

72nd TUNA CONFERENCE AGENDA

Tuesday, 24 May 2022

12:00 Welcome and Introduction

SESSION 1: Tagging (Moderator: Kim Holland)

12:10 Two Decades of Electronic Tagging Efforts for Blue Marlin and Sailfish in the Eastern Tropical Pacific. **Danielle Haulsee**, Hannah Blondin, Ryan Logan, Andre Boustany, Taylor Chapple, John Dean, Michael Domeier, Eric Hoffmayer, Nicole Nasby-Lucas, Eric Orbesen, Robbie Schallert, Virginia Shervette, George Shillinger, Mahmood Shivji, Derke Snodgrass, Jamie Walker, Bradley Wetherbee, Elliott Hazen, and Larry B. Crowder.

12:25 Depth preference and catchability of billfish in the eastern tropical Pacific determined using pop-up satellite archival tags. **Hannah Blondin**, Danielle Haulsee, Elliott Hazen, and Larry B. Crowder.

12:40 Multi-year Tracking of Striped Marlin Reveals Residency in the East Pacific Ocean. **Chi Hin Lam**, Nicole Nasby-Lucas, Sofia Ortega-Garcia, Paxson Offield and Michael L. Domeier.

SESSION 2: Life history (Moderator: Owyn Snodgrass)

13:00 Review of research activities conducted at the IATTC's Achotines Laboratory from 2021-2022. **Susana Cusatti**, Daniel Margulies, Vernon Scholey, Yole Buchalla, Enrique Mauser.

13:15 Quantifying Trophic Linkage Between Pelagic and Coral Reef Habitats Using DNA Barcoding in Hawaiian Populations of the Epipelagic Predator, Mahi-Mahi (*Coryphaena spp.*). **Nan Himmelsbach**, Molly Timmers, Raymond Boland, Jonathan Whitney.

13:30 Hunting behavior and estimated energy expenditure by a solitary sailfish during prey pursuit and capture. **Ryan K. Logan**, Sarah M. Luongo, Jeremy J. Vaudo, Bradley M. Wetherbee, Mahmood S. Shivji.

13:45 Histological sampling and historical data show no evidence of Pacific bluefin tuna reproduction in the southern California Current system. Heidi Dewar, **Owyn Snodgrass**, Barbara Muhling and Kurt Schaefer.



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POSTER SESSION 2: Life History

14:00 Age and Growth Estimation of Striped Marlin (*Kajikia audax*) through the use of Otoliths and Spines in Baja California Sur: Preliminary Results. **Worbis-Badias Mariana**, Ulianov Jakes-Cota, Sofia Ortega-García and Rubén Rodríguez-Sánchez.

SESSION 3: Bycatch research (Moderator: Melissa Cronin)

14:15 Reducing shark bycatch in tuna fisheries: adaptive spatio-temporal management options for the eastern Pacific Ocean. **Guillermo Ortuño Crespo**, Shane Griffiths, Hilario Murua, Henrik Österblom and Jon Lopez.

14:30 Harnessing Stakeholder Knowledge for the Collaborative Development of Mobulid Bycatch Mitigation Strategies in Tuna Fisheries. **Melissa Cronin**, Donald A. Croll, Martin A. Hall, Nerea Lezama-Ochoa, Jon Lopez, Hilario Murua, Jefferson Murua, Victor Restrepo, Stefany Rojas-Perea, Joshua D. Stewart, Jennifer L. Waldo, Gala Moreno.

14:45 A Machine Learning Species Distribution Model for the Critically Endangered East Pacific Leatherback Turtle (*Dermochelys coriacea*). **Jon Lopez**, Shane Griffiths, Bryan Wallace, Verónica Cáceres, Leslie Camila Bustos, Luis Cocas, Rodrigo Vega, Patricia Zárate, Ljubitzta Clavijo, Iliá Cari, Juan Manuel Rodríguez-Baron, José Miguel, Carvajal, Rotney Piedra, Sandra Andraka, Lilian Rendón, Marco Herrera11; Jenifer Suárez, Heriberto Santana, Marino Abrego, Callie Veelenturf, Javier Quiñones, Miguel Perez, Joanna Alfaro, Jeff Mangel, Nelly de Paz.

