AFRICAN BIOACOUSTICS COMMUNITY 2020

The 2nd African Bioacoustics Community Conference
#ABC2020

ONLINE VIRTUAL CONFERENCE
NOVEMBER 2 - 5, 2020
9:00 AM - 18:00 PM

www.africanbioacoustic.wixsite.com/abcommunity
The 2nd African Bioacoustics Community Conference!

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Our Sponsors

Avisoft Bioacoustics

ASA Acoustical Society of America

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WILDLIFE Acoustics

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SEA SEARCH Research - Conservation - Education
Thanks to the generosity of the Acoustical Society of America, the following students were sponsored to attend the 2nd African Bioacoustics Community Conference:

Anne-Sophie Crunchant  
Bárbara Freitas  
Luara Puch  
Fowin Becker  
Saeed Sabet  
Yoba Alenga  
Eunice Osei-Yeboah

Rachel Probert  
Natasha Shilubane  
Chloe Malinka  
Matteo Sebastianelli  
Viwe Mabange  
Adelaide Karomo  
Karla Jimena Quispe Ramos

Jack Fearey  
Mbikeng Besongngem  
Colin Swider  
Benjamin Walker  
Mar Palanca  
Clinton Factheu  
Emma Longden

This conference would not have been made possible without the help of dedicated volunteers:

Tess Gridley  
Erin Ross-Marsh  
Courtney Gardiner  
Katie Keanly  
Catherine Nadin  
Simon Elwen
Wildlife Acoustics Product Workshop

Turning Sound into Discovery: Using Wildlife Audio Recorders as a Valuable Research Tool

Biologists all over the world have made the Song Meter platform the standard for bioacoustics recording with over 50,000 recorders deployed in 90 countries. In this product workshop, the first section will be a hands-on session to teach participants the features and set up of the Song Meter Mini and Mini Bat recorders to monitor for bats, birds, frogs, and other wildlife. The remainder of the workshop will be a brief overview of the Kaleidoscope Pro software and analyzing biodiversity through sound.

Speakers:
Paul Howden-Leach
Mona Doss
The Basics of Bioacoustics

Bioacoustics research in Africa, and many other countries around the globe, is a relatively new and unexplored field of science, despite it being a non-invasive and often inexpensive method of data capture. It is a sad reality that few students have little or no experience in bioacoustic research despite keen interest. On the other hand, students might be wrestling with specific issues and need a helping hand yet have no access to a relevant knowledge base. In this special session, we tackle the ins and outs of bioacoustics research for current or interested students who are keen to learn more. Experts will present basic concepts and applications of acoustic tools. Our aim is to attract students who might be interested in bioacoustic science and to increase accessibility by including a fundamental introduction to the field of bioacoustics. Networking is key to the ABC, and as such, this session will also serve to link together students and scientists working on similar topics and help find positive solutions both within the session and through post-conference follow up.

Speakers:

Sue Anne Zollinger
Manchester Metropolitan University

Jamie MacAuley
Arhaus University

Peter McGregor, ISPA
Andy Horn, Dalhousie

Bioacoustics
Acoustic Monitoring for the Prevention of Illegal Activity. In many parts of Africa, and globally, illegal activity runs rampant, especially in natural areas. Animal poaching, wildlife capture for illegal trade, illegal logging in rain forests, dumping of waste, and many more. In far removed and remote areas, these crimes often go unnoticed until it’s too late. However, in some cases, listening in can provide a lifeline. Acoustic monitoring has proven to be an effective method of environmental protection. Ever-present ears listen for the sound of chainsaws and gunfire, often reporting the information in real-time to authorities who take action immediately. In this special session, we focus on the use of sound to protect animals and biodiversity and the people that make all this happen. Join us as we show a true picture of the vital part that bioacoustics can, and does, play in conservation and preservation.

