1) **Watershed Models for TMDL Development and Implementation**, Deva K. Borah, Ph.D., PE, F.ASCE, City of Chesapeake

(2) **Comparing HSPF and SWMM Watershed Model Applications at Various Scales to Improve Selection of Stormwater Control Measures**, Mohammad Nayeb Yazdi, Virginia Tech; David Sample, Virginia Tech; Durelle Scott, Virginia Tech

(3) **Developing Effective Bacteria TMDL Action Plans**, Bruce W. Schwenneker, Ph.D., Whitman Requardt and Associates; Nathan L. Sturre, EIT, Whitman Requardt and Associates

(4) **Reading Tea Leaves: Monitoring Data Use in Action Plan Development**, Mike Barbachem, PE, Whitman Requardt and Associates, LLP

### **Session 5C • Dam Safety 5 • Moderator – Edward G. Beadenkopf, PE, CFM, STARR II, Atkins North America**

(1) **Timing Is Critical – The Significance of Precipitation Temporal Distribution in Design Flood Analysis**, Adrienne Shaner, PE, ENV SP, Gannett Fleming, Inc.; Amanda Hess, PE, CFM, Gannett Fleming, Inc.

(2) **DCR Dam Safety Modeling Update: Temporal Distribution Curves & Guidance Documents**, David P. Wilmoth, PE, CFM, PH, Virginia Department of Conservation and Recreation (DCR)

(3) **How Changes in Probable Maximum Precipitation Values and Temporal Distributions for Virginia Impounding Structures are Impacting Dam Owners Across Virginia**, William K. Walker, PE, AECOM; Seshadri S. Iyer, Ph.D., PE, CFM, AECOM

(4) **FEMA Guidelines for Modeling and Mapping the Impact of Dams and Dam-Like Structures on FEMA Risk Map Products**, Edward G. Beadenkopf, PE, CFM, STARR II, Atkins North America

### **Session 5D • Water Quality and Quantity 2 • Moderator – Brad Ellis, PE, Moffatt & Nichol**

(1) **Whole-Ecosystem Experiments Suggest Nutrient Subsidies and Functional Traits Influence Phytoplankton Response to Epilimnetic Mixing**, Mary E. Lofton, Virginia Tech; Ryan P. McClure, Virginia Tech; Shengyang Chen, University of Sydney; John Little, Ph.D., Virginia Tech; Cayelan C. Carey, Ph.D., Virginia Tech

(2) **A Limnological Assessment of a 250-Acre Impoundment in Virginia for the Consideration of Nutrient Inactivation**, Fred S. Lubnow, Ph.D., Princeton Hydro, LLC; Michael Hartshorne, Princeton Hydro, LLC

(3) **Lake Observer: A Mobile App for Recording Lake and Water Quality Observations Across the Globe**, Lisa Borre, M.E.S., Cary Institute of Ecosystem Studies; Kathleen C. Weathers, Ph.D., Cary Institute of Ecosystem Studies; Kenneth Chiu, Ph.D., Binghamton University; Holly A. Ewing, Ph.D., Bates College

(4) **Creating Water Quality Improvements Around Existing Infrastructure at The Hague**, Brad Ellis, PE, Moffatt & Nichol

**Session 5E • Floodplain Management 5 • Moderator – M. Tariq Makhdoom, Ph.D, CFM, Atkins**

(1) **What's the Buzz About Silver Jackets?** Kristin Owen, AICP, CFM, Virginia Department of Conservation and Recreation-Division of Dam Safety & Floodplain Management; Eric Seymour, National Weather Service; Michelle Hamor, CFM, U.S. Army Corps of Engineers-Norfolk District

(2) **The National Flood Insurance Program 2018 – Overview and Updates**, Richard J. Sobota, CPCU, FEMA Region III

(3) **Use of Open Space in the CRS Initial Application and Re-Application Process**, James C. Rakestraw, PE, CFM, Stafford County, VA, Department of Planning and Zoning

(4) **The NFIP's Community Rating System: The Costs & Benefits of the CRS Program In Virginia**, Mary-Carson S. Stiff, CFM, JD, Wetlands Watch

**9:45 – 10:15 AM Coffee Break**

**10:15 – 11:30 AM Sixth Concurrent Sessions**

**Session 6A • Windsor Woods Neighborhood Flooding • Moderator – Jeff Waller, PE, City of Virginia Beach**

(1) **Emergency Response to Neighborhood Flooding in Virginia Beach**, Erin E. Sutton, MS CEM PMP, Virginia Beach Office of Emergency Management

(2) **Windsor Woods Neighborhood Ditch and Canal Dredging Projects**, Jeff Waller, PE, City of Virginia Beach; Alan Davis, PE, Hazen and Sawyer

(3) **City of Virginia Beach Stormwater Master Planning and Analysis in Windsor Woods**, Charles (C.J.) Bodnar, PE, City of Virginia Beach Public Works/Engineering

(4) **City of Virginia Beach Capital Project Programming and Funding in Windsor Woods**, Michael W. Mundy, PE, City of Virginia Beach Public Works/Engineering

**Session 6B • Watersheds and TMDLs 2 • Moderator – Daniel Proctor, PE, Stantec**

(1) **Setting Effectiveness Goals for Stream and Watershed Restoration**, James B. Stribling, Ph.D., Tetra Tech, Inc.; Nancy E. Roth, Tetra Tech, Inc.; Erik W. Leppo, Tetra Tech, Inc.