15:00 Bayesian prediction of fishery biological impacts from limited data: A deep-set buoy gear case study. Stephen M. Stohs, **Karter M. Harmon**.

15:15 Vulnerability assessment of shark bycatch in EPO tuna fisheries using the EASI-Fish approach. **Shane Griffiths**, Leanne Fuller, Joanne Potts, and Simon Nicol.

15:30 Threatened species bycatch rates in longline fleets largely driven by variation in individual vessel behavior. **Leslie A Roberson**, Chris Wilcox.

POSTER SESSION 3: Bycatch research

15:45 Investigating the Potential of Helicopter-Vessel Communication for Bycatch Avoidance in Tuna Purse Seine Fisheries. **Jennifer L. Waldo**, Ernesto Altamirano, Donald A. Croll, Marta Diaz Palacios, Nerea Lezama-Ochoa, Jon Lopez, Gala Moreno, Stefany Rojas-Perea, Melissa R. Cronin.

15:50 Close Day One



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Wednesday, 25 May 2022

12:00 Open Day Two

SESSION 4: FADs (Moderator: Gala Moreno)

- 12:00** Impact of the density of Fish Aggregating Devices on tuna behavior from an individual-based model. **Amaël Dupaix**, Jean-Louis Deneubourg, Laurent Dagorn, Manuela Capello.
- 12:15** Echosounder Buoys in Tropical Tuna Purse Seine Fishery. **Jon Uranga**, Manuella Capello, Yannick Baidai; Maitane Grande, Jon Lopez, Gala Moreno, Hilario Murua, Josu Santiago.
- 12:30** The Jelly-FAD A Paradigm Shift in Biodegradable FAD Technology: Benefits and Challenges. **Gala Moreno**, Joaquín Salvador, Iker Zudaire, Jefferson Murua, Hilario Murua, Jon Uranga, Maitane Grande, Victor Restrepo.
- 12:45** Modeling Drifting FAD Trajectories Arriving at Essential Habitats for Marine Turtles. **Lauriane Escalle**, Scutt Phillips J, Aires-da-Silva A, Corniuk R, Hampton J, Lopez J, Lynch J, Mcwhirter A, Murua H, Restrepo V, Royer S.J, Swimmer Y, and Gala Moreno.

SPECIAL SESSION: Electronic Monitoring (Conductor: Craig Heberer)

- 13:00 EM programs - Session overview.**
- 13:00** From Pilot to Scale: The State of Play for Electronic Monitoring of Tuna Fisheries. (Craig Heberer).
- 13:15** The IATTC EM Program. (Marlon H Roman).
- 13:30** NOAA EM state of play. (Brett Alger).
- 13:45** An Emerging Industry-led EM program – TNC overview.
- 14:00** Program design. (Ben Gilmer).
- 14:15** Incentives, MSC, market access. (Alvaro Teran).
- 14:30** Sustainability commitments. (Traci Murai).
- 14:45** Current and Future EM Tech Innovations – Overview.
- 15:00** The Role of Automation using AI/ML - progress/gaps/challenges to scale. (JT Mudge).
- 15:15** Data Integrity and Transparency. (Bubba Cook).



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15:30 Final Wrap up / Q&A.

15:45 Close Day Two

Thursday, 26 May 2022

12:00 Open Day Three

SESSION 5: Feeding and movement ecology (Moderator: Suzy Kohin)

12:00 Spatio-temporal Distribution of Juvenile Oceanic Whitetip Shark Incidental Catch in the Western Indian Ocean. **Leire Lopetegui-Eguren**, Jan Jaap Poos, Haritz Arrizabalaga, Gency Guirhem, Hilario Murua, Nerea Lezama-Ochoa, Shane Griffiths, Jon Ruiz Gondra, Philippe S. Sabarros, Jose Carlos Báez, Maria José Juan-Jordá.