Speakers:

Topher White  
CEO and Founder, Rain Forest Connection

Ian Lester  
CEO, Beyond Wireless

Gill Braulik  
University of St Andrews
Conference Schedule
9:00 AM - 9:30 AM - OPENING ADDRESS
Welcome to the 2nd ABC Conference
Tess Gridley - ABC Founder

9:30 AM - 10:30 AM - PLENARY
Marine Bird Hearing in Air and Underwater
Magnus Wahlberg

10:30 AM - 10:45 AM - BREAK

10:45 AM - 12:30 PM - BEHAVIOUR

10:45 - 11:00  Behavioural responses of white rhinoceros to species specific playbacks
Vera Pfannerstill

11:00 - 11:15  Effects of acoustic stimuli on shark behaviour
Lucille Chapuis

11:15 - 11:30  Echolocation behaviour of a dwarf sperm whale (Koigia sima) measured during a shallow-water, close range encounter in South Africa
Chloe Malinka

11:30 - 11:45  Intact hearing, echolocation, and beam steering from day zero in tongue clicking bats
Grace Smarsh

11:45 - 12:00  Grunting in murky waters: Morphological and ethological discrimination among functional stocks of spotter grunter, an estuarine-dependent fish
Vivienne Coetzee

12:00 - 12:15  Whistle stability and diversity in Indian Ocean bottlenose dolphins (Tursiops aduncus)
Rachel Probert

12:15 - 12:30  Underwater hearing of a pursuit-dive forager, the cormorant
Ole Næsbye Larsen

12:30 PM - 13:30 PM - LUNCH

13:30 PM - 14:30 PM - PLENARY
Acoustic Occurrence and Behaviour of Marine Mammals
Fannie Shabangu
14:35 - 14:40 Ultra Sonic adult distress vocalizations and their subcortical neural processing in laboratory mice
Kinga Kocsis

14:40 - 14:45 Focusing on the receiver – Hearing in two focal cetacean species from the Indian Ocean and implications to the Blue/Oceans Economy
Natasha Roussouw

14:45 - 14:50 Passive Acoustic Monitoring as a tool to assess the distribution of the endangered endemic frog species, Hyperolius pickersgilli
Tenita Padayachee

14:50 - 14:55 Community information networks: roles of information sources and scroungers
Nora Carlson

14:55 - 15:00 Northward Bound: Song presence of humpback whales (Megaptera novaengliae) off the west coast of South Africa during their northward migration
Erin Ross-Marsh

15:00 PM - 15:15 PM - BREAK

15:15 PM - 15:35 PM - POSTER SPOTLIGHT
Presenters will provide a short summary of their work. Posters will be displayed in the Exhibitors Area.

15:35 PM - 15:45 PM - SHORT BREAK

15:45 PM - 18:30 PM BASICS OF BIOACOUSTICS SPECIAL SESSION
In this special session, experts will present basic concepts and applications of acoustic tools as we tackle the ins and outs of bioacoustics research for current or interested students who are keen to learn more.

15:45 - 16:45 Avoiding common problems and pitfalls in the measurement of frequency, duration and amplitude
Sue Anne Zollinger

16:45 - 17:15 Why is PAM so hard?
Jamie MacAulay

17:15 - 17:45 How to Publish in bioacoustics (and Bioacoustics)
Peter McGregor and Andy Horn

17:45 - 18:30 Q and A
9:00 AM - 10:00 AM - PLENARY
The Evolution of Size Communication in Vertebrates
David Reby

10:00 AM - 10:15 AM - BREAK

10:15 AM - 12:30 PM VOCALISATION I

10:15 - 10:30 Hearing in the barking geckos, Ptenopus garrulus
Jakob Christensen-Dalsgaards

10:30 - 10:45 Identifying signatures in southern ground-hornbill territorial chorus vocalisations
Kyle-Mark Middleton

10:45 - 11:00 The Cape fur seal: an extremely colonial social structure leading to a high individual acoustic stereotypy
Mathilde Martin

11:00 - 11:15 Cultural evolution, revolution and transmission of humpback whale song
Ellen C. Garland

11:15 - 11:30 Ambient noise from ocean surf drives frequency shifts in non-passerine bird song
Matteo Sebastianelli

11:30 - 11:45 To honk or to hiss: Uncovering vocal complexity in a cosmopolitan species, the Egyptian goose (Alopochen aegyptiacus)
Courtney Gardiner

11:45 - 12:00 Linguistic laws of compression in mammal vocal communication
Tarandeep S. Kang

12:00 - 12:15 Titley Scientific Product Presentation Guide
Nikita Finger

12:15 - 12:30 Investigating call sequences in 'super-groups' of feeding humpback whales
Catherine Nadin

