# Contact Information

# The University of Texas – Rio Grande Valley Civil Engineering Department

Edinburg Campus: Brownsville Campus:

EACSB 1.202 LHSB 2.702

1201 West University Drive One West University Boulevard

Edinburg TX 78539 Brownsville, TX 78520

(956) 665-3038 (956) 882-6605

deanna.gomez@utrgv.edu

The University of Texas – Rio Grande Valley College of Engineering & Computer Science

Edinburg Campus: Brownsville Campus:

ENGR 1.294 LHSB 2.702

1201 West University Drive One West University Boulevard

Edinburg TX 78539 Brownsville, TX 78520

(956) 665-3510 (956) 882-6605

Leticia.ocanas@utrgv.edu

Lower Rio Grande Valley-TPDES Storm Water Task Force

Edinburg Campus: EACSB 1.202

1201 West University Drive Edinburg TX 78539 (956) 665-3038

LRGVswtf@utrgv.edu





The University of Texas-Rio Grande Valley is accredited by the Commission on Colleges of the Southern Association of Colleges and Schools (1866 Southern Lane, Decatur, Georgia 33033-4097: Telephone number 404-679-4501) to award bachelor's, master's and doctoral degrees.





# Lower Rio Grande Valley 19<sup>th</sup> Annual Water Quality Management & Planning Conference

# **Program**

May 23 - 27, 2017
Isla Grand Resort
South Padre Island, Texas
www.islagrand.com





Civil Engineering 1201 W. University Dr. Edinburg, Texas 78539 Office: (956)665-3830

May 23, 2017

Greetings,

On behalf of The University of Texas-Rio Grande Valley (UTRGV), along with the Lower Rio Grande Valley Texas Pollutant Discharge Elimination System (TPDES) Storm Water Task Force and our partners, welcome to the 19<sup>th</sup> Annual *Lower Rio Grande Valley Water Quality Management & Planning Conference*. UTRGV is pleased to lead the planning and delivery of the annual event.

UTRGV focuses on research topics germane to South Texas and the U.S.-Mexico border region. It is our goal to develop team-based and research inspired programs to train and educate our future engineers. Working with our partners, we have brought together representatives from academia, private industries, environmental groups, research communities and state and federal agencies to be a part of a team exchanging ideas concerning environmental issues impacting coastal and semi-arid regions and the Rio Grande Valley, and transferring that information to the decision makers and stakeholders who influence the economic, social and physical infrastructure along the border region.

It is our hope that this conference serves as a platform for discussing sustainability issues that are both important and relevant to the Rio Grande Valley. This year the conference includes topics on the Lower Laguna Madre Estuary Program, the Lower Laguna Madre & Port of Brownsville Watershed Protection Plan, low impact development, stormwater runoff flow reduction strategies, RESTORE, academia research topics, and many other interesting themes. Our 2017 conference is pleased to announce that event topics will highlight planning, updates and working sessions associated with the recently formed Lower Laguna Madre Estuary Program. We hope you consider participating in this event and hope you have an enjoyable and stimulating time at the conference.

Sincerely,

Sincerely,

Andrew N.S. Ernest, Ph.D., P.E., BCEE, D.WRE Civil Engineering Department Professor & Chair Andrew.ernest@utrgv.edu



Javier Guerrero, E.I.T., MS Civil Engineering Department Director of Water Studies Javier.guerrero@utrgv.edu



# **Conference Schedule**

Tuesday, M	lay 23, 201	6 – Grant Workshop, TFMA Course and Exam	
	gistration	required. Must join TFMA to sit in during Exam.	
7:30 am-9:00		Registration	
8:00 am- 12:00		NAUTILUS	
		"Federal and State Funding Grant Workshop" facilitated by	
	Course	Adele Cardenas-Malott, P.E.	
	I	Senior Policy Advisor &	
		Curry Jones	
		Chief, State and Tribal Programs Section EPA, Region 6, Dallas, TX	
8:30 am- 12:00		SUNDIAL	
12.00	Course	Floodplain Management Review Course Thomas W. Mountz, PE, D.WRE, CFM	
	II	Project Manager - Water Resources	
		Texas Floodplain Management Association (TFMA) 6 CECs/6 PDUs	
12 noon –		MAJESTIC ROYAL	
12:30 pm		MC: Joe Hinojosa	
		General Manager Santa Cruz Irrigation District #15	
	Keynote Speaker	Kathleen Jackson, Board Member Texas Water Development Board	
1:00 pm -		NAUTILUS	
3:00 pm		"Federal and State Funding Grant Workshop"	
	Course	facilitated by  Adele Cardenas-Malott, P.E.	
	I	Senior Policy Advisor	
		Curry Jones	
		Chief, State and Tribal Programs Section EPA, Region 6, Dallas, TX	
1:00 pm -	1	SUNDIAL	
4:30 pm		Floodplain Management Review Course	
	Course II	Thomas W. Mountz, PE, D.WRE, CFM Project Manager - Water Resources	
		Texas Floodplain Management Association (TFMA) 6 CECs/6 PDUs	
5:30 pm -	CFM Exam		
8:00 pm		Register at <u>www.tfma.org</u> FOYER	
		Exhibitor setup (2 <sup>nd</sup> Floor)	
		Exhibitor setup (2 Floor)	