(2) **Developing a Citywide Stormwater Improvement Plan for Chesapeake Bay TMDL Compliance**, Don Rissmeyer, PE, CFM, A. Morton Thomas and Associates, Inc.

(3) **How Does HRSD's SWIFT Support Local Water Quality?** Melanie D. Coffey, PE, City of Virginia Beach

(4) **Stream Restoration for New Development Stormwater Compliance: Already, But Not Yet**, Josh Running, Stantec; Daniel Proctor, PE, Stantec

**Session 6C • Dam Safety 6 • Moderator – Benjamin Israel-Devadason, PE, CFM, Gannett Fleming, Inc.**

(1) **Modeling Dam Breaks with Significant Tailwater Conditions**, Samuel A. Barnes, EIT, Froehling & Robertson, Inc.

(2) **Modeling the Cumulative Effects of Impoundments on Downstream Flow Alteration**, Tyler A. Keys, Department of Biological Systems Engineering, Virginia Tech; Connor O. Brogan, Department of Biological Systems Engineering, Virginia Tech; Durelle T. Scott, Department of Biological Systems Engineering, Virginia Tech; Robert Burgholzer, Virginia Department of Environmental Quality; Joseph Kleiner, Virginia Department of Environmental Quality

(3) **Two-Dimensional Hydraulic Modeling for Hazard Potential Classification of Dams**, N. Johan Anestad, PE, O'Brien & Gere Engineers, Inc.; Ahintha H. Kandamby, Ph.D., EIT, O'Brien & Gere Engineers, Inc.

(4) **Decoding the Drowning Machines: How CFD Modeling Can Predict Dangerous Rollers at Low Head Dams**, Benjamin Israel-Devadason, PE, CFM, Gannett Fleming, Inc.; Paul G. Schweiger, PE, CFM, Gannett Fleming, Inc.; Late Dr. Bruce Tschantz, PE, University of Tennessee



**Session 6D • Lake and Reservoir Management • Moderator – Patrick Simmsgeiger, CLM, DWI, Inc.**

- (1) **Lake Smith Weir – Construction Issues; Site Situation Assessment of Embankment Settlement**, Seshadri Iyer, Ph.D., PE, CFM, AECOM; Tim Clarke, PE, AECOM; Jeff Waller, PE, City of Virginia Beach
- (2) **Challenges of Mechanical Dredging of Non-Tidal BMP Lakes**, Angela N. Rivas, PE, City of Virginia Beach Public Works Operations
- (3) **Gaining Control of Harmful Algae Blooms**, Patrick Simmsgeiger, CLM, DWI, Inc.

**Session 6E • Floodplain Management 6 • Moderator – Shane C. Parson, Ph.D., PE, CFM, AECOM**

- (1) **2D Hydraulic Modeling – A Quick Tour of the Jargon, Input and Output Analyses for Floodplain Administrators and Local Officials**, Sravan K. Krovidi, PE, CFM, AMEC Foster Wheeler
- (2) **HEC-RAS 2D Modeling – More than Just a Tool to Develop Inundation Maps**, Maridee Romero-Graves, PE, Schnabel Engineering, LLC
- (3) **Applying Two-Dimensional Hydraulic Modeling with Evolving Software Capabilities**, Maged A. Aboelata, Ph.D., PE, CFM, AECOM; Victoria A. Nelson, EIT, CFM, AECOM
- (4) **Importance and Accuracy of Velocity Data Outputs from 2D Models Compared to 1D Models**, William J. Leonetti, MS, EIT, CFM, AECOM

**11:45 – 1:00 PM Luncheon**

**VLWA Dam Safety Committee Dam Awards**

**Dave Pearson Watershed Excellence Award**

**Four Mile Run Tidal Restoration Project: The Challenges and Successes of a Major TMDL Project**, by Brian Finerfrock, PE, RK&K; Eliana Rios, PE, RK&K

**Honorable Mentions**

**Cumberland Marsh Preserve Dam Removals**, by Bill Weihbrecht, AECOM

**Combatting Sea Level Rise to Preserve Waterfowl Habitat at Curles Neck**, by Daniel Proctor, PE, Stantec; Karen Hall, PE, CFM, MBA, Stantec

**Hypolimnetic Oxygenation May Increase Methane Bubble Fluxes in a Eutrophic Drinking Water Reservoir**, by Ryan P. McClure, Virginia Tech; Mary E. Lofton, Virginia Tech; Kathryn M. Kruger, Virginia Tech; Madeline E. Schreiber, Ph.D., Virginia Tech; Cayelan C. Carey, Ph.D., Virginia Tech

**Keynote Address – Dam Related Flood Risks: How Will the Dam Safety Community Mobilize to Meet New Challenges?** James E. Demby, Senior Technical and Policy Advisor for National Dam Safety Program, Federal Emergency Management Agency (FEMA) Headquarters