12:30 PM - 13:30 PM - LUNCH

13:30 PM - 14:30 PM - PLENARY
Song mediates the extent of reproductive isolation between tinkerbirds at contact zones
Alexander Kirschel

14:30 AM - 14:45 AM - BREAK

14:45 PM - 17:15 PM - APPLIED BIOACOUTICS

14:45 - 15:00 The use of automatic recorders and automated detection to obtain vocalizations data in difficult terrains: the case of the Príncipe scops owl
Bárbara Freitas
<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
<th>Speaker</th>
</tr>
</thead>
<tbody>
<tr>
<td>15:00 - 15:15</td>
<td>Passive acoustic monitoring of African penguins using autonomous recording units and ecoacoustic indices</td>
<td>Livio Favaro</td>
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<tr>
<td>15:15 - 15:30</td>
<td>Using hydrophone arrays to detect, locate and track marine species in real-time</td>
<td>Jillian Duggan</td>
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<tr>
<td>15:30 - 15:45</td>
<td>Automated detection of Hainan gibbon calls for passive acoustic monitoring</td>
<td>Emmanuel Defourq</td>
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<tr>
<td>15:45 - 16:00</td>
<td>Landscape use response to gunshot events in African forest elephants</td>
<td>Colin Swider</td>
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<tr>
<td>16:00 - 16:15</td>
<td>Incorporating acoustic surveys into the monitoring of threatened African crocodilians</td>
<td>Agata Staniewicz</td>
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<tr>
<td>16:15 - 16:30</td>
<td>Is the aerial hearing of aquatic birds constrained? Evidence from interspecific comparison of ear anatomy</td>
<td>Jeff Zeyl</td>
</tr>
<tr>
<td>16:30 - 16:45</td>
<td>Landscape-scale acoustic monitoring of forest elephants and illegal gunhunting in Nouabalé-Ndoki National Park, Republic of Congo</td>
<td>Frelcia Bambi</td>
</tr>
<tr>
<td>16:45 - 17:00</td>
<td>Real-time detection of marine mammals in an embedded system</td>
<td>Corentin Troussard</td>
</tr>
<tr>
<td>17:00 - 17:15</td>
<td>Counting calling chimpanzees: density estimation from passive acoustics monitoring and spatial explicit capture-recapture modelling</td>
<td>Anne-Sophie Crunchant</td>
</tr>
</tbody>
</table>

**17:15 AM - 17:30 AM - BREAK**

**17:30 PM - 18:30 PM**

**WILDLIFE ACOUSTICS PRODUCT WORKSHOP**

**TURNING SOUND INTO DISCOVERY: USING WILDLIFE AUDIO RECORDER AS A VALUABLE RESEARCH TOOL**

Biologists all over the world have made the Song Meter platform the standard for bioacoustics recording with over 50,000 recorders deployed in 90 countries. In this product workshop, the first section will be a hands-on session to teach participants the features and set up of the Song Meter Mini and Mini Bat recorders to monitor for bats, birds, frogs, and other wildlife. The remainder of the workshop will be a brief overview of the Kaleidoscope Pro software and analyzing biodiversity through sound.
CONSERVATION AND BIOACOUSTICS COLLIDE!

This year for the first time ever, the African Bioacoustics Community and the Conservation Symposium are teaming up!

This full-day crossover focuses on the use of Bioacoustics in Conservation applications!

8:30 AM - 9:30 AM - PLENARY

From the Heaviside’s to Humpback: 13 years of Bioacoustics Research in Southern Africa