Tuesday, N	1av 23, 2016	6 – Pre-Conference Activities	
•		PALM GRAND BALLROOM RECEPTION AREA (2nd Floor)	
6–7:00 pm	Registration	Early Registration, 2 <sup>nd</sup> floor	
	Martin	Conference Room (1st Floor)	
6:00 pm	Meeting	High School Track – Volunteer Meeting	
	Dinner	WINDJAMMER'S BEACHFRONT CAFÉ (2nd Floor)	
7:30 pm	Diffilei	EPA/UTRGV FACULTY/STAFF/TASK FORCE DINNER	
Conferenc	e begins.		
		016 – Plenary – Conference Themes	
	Guest Speak	ers, Key Topics and Plenary Keynote	
7:00 – 8:30 am		FOYER	
0100 1111		Breakfast	
Group Session 0		ROYAL MAJESTIC	
8:00-10:15	Stormwater 0 – Plenary, Welcome, and Keynote Chair: Andrew N.S. Ernest, Ph.D., P.E., BCEE, D.WRE Vice-Chair: Jose Hinojosa, Santa Cruz Irrigation District #15, Chairperson Lower Rio Grande Valley TPDES Storm Water Task Force		
Plenary Welcome 8:00-8:15	"Celebrating the Future of UTRGV Civil Engineering in the Lower Rio Grande Valley and South Texas"  Andrew N.S. Ernest, Ph.D., P.E., BCEE, D.WRE Civil Engineering Department College of Engineering & Computer Science Edinburg, TX/Brownsville, TX		
Plenary Theme Speaker 8:15-8:30	"The LRGV Stormwater TPDES Task Force – History and Beyond"  José Hinojosa, REM  General Manager  Santa Cruz Irrigation District #15  Chairperson  LRGV Texas Pollutant Discharge Elimination System Stormwater Task Force Founded 1998		
Plenary Guest 8:30-8:45 Plenary Conference	"Texas Floodplain Management Association Initiatives"  Thomas W. Mountz, PE, D.WRE, CFM  Sr. Project Manager - Water Resources - RPS Klotz Associates  Texas Floodplain Management Association (TFMA)  State Board of Directors - Treasurer  Austin, Texas 78735  "TCEQ MS4 Program Update"  Rebecca Villalba		
Theme Speaker 8:45-9:05	Rebecca Villalba Team Leader, Stormwater & Pretreatment Team Water Quality Division Texas Commission on Environmental Quality (TCEQ) Austin, TX		

Plenary Guest Speaker 9:05-9:20	Craig B. Th ASCE Texas S Vice President/Principal, H Naismith	ompson, P.E. ection President lanson Professional Services   Hanson Christi, TX
Plenary Guests 9:20-9:30	Jesse Sar American Society of C Rio Grande V Pres	ng Community through ASCE" nchez, P.E. Civil Engineers (ASCE) Valley Branch ident &
	<b>Dora Marin</b> American Society Rio Grande <sup>N</sup>	-Robles, P.E. of Civil Engineers Valley Branch tion Director
	"Region 6 Water .	Priorities at EPA"
Plenary Conference	S	Garcia
Theme	Assistant Director	
Speaker 9:30-9:50	Water Quality Protection Division	
	EPA Region	6, Dallas, TX
Plenary Keynote 9:50-10:15	Jorge A. Garza Senior Managing Director Estrada Hinojosa & Co., Inc. Board of Directors Dallas, TX	
10:15-10:30	FOYER	
Group	Networking Coffee Break, Exhibits and Posters  ROYAL MAJESTIC	
Session I 10:30-12:30	Stormwater Ia –TPDES, NPDES and Stormwater Management Chair: Ernesto Solis, Stormwater Specialist, City of Alamo Vice Chair: Melisa Gonzales, Stormwater Manager, City of Alamo	Stormwater Ib – Avanced Topics Chair: Paolina Vega, P.E., County Engineer, Cameron County Vice Chair: Jungseok Ho, Ph.D. Civil Engineering, UTRGV

