

2017 BAT ECHOLOCATION SYMPOSIUM

Learning to Listen

26 March - 1 April 2017
Tucson, Arizona
Westward Look Wyndham Resort

Sun	26-Mar 1730- 1530	Evening Meet and Greet	<i>Lookout Bar and Lounge</i>
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Mon	27-Mar	<i>Getting Started – unless otherwise noted all sessions will be held in the Sonoran Ballroom “Quail and Javelina” Rooms</i>	
	08:00-13:00	Registration - <i>Sonoran Foyer</i>	<i>Sonoran Foyer</i>
	13:00	Introduction and Welcome	Brock Fenton, Chair
	13:10	Handbook project	Erin Fraser, Mark Brigham, Herman Limpens, Alexi Silvis
	13:40	Echolocation: A Personal Historical Perspective	Alan Grinnell
	14:00	Bat Detectors A to Z	Toby Thorne, Janet Tyburec, Cori Lausen
	15:00	Hosted Break	<i>Sonoran Terrace</i>
	15:30	What People Want to Know: The Top Ten Questions About Bat Detection	Janet Tyburec, Martin Obrist
	16:30	Rapporteur: What Did We Just Learn?	Brock Fenton
	18:00	Reception: Hors d’overs and Cash Bar	<i>Palm Room and Terrace</i>
	20:00	A) Echo lab – meet in <i>Quail and Javelina Room</i> B) Handbook Workshop Part 1 – <i>Coyote Room</i>	Led by Vendors and Experienced Users Erin Fraser, Mark Brigham, Herman Limpens, Alex Silvis

Tues	28-Mar	<i>Systems for Detecting & Analyzing Bat Echolocation Calls: An Embarrassment of Riches</i>	<i>Cindy Moss, Aaron Corcoran, Co-Chairs</i>
	8:00	Bats And Echolocation	Jim Simmons
	8:30	Scene Analysis By Echolocating Bats	Cindy Moss
	9:00	Bio-sonar Information Encoding during Pulse Emission and Echo Reception	Rolf Mueller
	9:30	Bats Are Still Not Birds In The Digital Era: Echolocation Call Variation And Why It Matters For Bat Species Identification	Danilo Russo
	10:00	Hosted Break	<i>Sonoran Terrace</i>
	10:30	The Role Of Echolocation For Niche Differentiation In Bats	Annette Denzinger

Tues	28-Mar	<i>Systems for Detecting & Analyzing Bat Echolocation Calls: An Embarrassment of Riches</i>	<i>Cindy Moss, Aaron Corcoran, Co-Chairs</i>
	11:00	Echolocation To Communication: A Continuum of Signals	Kisi Bohn and Erin Gillam
	11:30	Knowing When To Be Quiet: Stealth And Silence In Echolocating Bats	Aaron Cocoran
	12:00	Lunch on your Own	
	13:30	What We Learn From Arrays of Microphones	Jens Koblitz
	14:00	Identifying Bats By Their Echolocation Calls	Erin Fraser
	14:30	Using Acoustics To Identify Bats	Chris Corben
	15:00	Unsolved Problems In Bat Echolocation	Uli Schnitzler
	15:30	Rapporteur - What did we learn today?	Yossi Yovel
	16:00	Hosted Break	<i>Sonoran Terrace</i>
		<i>Sound Recording and Analysis</i>	<i>Erin Fraser and Danilo Russo Co-chairs</i>
	16:30	Binary Acoustic Technology: Automated Call Recording	Mark Jensen
	17:00	Sonobat: Automated Sound Analysis	Joe Szewczak
	17:30	Batscope: Automated Software Analysis	Martin Obrist
	18:00	Dinner on your Own	
	20:00	A) Echo-lab – <i>Quail and Javelina Room</i> B) Long term large scale projects – <i>Coyote Room</i>	Led by Vendors and Experienced Users Kate Jones, Alex Silvis; co chairs