Tess Gridley

9:30 AM - 10:00 AM - BREAK

10:00 AM - 12:00 PM MORNING SESSION

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<thead>
<tr>
<th>Time</th>
<th>Presentation</th>
<th>Speaker</th>
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</thead>
<tbody>
<tr>
<td>10:00</td>
<td>A review of bioacoustics in Africa</td>
<td>Frowin Becker</td>
</tr>
<tr>
<td>10:30</td>
<td>Noisy margins: a new approach using ecoacoustics assessment to determine the relative conservation value of natural vs. anthropogenic ecotones (crickets)</td>
<td>Aileen van der Mescht</td>
</tr>
<tr>
<td>10:45</td>
<td>Impact of shipping noise on the diving behaviour of grey seals</td>
<td>Leah Trigg</td>
</tr>
<tr>
<td>11:00</td>
<td>Passive acoustics as a conservation tool for amphibians</td>
<td>Jeanne Tarrant</td>
</tr>
<tr>
<td>11:15</td>
<td>Modelling the potential overlap of vessel noise and humpback whale song of shipping lanes for a proposed port in the Gulf of Tribuga.</td>
<td>Laura Valentina Huertas Amaya</td>
</tr>
<tr>
<td>11:30</td>
<td>Gunshot monitoring using passive acoustic technology: implications for anti-poaching efforts.</td>
<td>Bobbi J. Estabrook</td>
</tr>
<tr>
<td>11:45</td>
<td>Individual acoustic based monitoring of Indian Ocean humpback dolphins (Sousa plumbea): is it possible?</td>
<td>Sasha Dines</td>
</tr>
</tbody>
</table>
In many parts of Africa, and globally, illegal activity runs rampant, especially in natural areas. Animal poaching, wildlife capture for illegal trade, illegal logging in rain forests, dumping of waste, and many more. In far removed and remote areas, these crimes often go unnoticed until it’s too late. However, in some cases, listening in can provide a lifeline. Acoustic monitoring has proven to be an effective method of environmental protection. Ever-present ears listen for the sound of chainsaws and gunfire, often reporting the information in real-time to authorities who take action immediately. In this special session, we focus on the use of sound to protect animals and biodiversity and the people that make all this happen. Join us as we show a true picture of the vital part that bioacoustics can, and does, play in conservation and preservation.

15:30 - 17:30 PM

HEARING OF HARMS SPECIAL SESSION:
ACOUSTIC MONITORING FOR THE PREVENTION OF ILLEGAL ACTIVITY

15:30 - 16:00  Dots on Maps
                Ian Lester

16:00 - 16:30  More bang for your buck: using acoustics to document fishing with explosives
                Gill Braulik

16:30 - 17:00  Acoustics & AI for Illegal Activity Detection
                Topher White

17:00 - 17:30  Q and A session
9:00 AM - 10:00 AM - CO-PLENARY
Rule-Governed Vocal Interactions in Birds and Primates
Alban Lemasson and Martine Hausberger

10:00 AM - 10:15 AM - BREAK

10:15 AM - 11:20 AM - SPEED TALK SESSION II

10:15 - 10:20
Why is the Green Movement silent about noise?
John Stewart

10:20 - 10:25
Did you whistle for me? Temporal parameters of potential signature whistles of humpback dolphins at Richards Bay, KwaZulu-Natal.
Natasha Shilubane

10:25 - 10:30
Testing the acoustic resource partitioning hypothesis: Do South African frogs partition the acoustic space?
Tristan Silver

10:30 - 10:35
The presence, song evolution and utilisation of humpback whales (Megaptera novaeangliae) as an ecotourism species in Jangamo Bay, Mozambique
Francesca Trotman

10:35 - 10:40
It’s Show Time: Using changes in individual whistle parameters to predict emotional states of captive bottlenose dolphins during shows
Catherine Keanly

10:40 - 10:45
A novel approach to identifying African manatee distribution using passive acoustics
Clinton Factheu

10:45 - 10:50
The Persian Gulf and anthropogenic sound: the need to monitor underwater soundscape of aquatic habitats
Saeed Shafiei Sabet

10:50 - 10:55
To the beat of a different drummer: defining the rhythmic traits of humpback whale vocalizations
Lisa Walker

10:55 - 11:00
Localization of vocalizing marine mammals with portative video cameras and passive acoustics array
Yann Doh
11:00 - 11:05  Unique acoustic identifiers in frog calls and how they can be used to distinguish species
Ryan du Toit

11:05 - 11:10  First abundance estimates of Heaviside’s (Cephalorhynchus heavisidii) and dusky (Lagenorhynchus obscurus) dolphins off Namibia using a novel visual and acoustic line transect survey
Morgan J. Martin

11:10 - 11:15  Application of soundscape and point count methods in an ornithological assessment of Amurum Forest Reserve, near Jos, Northern Nigeria
Mbikeng Besongngem

11:15 AM - 11:30 AM - BREAK

11:30 AM - 12:30 PM - METHODOLOGY

11:30 - 11:45  Creating pre-trained neural networks for bioacoustic monitoring
Emmanuel Dufourq