"National and Regional Outstanding Examples of Long Term Stormwater Management and Integrated Planning Frameworks"

### **Nelly Smith**

Municipal Stormwater Coord. EPA Region 6, Permits and Technical Assistance Section NPDES Permits & TMDLs Branch

"TCEQ MS4 Program Updae"
Rebecca Villalba

Team Leader Stormwater & Pretreatment Team Water Quality Division TCEQ Austin, TX

"Legal and practical issues associated with using Lower Rio Grande Irrigation surface water rights for industrial purposes, and possible solutions"

Emily Rogers, Attorney Bickerstaff Heath Delgado Acosta LLP Austin, TX

"City of Laredo Discharge Detection and Elimination (IDD&E) Program for TPDES Compliance"

### Ivan Santovo

Stormwater Manager/City of Laredo Environmental Services Department Laredo, TX "Historical and Recent Characteristics of Freshwater Inflow and Salinity in the Lower Laguna Madre and Rio Grande Estuaries"

Caimee A. Schoenbaechler

Manager

Evan L. Turner, Ph.D.

Coastal Scientist Bays and Estuaries Program/Texas Water Development Board Austin, TX

"Improving runoff simulation for subwatersheds in the Lower Laguna Madre: an assessment of the need to incorporate land use-land cover information in rainfall-runoff model calibration"

**D. Nelun Fernando, Ph.D., CTCM** Hydrologist

Surface Water | Bays & Estuaries Water Science and Conservation Austin, TX

"Project CRAWFISH: a water-smart, integrated vegetable garden and aquaculture system maintained with harvested rainwater and HVAC condensate"

### Christopher A. Gabler, Ph.D.

Assistant Professor School of Earth, Environmental, and Marine Sciences University of Texas Rio Grande Valley Brownsville, TX

"Nutrient removal from anaerobically treated digested sludge using multiple sequential aeration schemes"

### Jongmin Kim, Ph.D., P.E.

Assistant Professor
Civil Engineering Department
The University of Texas Rio Grande Valley
Edinburg, TX

11 am –	BOARDROOM	
12:00	T. I. D. I. I. I. G. I. I. I. G. I. I. I. G. I. I. I. G. I. I. I. I. G. I. I. I. I. I. G. I.	
	Task Force Roundtable with Commissioner Sid Miller	
	(by invitation only)	
12:30-1:30	BALLROOM	
Lunch	MC: Joe Hinojosa	
	General Manager	
	Santa Cruz Irrigation District #15	

12:30-12:50 Keynote Speaker	Texas Departm	Miller nent of Agriculture nissioner
Group	ROYAL	MAJESTIC
Session II 1:30-3:00	Stormwater II — Chair: Martino Trevino, Pro Vice Chair: Raul Gomez, Honorable David Garza, G "Coordinated Local E Joh Texas Illegal Du Da "Trash J. Doug U.S.EF	Environmental Topics ject Manager, City of Brownsville Administrative Assistant to the Cameron County Commissioner nvironmental Enforcement" n Ockels mping Resource Center Illas, TX  Free Texas" las Jacobson PA, Region 6
	Regional Coordinato Natural Resource Damage Assessr Gulf of Mexico Alliance Da "Volunteer Monitor Mi EPA N	National Estuary Program r, Gulf of Mexico Program nent, EPA Trustee Texas Representative Marine Debris Team Co-Chair Illas, TX ring in the United States" ike Bira PS Program on 6, Dallas, TX
3:00-3:15	FOYER	
	Networking Coffee B	reak, Exhibits and Posters
Group Session III	ROYAL	MAJESTIC
3:15-5:00	Stormwater III – General Topics Chair: Jose Figueroa, Stormwater Manager, City of Brownsville Vice Chair: Roy Jimenez, Stormwater Manager, City of Donna	
	<b>David Me</b> Pr Bickerstaff Heatl Au <b>Ma</b> Clean Water SRI	ncing: Demystified" ndez, Attorney rincipal n Delgado Acosta LLP stin, TX & rk Evans F Program Coordinator opment Board, Austin, TX

