

# Preliminary Programme

## FSBI 2024 Annual Symposium ADVANCING FISH ECOLOGY, MANAGEMENT AND FORECASTING THROUGH OMICS

15th-19th July 2024, Bilbao



The 2024 FSBI Symposium is proudly convened by



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## Journal of Fish Biology Symposium Issue Guest Editors

Naiara Rodriguez-Ezpeleta

Romina Henriques

Ilaria Coscia

Rajeev Raghavan

Domino Joyce

Sarah Helyar

Colin Adams

## Location

Use this [link](#) to find key locations, this [city map](#) to find your way around Bilbao, and visit [Euskotren](#) and [Metro Bilbao](#) for transport info.

### Vibrant City

The conference will be held in “[Bizkaia Aretoa](#)” in Bilbao, which is located right by the river and only a few minute walk from emblematic places such as the [Guggenheim Museum](#). The venue is also only a 10-minute walk from the accommodation, the “[Colegio Mayor de Deusto](#)”, just across the river.

Both the venue and the accommodation are in the heart of Bilbao, within walking distance of many restaurants, bars, places of interest, making it a perfect setting for an FSBI meeting.

### Social Events

Several social events are planned, which include a wine reception at the [Bilbao Maritime Museum](#), where you can discover the close relationship that Bilbao and its people share with the sea, a social dinner in a [Secret Garden](#), a [boat excursion through the Bilbao river](#), and a Banquet and awards ceremony.

### Beautiful surroundings

Bilbao serves as an excellent base of operations for exploring the remarkable surroundings, such as the UNESCO [Urdaibai](#) Biosphere Reserve, the [Urkiola](#) Natural Park and many other destinations in [Bizkaia](#) and the rest of the [Basque Country](#).

## SOCIAL MEDIA

We would encourage you to share highlights of the conference across your social media (unless stated otherwise by speakers). When posting, please tag [@TheFSBI](#) [@fsbi\\_symposium](#) [@azti\\_brta](#) [#FSBI2024](#)

# Symposium overview

Time	Monday 15	Tuesday 16	Wednesday 17	Thursday 18	Friday 19
07:00 - 7:30					
07:30 - 8:00			Spawning Run		
08:30 - 9:00					
09:00 - 9:30		Opening Ceremony			
09:30 - 10:00		Jack Jones Lecture	Keynote & Talks	Keynote & Talks	Keynote & Talks
10:00 - 10:30		Coffee/Tea	Coffee/Tea	Coffee/Tea	Coffee/Tea
10:30 - 11:00					
11:00 - 11:30		Talks	Talks	Talks	Talks
11:30 - 12:00					
12:00 - 12:30	Registration opens				
12:30 - 13:00					
13:00 - 13:30	LUNCH	LUNCH	LUNCH & free time	LUNCH	LUNCH
13:30 - 14:00			AGM		
14:00 - 14:30	environmental DNA	Talks	Keynote & Talks	Keynote & Talks	
14:30 - 15:00	workshop				
15:00 - 15:30					
15:30 - 16:00	Coffee/Tea				
16:00 - 16:30	Publishing/com. WK	Coffee/Tea & Poster session	Coffee/Tea	Coffee/Tea	
16:30 - 17:00			Talks	Talks	
17:00 - 17:30	EDI WK				
17:30 - 18:00					
18:00 - 18:30					
18:30 - 19:00					
19:00 - 19:30					
19:30 - 20:00					
20:00 - 20:30	Reception & dinner	Pub Quiz & dinner	Boat tour & dinner		
20:30 - 21:00					
21:00 - 21:30				Medals & Gala Dinner	
21:30 - 22:00					
22:00 - 22:30					
22:30 - 23:00					

# Programme

## Monday 15th July

12:00 - 13:00		Registration Opens
13:00 - 14:00		LUNCH BREAK
14:00 - 15:30	Registration	environmental DNA sampling workshop
15:30 - 16:00		COFFEE BREAK
16:00 - 17:15	Registration	Publishing and science communication workshop
17:15 - 18:30	Registration	Equality, diversity and inclusion workshop
19:00 - 22:00		Reception + dinner