Wed	29-Mar	<i>Sound Recording and Analysis Contd.</i>	<i>Erin Fraser and Danilo Russo Co-chairs</i>
	8:00	Analook: Analysis Of Bat Sounds	Chris Corben
	8:30	Kaleidoscope Pro: automated software analysis	Ian Agranat
	9:00	Rapporteur: What did we just learn?	Kate Jones
	10:00	Hosted Break	<i>Sonoran Terrace</i>
		<i>Contributed Papers</i>	<i>Kisi Bohn and Mark Brigham, co-chairs</i>
	10:30	From Bat Calls In The Field To Validated Species Records	Bader, Elias, F. Bontadina, A. Frey-Ehrenbold, C. Schonbachler, P.E. Zingg and M.K. Obrist
	10:50	New Methods To Account for False Positive Detection Errors: Acoustic Surveys Of Bats	Banner, Katharine, K. Irvine, T. Rodhouse, W. Wright and A. Litt.
	11:10	Bat Species ID Based On Audible And Visible Parameters	Herman Limpens

<i>Wed</i>	<i>29-Mar</i>	<i>Sound Recording and Analysis Contd.</i>	<i>Erin Fraser and Danilo Russo Co-chairs</i>
	11:30	Using Sequential Data Analysis To Assess The Performance And Limitations Of Acoustics Species Classification.	Joe Szewczak
	12:00	Lunch on your Own	
	14:00	Examining The Effectiveness Of The North American Bat Monitoring Program (NABat) Acoustic Survey Protocols	Li, Han, K.A. Parker Jr. and M. C. Kalcounis-Rueppell
	14:20	System Wide Monitoring of LCR MSCP Bat Species as Determined by Acoustic Sampling	Mixan, Ronald and J. Diamond
	14:40	An Evaluation of Spatial and Temporal Bat Habitat Use Patterns in Southwestern Arizona.	Mixan, Ronald and J. Diamond
	15:00	Bats In The Rotor Zone...Managing Risk With Acoustics	Peterson, Trevor
	15:20	Static Long-term Monitoring For Migratory Bat Detection	Rainey, Bill
	15:40	Hosted Break	<i>Sonoran Terrace</i>
	16:10	Unraveling Zero Crossing and Full Spectrum – What does it all mean?	Ian Agranat
	16:30	Toward a universal, extensible bat acoustic metadata format	Riggs, David
	16:50	NABat: The program, recent advances, and unmet challenges.	Reichert, Brian and P. Stevens
	17:10	The Application of Acoustic Detection Technology for Bat Conservation: The Goals, Challenges, And Needs Of Natural Resource Management And Research Agencies	Presented by Bronwyn Hogan, Jeremy Coleman and others.
	17:20	<i>(This presentation will cover five main questions and run through three slots)</i>	<i>See abstract for details</i>
	17:40	<i>Sets the stage for the evening discussion in (C) below</i>	
	18:00	Poster Session	
		The Relationship Between Bat Activity And Salamander Size Structure	Buschhaus, Nancy, R. Milam, A. Smith, C. Mott, R. Baker and H. Whiteman
		Effectiveness Of A Shortened NABat Protocol For Sampling Bats in Urban Areas	Schimpp, Sara, H. Li, M. Kalcounis-Rueppell,
		A New On-board Recording Tag for Studying Echolocation Behavior in Free-flying Bats in the Wild	Stidsholt, L., J. Johnson, K. Beedholm, L. Jakobsen, S. Brinklov and P. Teglbjerg Madsen
	18:30	Dinner on your Own	
	20:00	A) Echo Lab – <i>Quail and Javelina Room</i>	Led by Vendors and Experienced Users

<i>Wed</i>	<i>29-Mar</i>	<i>Sound Recording and Analysis Contd.</i>	<i>Erin Fraser and Danilo Russo Co-chairs</i>
		B) Handbook workshop part 2 – <i>Main Foyer</i> C) Data-dependent Bat Management Issues – <i>Coyote Room</i>	E. Fraser, M. Brigham, H. Limpens, A. Silvis Bronwyn Hogan