	"General Introduction to LNG and the Annova Project"		
	Maribel B. Guerrero		
	Alderwoman, Town of Rancho Viejo		
	President		
	Bermudez & Associates, LLC		
	Town of Rancho Viejo, TX		
	"Best Water Management Practices: City and federal approaches and perspectives"		
	Laura E. Gómez Rodríguez		
	Community Liaison for Federal Interagency Initiatives		
	USEPA		
Social	Dallas, TX		
6:00-6:30	PALM GRAND BALLROOM		
	Networking/Fellowship		
Dinner 6:30-8:30	"Engineering Education, Technology Development		
0.30-6.30	and New Initiatives in the Valley"		
	"We Are One: Building a Sustainable and Resilient Community		
	in the Lower Rio Grande Valley"		
	MC: Andrew Ernest, Ph.D., P.E., BCEE, D.WRE		
	Chairperson Civil Engineering Department		
	The University of Texas-Rio Grande Valley		
	Edinburg, TX		
	"Title"		
	Name		
	College of Medicine		
	The University of Texas-Rio Grande Valley		
	Harlingen, TX		
	"South Texas College's STEM Initiatives and Leadership in the Rio Grande Valley"		
	Ali Esmaeili, Ph.D.		
	Dean of Math, Science, and Bachelor's Degree Programs		
	South Texas College		
	McAllen, TX		
	May 25, 2016 - TPDES, Research and Emergency Response		
7:00 - 8:30	FOYER		
	Breakfast		
Group Session IV	ROYAL MAJESTIC		
8:15-10:15	Stormwater IV – General Topics		
0.13-10.13	Chair: Xavier Cervantes, AICP, City Planner, City of San Juan		
	Vice Chair: Mardoqueo Hinojosa, P.E., City Engineer, City of Weslaco		
	"February of Engineering Laboration of Property of Pro		
	"Ethics of Environmental Enforcement"		
	John Ockols		
	John Ockels Texas Illegal Dumping Resource Center		
	John Ockels  Texas Illegal Dumping Resource Center  Dallas, TX		
	Texas Illegal Dumping Resource Center		

	"Monitoring, Modeling, and Deci Mike EPA NPS EPA Region 6 "The legal and practical requirement groundwater and surface Emily Roger Bickerstaff Heath De	Bira Program 5, Dallas, TX nts for permitting return flows and exwater-based Effluent" s, Attorney	
	Austin	,	
10:15-10:30	FOY	ER	
	Networking Coffee Brea	k, Exhibits and Posters	
Group Session V	ROYAL	MAJESTIC	
Session V 10:15-12:00	Stormwater Va – Estuary and Waterhshed Topics Chair: Paula Rodriguez, City Planning and Community Development Directo City of La Feria Vice Chair: Raul Garcia, Stormwater Manager City of Los Fresnos		
	"EPA's Role in Support for Sustainable Agriculture"  Randy Rush  Policy Advisor - Agriculture  U.S. EPA - Region 6  Dallas, TX		
	"Texas State Soil and Wa Water Quality Manage <b>Brian</b> I Texas State Soil and Wa Regional Watersh Temple	ment Plan Program"  Koch ter Conservation Board ned Coordinator	
	"Lower Laguna Madre & Port of Browns Tim Ca NPS Project Texas Commission on E NPS Program. & Jude Benavi The University of Texa School of Earth, Environme	wthon t Manager Environmental Quality , Austin, TX idez, Ph.D. as Rio Grande Valley	
Lunch	SABAL	PARADISE	
12:00-1:15	MC: Joe E. Vega Cameron County Parks and Rec Department Director Former Mayor, City of Port Isabel		
	Toby I	Baker	
12:15-12:45 Keynote	Commis		
Speaker	TCEQ, Austin, TX		

Group Session VI 1:15-3:15	ROYAL	MAJESTIC	
1:15-3:15	Stormwater VI – MS4 Topics Chair: Daniel Tijerina, City Manager, City of Mercedes Vice Chair: Robert Valenzuela, Stormwater Manager, City of Edinburg		
Ty Garmon CBI Systems		armon ystems	
	LJA Engir	neering, Inc.	
	Ivan S	gement at the City of Laredo" Santoyo	
		ger/City of Laredo ervices Department	
		do, TX	
	an An	"Stormwater Management as a Community Asset: Transforming a Necessity into an Amenity"	
	Hugo Colón Landscape Designer		
		Workshop ton, TX	
3:15-3:30		YER	
3:15-3:30	Networking Coffee Bre	ak, Exhibits and Posters	
3:15-3:30	NAUTILUS		
	POSTER WINNER	ANNOUNCEMENTS	
Group Session VII	ROYAL	MAJESTIC	
3:30-5:30	Stormwater VII – Valley-Wide Integrated Monitoring and Forecasting for Flood Response and Economic Development Emergency Management Chair: Andrew N.S. Ernest, Ph.D., P.E., BCEE, D.WRE Vice Chair: Name		
	Andrew Ernest., P.E., Ph.D., BCEE, D.WRE, Chairperson, Civil Engineering The University of Texas-Rio Grande Valley		
Harry Evans Center for Research on Water Resources University of T Austin Fire Department (Retired), Austin, TX		Resources University of Texas	
	John O'Valle District Coordinator Field Response Section Texas Division of Emergency Management Austin, TX		
	Region III Sta	y <b>Pena</b> tte Coordinator cy Management, Austin, TX	
	Associate	enavides Professor	
	The University of Texas Rio C	Grande Valley, Brownsville, TX	