12:15 A population in decline? Examining habitat use, temporal changes, and knowledge gaps for basking sharks (*Cetorhinus maximus*) in the California Current Ecosystem. **Alexandra G. McInturf**, Barbara Muhling, Joseph J. Bizzarro, Nann A. Fangue, David A. Ebert, Damien Caillaud and Heidi Dewar.

12:30 Movements and population dispersal of the dolphinfish (*Coryphaena hippurus*) across the Eastern Tropical Pacific inferred from carbon and nitrogen stable isotope analysis. **Sergio A. Briones-Hernández**, Ulianov Jakes-Cota, Fernando R. Elorriaga-Verplancken, Felipe Galván-Magaña, John M. Logan, John O'Sullivan, Esteban Elias, José Miguel Carvajal, Joanna Alfaro-Shigueto, Sofía Ortega-García.

12:45 Risk and Reward in Foraging Migrations of North Pacific Albacore Determined from Estimates of Energy Intake and Movement Costs. **Barbara A. Muhling**, Stephanie Snyder, Elliott L. Hazen, Rebecca E. Whitlock, Heidi Dewar, Jong-Yeon Park, Charles A. Stock and Barbara A. Block.

13:00 Juvenile Albacore Tuna (*Thunnus alalunga*) foraging ecology varies with environmental conditions in the California Current Large Marine Ecosystem. **Catherine F. Nickels**, Elan J. Portner, Owyn Snodgrass, Barbara Muhling, and Heidi Dewar.

13:15 Pacific bluefin tuna, *Thunnus orientalis*, exhibits a flexible feeding ecology in the Southern California Bight. **Elan J Portner**, Owyn Snodgrass, Heidi Dewar.

13:30 Feeding ecology of broadbill swordfish (*Xiphias gladius*) in the California Current. **Antonella Preti**, Stephen M. Stohs, Barbara Muhling, Gerard T. DiNardo, Camilo Saavedra, Ken MacKenzie, Leslie R. Noble, Catherine S. Jones and Graham J. Pierce.



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POSTER SESSION 5: Feeding and movement ecology

- 13:45** Development of a Genotyping-in-Thousands by sequencing (GT-seq) panel to evaluate stock structure and sex-specific distribution patterns of Albacore Tuna (*Thunnus alalunga*) in the Pacific Ocean. **Kathleen G. O'Malley**, David. I. Dayan, Cristín K. Fitzpatrick, Nathan Campbell, Geoffrey Walker, Felix Vaux.
- 13:50** Evaluating the reliance of tuna and swordfish on forage species in the ocean's twilight zone using compound-specific stable isotope analysis. **Ciara Willis**, Kayla Gardner, Walt Golet, Leah Houghton, Simon Thorrold.

SESSION 6: Data collection (Moderator: Nadya Mamoozadeh)

- 14:00** Tun-AI: tuna biomass estimation with Machine Learning models trained on oceanography and echosounder FAD data. Daniel Precioso, Manuel Navarro-García, **Kathryn Gavira-O'Neill**, Alberto Torres-Barrán, David Gordo, Victor Gallego-Alcalá, David Gómez-Ullate.
- 14:15** Future technological applications for data collection in the Atlantic highly migratory species pelagic longline fleet. **Ian Miller**, Brad McHale.
- 14:30** Harnessing Advances in Artificial Intelligence and Genomics to Enable Scalable and Field-deployable Species Identification Capabilities. **Mariah Meek**, Nadya Mamoozadeh, Shannon O'Leary, David Portnoy, and Nihar Mahapatra.
- 14:45** Advancing Tropical Tuna Fisheries Science with Biogeochemical ARGO (BGC-ARGO). **Michael P. Seki**.
- 15:00** Harvesting ship navigation radar to provide low-cost data on vessel activity at sea. **Chris Wilcox**, Adrien Ickowicz, Christian Moeseneder and Leslie A Roberson.
- 15:15 Business Meeting**
- 15:30 Close Day Three – Final remarks.**



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