<i>Thu</i>	<i>30-Mar</i>	<i>Contributed Papers</i>	<i>Uli Schnitzler and Cori Lausen, Co-chairs</i>
	8:00	A Review Of Echolocation Detection Studies	Starbuck, Clarissa, and C. Chambers
	8:20	Long-term Acoustic Monitoring Of Bats Within Rouge National Urban Park	Thorne, Toby, L. Carbrera and M. Franke.
	8:40	Lingering Challenges And Intermodality	Alan Grinnell
	9:00	Identifying <i>Myotis</i> - A Viewpoint	Chris Corben
	9:20	Variability In Bat Detection: Exploring Factors Influencing Acoustic Monitoring In 3-D Space	Koblitz, Jens C., C. Malinka, J. Macaulay, P. Stilz.
	9:40	Establishing A Pre-WNS Baseline For Bats In Hawaii	Bergman, C., E. Price and L. Russ
	10:00	Hosted Break	<i>Sonoran Terrace</i>
	10:30	Estimating Bat Species Assemblages in the Absence of White-Nosed Syndrome at Grand Canyon National Park.	Mixan, Ronald and J. Diamond
	10:50	Predicting Habitat Use By Bats To Protect Bats And Inform Wind Energy Development	Starbuck, Clarissa, and C. Chambers
	11:10	Are Bats Acoustically Challenged by Corrugated Culverts?	Brown, Pat, J. Simmons, K. Hom, M. Linnenschmidt, T. Beck and Z. Blowers.
	11:30	Bats Modify Calls To Communicate In Aggressive Situations	Congnan, S., T. Jiang, J.S. Kanwal, X. Guo and J. Feng.
	11:50	Acoustic Enhancement Resulting from Diffraction in Mammalian Hearing	Keeley, Brian, A.T.H. Keeley, P. Houlahan
	12:10	High Altitude Echolocation	Jennifer Krauel, J. Ratcliffe, J. Westbrook and G. McCracken
	12:30	Lunch on your Own	
	13:30	An Automatic Analysis Program Of Bats Communication Calls	Zhang, KangHang, and Y. Liu
	13:50	Anthropogenic Noise Affects Bat Acoustic Communication	Jiang, Tinglei, X. Guo, J.S. Kanwal, A. Lin, J. Feng
	14:10	Mitigating For Noise Near Roosts: What Frequency Of Noise And Which Bats	Johnston, Dave S., G.A. Reyes, M. Rodriguez and K. Briones.
	14:30	Assessing The Effects Of Anthropogenic Noise On Bats	West, Edward

<i>Thu</i>	<i>30-Mar</i>	<i>Contributed Papers</i>	<i>Uli Schnitzler and Cori Lausen, Co-chairs</i>
	14:50	Hybrid Zero-cross Analysis Of Full Spectrum Recordings Preserves Amplitude	David Riggs
	15:10	Hosted Break	<i>Sonoran Terrace</i>
	16:00	<i>Open Session - Questions and Answers</i>	<i>Annette Denzinger and John Ratcliffe, Co-chairs</i>
	18:00	Hosted Dinner and Cash Bar	<i>Sonoran Rooftop Terrace</i>
	20:00	A) Echo lab – <i>Quail and Javelina Room</i> B) Protecting bats by promoting data-based decisions – <i>Coyote Room</i> C) Handbook wrap up – <i>Main Foyer</i>	Led by Vendors and Experienced Users Discussion lead by Winifred Frick E. Faser, M. Brigham, H. Limpens, A. Silvis

<i>Fri</i>	<i>31-Mar</i>	<i>The Future of Our Field: Citizen Science, Technological Advances and Challenges</i>	<i>Brock Fenton, and Bronwyn Hogan, co-chairs</i>
	8:00	Urban Bat Program: High Park, Toronto	Jon Hayes
	8:20	Using Acoustic Survey Methods For Bat Conservation: Challenges And Opportunities	Winifred Frick
	8:40	Behavioral, Directional, Environmental Impacts On Species-specific Bat Echolocation Call Recordings	John Ratcliffe and Lasse Jakobsen
	9:00	Monitoring Bats: Where And How Long	Martin Obrist
	9:20	Future Technology And Challenges	Yossi Yovel
	9:40	Revisiting Bat Detectors Q&A: What have we learned?	J.D. Tyburec and J.D. Chenger
	10:00	Hosted Break	<i>Sonoran Terrace</i>
	10:30	Handbook Update	Editors
	11:30	Answers to Questions; Questions to Answer	Brock Fenton
	12:00	End of Symposium – Lunch on your Own	

<i>Sat</i>	<i>1-Apr</i>	<i>Arizona-Sonora Desert Museum</i>	<i>Check webpage for details.</i>
*Echo labs are available each evening for hands on work with equipment and software. They will be offered by the vendors as well as experienced users. There will also be concurrent discussions during that time frame.			