## **Doug Fowler** Fire Chief City of South Padre Island, TX Pilar Rodriguez, P.E. Executive Director Hidalgo County Regional Mobility Authority, Pharr, TX Ricardo Saldana **Emergency Management Coordinator** Hidalgo County Office of Emergency Management, Edinburg, TX **KEY LARGO ROOM** FIRST FLOOR 1st Annual UTRGV Engineering Alumni Social Alumni Alumni Social Social MC: Julissa Flores, Assistant Dean 6:00 pm -College of Engineering & Computer Science 7:30 pm The University of Texas Rio Grande Valley Guest Speaker: TBD 8:00 -**OUARTERDECK BAR** 10:00pm **Hammerhead Deck** Luau Outdoor Party - Food and Music Friday, May 26, 2016 - Lower Laguna Madre Estuary Program Strategic Planning 8:30am-10:30 MAJESTIC Estuary Program I – Topic Chair: Augusto Sanchez-Gonzales, MS, CFM, Director of Estuary, Environmental and Special Projects UTRGV/Cameron County Vice Chair: Iris Cantu, Assistant County Engineer, Cameron County "Seasonal and inter-annual variations in evapotranspiration of Arundo donax, water-using weed in the arid southwestern US" Alexis Racelis, Ph.D. The University of Texas Rio Grande Valley School of Earth, Environmental, and Marine Sciences "Role of the Texas State Soil and Water Conservation Board as a State Agency Representative on the NEPs Implementation Subcommittees, Specifically Water and Sediment Quality" **Brian Koch** Texas State Soil and Water Conservation Board Regional Watershed Coordinator Temple, TX

	"Field Evaluation of Disputantian Hudnels on and Dellutant Loads
	"Field Evaluation of Bioretention Hydrology and Pollutant Loads
	Reductions in South Texas"
	<b>Ahmed Refaat</b> Ph.D. Candidate
	Environmental Engineering Department
	Texas A&M University-Kingsville, Kingsville, TX
	Texas A&M University-Kingsville, Kingsville, 1X
10:30-10:45	FOYER
10:30-10:43	Networking Coffee Break, Exhibits and Posters
10:00 am- 12:00 pm	ROYAL
	TASK FORCE/UTRGV ROUND TABLE By invitation only
10:00 am- 12:00 pm	MAJESTIC
-	Estuary II – Topic
	Chair: Name
	Vice Chair: Name
	"Lower Laguna Madre Water Quality"
	Tim Cawthon
	Nonpoint Source Program
	TCEQ
	Austin, TX
	"D d 1 1 i i
	"Beyond sea-level rise: impacts of climate change on coastal
	ecosystems in South Texas"
	Christopher A. Gabler, Ph.D.
	Assistant Professor
	School of Earth, Environmental, and Marine Sciences
	The University of Texas Rio Grande Valley
	Brownsville, TX
	"Development of the Lower Laguna Madre Estuary Program Strategic Plan"
	Augusto Sanchez-Gonzales, MS, CFM
	Director of Estuary, Environmental and Special Projects
	The University of Texas Rio Grande Valley/Cameron County
	San Benito, TX
12:30 pm- 2:00 pm	Working Lunch
=	
	"Development of the Lower Laguna Madre Estuary Program Strategic Plan -
	Discussion of the Work Done to Date, from Jan 2017-May 2017, 5 years of
	planning, and the Future"
	Augusto Sanchez-Gonzales, MS, CFM
	Director of Estuary, Environmental and Special Projects
	The University of Texas Rio Grande Valley/Cameron County
	San Benito, TX
2:00	End of Conference

Saturday, May 27, 2017 (7 am-12 noon)— Laguna Madre Tour (Charter Boat) — Hosted by Lower Laguna Madre Estuary Program — For more information, please sign up at the Registration Table between May 23 and May 26.

Saturday, May 27, 2016 (7 pm) – Social, Fish Fry – Beach side of Resort.





College of Engineering & Computer Science
The University of Texas-Rio Grande Valley