11:45 - 12:00  Detection of Bryde’s Whale Short Pulse Calls using Time Domain Features with Hidden Markov Models
Oluwaseyi Paul Babalola

12:00 - 12:15  Using acoustic telemetry to investigate movement patterns of understudied stingrays: from fine- to large- scale insights
Chantel Elston

12:15 - 12:30  Methodological considerations for using naturally distinctive vocalisations in mark capture-recapture frameworks
Jack Fearey

12:30 PM - 13:30 PM - LUNCH

13:30 PM - 14:30 PM - PLENARY

Cracking the Code of Human Baby Cries
Nicolas Mathevon

14:30 PM - 17:30 VOCALISATION II

14:30 - 14:45  Vocal repertoire of the Cape fur seal Arctocephalus pusillus pusillus: information content, geographic variations and acoustics partitioning
Isabelle Charrier
<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>Speaker</th>
</tr>
</thead>
<tbody>
<tr>
<td>14:45 - 15:00</td>
<td>Regional variation in humpback whale song within the western Indian Ocean indicates varying movement patterns across years</td>
<td>Adrian Fajeau</td>
</tr>
<tr>
<td>15:00 - 15:15</td>
<td>Long distance communication as a function of the interaction between home range and body size.</td>
<td>Benjamin JJ Walker</td>
</tr>
<tr>
<td>15:15 - 15:30</td>
<td>Contextual use of rumble vocalizations by forest elephants Loxodonta cyclotis at Dzanga bai, Dzanga-Ndoki National Park, Central African Republic</td>
<td>Daniela Hedwig</td>
</tr>
<tr>
<td>15:30 - 15:45</td>
<td>More than song and calls: New repetitive tones for humpback whales in the breeding area of Colombia</td>
<td>Mar Palanca</td>
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<tr>
<td>15:45 - 16:00</td>
<td>A multiparametric evaluation of sex dimorphism in the song elements of the indri (Indri indri)</td>
<td>Marco Gamba</td>
</tr>
<tr>
<td>16:00 - 16:15</td>
<td>Mapping vocal interactions in space and time differentiates call-and-response vs. broadcast signaling in meerkat groups</td>
<td>Vlad Demartsev</td>
</tr>
<tr>
<td>16:15 - 16:30</td>
<td>Deep Voice – utilizing machine learning to understand “whalish”</td>
<td>Michael Moshe Michelashvili</td>
</tr>
<tr>
<td>16:30 - 16:45</td>
<td>Discovery of Sound in the Sea: Communicating underwater acoustics research</td>
<td>Kathleen J. Vigness-Raposa</td>
</tr>
<tr>
<td>16:45 - 17:00</td>
<td>Cetacean diversity of the south east Atlantic and Vema Seamount detected during visual and passive acoustic survey, 2019</td>
<td>Simon Elwen</td>
</tr>
<tr>
<td>17:00 - 17:30</td>
<td>Primary factors impacting the career trajectories of Early Career Researchers within the Academic Landscape in Africa</td>
<td>Badre Abdeslam</td>
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</tbody>
</table>

**17:30 PM - 17:45 PM - CLOSING ADDRESS**

Thank you and Goodbye!
Tess Gridley
Posters

Localization of Bryde’s whales through Time Difference of Arrival techniques
Jacques van Wyk

Macroevolutionary patterns of echolocation sounds in toothed whales
Guilherme Franier

The role of male vocalisations in sexual selection in reindeer
Rangifer tarandus
Laura Puch

First data on the acoustic characteristics of Algerian Chiroptera
Mourad Ahmim

Automatic detection of vocalizations by coastal dolphin species in Plettenberg Bay, South Africa, and the influence of group size and behaviour on acoustic detectability
Kuhle Hlati

What drives advertisement call differences in African pyxicephalid frogs?
Alan Channing
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- Intended for wildlife listening
- Selectable amplification level

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Stereo parabolic microphones

ULTRAMIC
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info@dodotronic.com
TURN SOUND INTO DISCOVERY

Wildlife Acoustics specializes in wildlife audio recorders and software, specifically designed to capture vocalizations of birds, bats, frogs and other wildlife. Wildlife Acoustics has sold over 50,000 recorders in over 100 countries – helping researchers, universities and government agencies conduct species inventory, presence/absence surveys and habitat health monitoring.