## Tuesday 16th July

09:00 - 9:30		OPENING CEREMONY
<i>Session 1: Leveraging Connectivity, Mixing, and Biomass for Better Management</i>		
9:30 - 10:30	Gary R. Carvalho	JACK JONES LECTURE: Genes, Fish and Fisheries: translating science into policy
10:30 - 11:00		COFFEE/TEA BREAK
11:00 - 11:10	Alice Manuzzi	Demographic histories and adaptative potential in marine demersal fishes: implications for management.
11:10 - 11:20	Daniel Estévez-Barcia	Population genomics and adaptation differences between inshore and offshore populations of Greenland halibut (GRINFISH project)
11:20 - 11:30	Noemi Pasini	Evidence of genetic admixture of two exploited Mediterranean fish species in the Balearic Islands

11:30 - 11:40	Damianos Alexandridis	Population genomic analysis of the European anchovy ( <i>Engraulis encrasicolus</i> ) in Central and Western Mediterranean
11:40 - 11:50	Ane del Río	Revisiting Stock Delimitation of European Anchovy ( <i>Engraulis encrasicolus</i> ) in the North-east Atlantic Using a Genomic Approach
11:50 - 12:00	Siv N. K. Hoff	Delineate the population structure of a keystone marine fish species in the Northern Atlantic region using whole genome sequencing data
<b>12:00 - 12:10 Leg stretching break</b>		
12:10 - 12:20	Rute R. da Fonseca	The population structure of the small pelagic European sardine inferred from whole genome data
12:20 - 12:30	Marina Puebla-Aparicio	Unravelling population structure of the European sardine ( <i>Sardina pilchardus</i> ) using low-coverage whole genome sequencing to inform assessment.
12:30 - 12:40	Lisette Delgado	Integrating genomics and telemetry to unravel Northern Cod movement
12:40 - 12:50	Alfonso Diaz-Suarez	Fine-scale genomic structuring of a freshwater apex predator
12:50 - 13:00	Hayler Edu Ibarra Arcila	Comparative population genomics of <i>Pimelodus yuma</i> and <i>Pimelodus grosskopfii</i> in the Neotropical Magdalena-Cauca river basin.
<b>13:00 - 14:00 LUNCH BREAK</b>		
14:00 - 14:10	David Murray	Combining population genomics with fisheries data to inform stock identification
14:10 - 14:20	Mayuresh Gangal	Biology – Management Vulnerability Matrix (BMVM): a robust approach to evaluate vulnerability of fish populations to overexploitation
14:20 - 14:30	Jordi Viñas	From mtDNA to genomics, the case of <i>Euthynnus</i> spp.
14:30 - 14:40	Daria Zelenina	Application of genetics and genomics in forecasting pink salmon catches and fisheries management in the Sea of Okhotsk basin.
14:50 - 15:00	Ian Richardson	A Machine learning best practices approach towards universal genetic stock identification of Atlantic herring, <i>Clupea harengus</i>
<b>15:10 - 15:20 Leg stretching break</b>		
15:20 - 15:30	John Hargrove	Integrating molecular monitoring into management of salmonids in the Pacific Northwest, USA

15:30 - 15:40	Natalia Diaz-Arce	Genetic based methodologies to improve bluefin tuna management and conservation
15:40 - 15:50	Daniel Ruzzante	Population abundance estimation with the Close Kin Mark Recapture approach: insight from research on brook trout and Atlantic halibut
15:50 - 16:00	Iker Pereda-Agirre	Close-Kin Mark-Recapture for abundance estimation of the European hake and the white anglerfish
<b>16:00 - 18:00 COFFEE BREAK + Poster session</b>		
<b>19:00 - 22:00 Pub Quiz + dinner</b>		

## Wednesday 17th July

<b>07:00 - 8:00</b>	<b>Spawning Run</b>	<b>5KM run along the Bilbao River</b>
<i>Session 2: Disentangling species interaction dynamics</i>		
<b>09:00 - 9:50</b>	<b>Kerry Naish</b>	<b>KEYNOTE: Eco-evolutionary dynamics in managed and unmanaged systems: case studies from Pacific salmon</b>
9:50 - 10:00	Aina Pons	Exploring the connection between the social network and the gut microbiome in a wild marine fish population
10:00 - 10:10	Marta Barluenga	Host-parasite interactions drive biodiversity in cichlid fish
10:10 - 10:20	Sarah Salisbury	Mechanisms underlying variation in sea lice resistance among salmonid species revealed by single nuclei RNA sequencing
10:20 - 10:30	Goshi Kato	Transcriptome analysis of <i>Flavobacterium psychrophilum</i> infected and proliferated in ayu <i>Plecoglossus altivelis</i>
<b>10:30 - 11:00 COFFEE/TEA BREAK</b>		
11:00 - 11:10	Ana Veríssimo	Revealing the diet of small pelagic fish larvae via metabarcoding of stomach contents
11:10 - 11:20	Filipe Ribeiro	Catfished: how metabarcoding increases knowledge about the predation of invasive European catfish on Iberian fish communities



11:20 - 11:30	Victor Awugo	Nutrigenomics in Aquaculture: A New Paradigm
<b><i>Session 3: Medal winners and their journeys</i></b>		
11:30 - 11:45	Skúli Skúlason	The evolution of diversity of fishes and how it contributes to the understanding of biodiversity and its conservation
11:45 - 12:00	Erika J Eliason	Using fish physiology to inform management
12:00 - 12:15	Peter A. Henderson	The central role of time series in ecological research
12:15 - 12:30	Michael I. Grant	Diadromous life history movements of threatened non-marine elasmobranchs revealed through elemental analysis of vertebrae
<b>LUNCH for AGM attendees</b>		
12:30 - 14:30	LUNCH & Free time	<b>FSBI AGM</b>
<b><i>Session 4: Understanding the mechanisms of development and adaptation</i></b>		
14:30 - 15:10	Zuzana Musilova	<b>KEYNOTE: Vision under pressure: how deep-sea fish and cichlids see in the dark</b>
15:10 - 15:20	Morgane Frapin	Effect of vgll3 genotype on liver transcriptome in Atlantic salmon before and after spawning season.
15:20 - 15:30	Maddi Garate Olaizola	Will climate change impact the Baltic cod? Larvae performance under future environmental conditions
15:30 - 15:40	Anti Vasemägi	Multi-omics refines tissues, candidate genes and putative regulatory links involved in the humic adaptation of keystone freshwater fish
15:40 - 15:50	Craig Primmer	Beyond GWAS: Complex mechanisms underlie the simple genomic architecture of Atlantic salmon age at maturity
15:50 - 16:00	Konrad Taube	Regulatory landscape of chromatin accessibility sheds light on biological processes of humic-water adaptation
<b>COFFEE/TEA BREAK</b>		
16:30 - 16:40	Katja Maamela	Maturation-related traits are mediated by vgll3 genotype, population, and diet in female Atlantic salmon
16:40 - 16:50	Amaia Lamarins	How do Atlantic salmon respond to selective pressures under various genetic architectures of life-history traits?

16:50 - 17:00	Niladri Mondal	Genome and body size diversity of the fishes using comparative phylogenetic methods
17:00 - 17:10	Giovanna Mottola	Conservation challenges and genomic insights in salmonid populations: a study of brown trout in Northern Finland
17:10 - 17:20	Bjarni K. Kristjánsson	Diversity of Lake Mývatn threespine stickleback in space and time
17:20 - 17:30	Daniela G. Félix-López	Causal analysis of the transcriptome of the Greenland shark reveals pathways associated with ageing
19:00 - 21:00		Boat tour + dinner

## Thursday 18th July

<i>Session 5: Capitalizing on environmental DNA for biodiversity research</i>		
09:00 - 9:50	Sophie von der Heyden	<b>KEYNOTE: Can environmental DNA metabarcoding really fill the marine biomonitoring gap in South Africa?</b>
9:50 - 10:00	Sylvain Roblet	Comparison of Environmental DNA metabarcoding and Underwater Visual Census for the monitoring of taxonomic and functional dimensions of fish diversity
10:00 - 10:10	Zifang Liu	Environmental DNA and its bycatch reveal vertebrate composition inside and outside Special Areas of Conservation in Cardigan Bay
10:10 - 10:20	Mukesh Bhendarkar	Potential and challenges of environmental DNA (eDNA) metabarcoding for assessing the ecological status of estuaries
10:20 - 10:30	Gert-Jan Jeunen	Monitoring fisheries catch and bycatch composition through on-board passive eDNA sampling
10:30 - 11:00		COFFEE/TEA BREAK
11:00 - 11:10	Vera G Fonseca	Fish and other Metazoan Biodiversity through environmental DNA
11:10 - 11:20	William Perry	Combining the old and the new: assessing Atlantic salmon ( <i>Salmo salar</i> ) abundance and habitat use in rivers using eDNA metabarcoding.
11:20 - 11:30	Giulia Mariani	How far can eDNA travel into marine waters? Dynamics revealed by opportunistic water sampling
11:30 - 11:40	Jake M. Jackman	Understanding fish eDNA distribution patterns through hydrodynamic and particle tracking modelling in a dynamic estuary

11:40 - 11:50	Richard McBride	Flatfish Distributions Across the Northeast U.S. Continental Shelf: Comparing Bottom Trawl and eDNA Metabarcoding Results
11:50 - 12:00	Govindhaswamy Umapathy	eDNA-based assessment of highly invasive Armoured Sailfin Catfish and African sharptooth catfish in the Water Bodies of Eastern Ghats, India
<b>12:00 - 12:10</b>	<b>Leg stretching break</b>	
12:10 - 12:20	Filipe O. Costa	Assessing the impact of genetic markers and sampled water volume in eDNA-based detection of marine fish species in a large aquarium
12:20 - 12:30	Emilie Boulanger	Understanding the detection of fish life stages from eDNA metabarcoding across seasons
12:30 - 12:40	Quentin Mauvisseau	Investigating fish community composition and its seasonal changes in the Oslo fjord through eDNA metabarcoding
12:40 - 12:50	Maddalena Tibone	Characterization of the mesopelagic fish layer in Irish waters: a multidisciplinary approach integrating acoustic signatures, eDNA and direct catch data
12:50 - 13:00	Chris Brodie	Can eDNA be used instead of trawling for pelagic fish stock calculations?
13:00 - 13:10	Cristina Claver	Estimating small pelagic fish stock abundance using environmental DNA
13:10 - 13:20	Yixuan Tang	Environmental DNA outperforms trawling in revealing fish composition in a Biosphere Reserve Lake in Mongolia
13:20 - 13:30	Sebastian Mynott	Marine Biodiversity Monitoring: Insights from a 12-Year eDNA Time-Series
<b>13:30 - 14:30</b>	<b>LUNCH BREAK</b>	
<i>Session 6: Exploring the genomic signatures of connectivity and adaptation</i>		
<b>14:30 - 15:20</b>	<b>Sissel Jentoft</b>	<b>KEYNOTE: Characterization of genomic architectures, sub-populations and cryptic ecotypes within the codfishes: implications for management</b>
15:20 - 15:30	Halvor Knutsen	Divergent Temperature Tolerance Revealed in Atlantic Cod Ecotypes
15:30 - 15:40	Jingyao Niu	Whole genome analyses of archival fish specimens to understand demography and thermal adaptations
15:40 - 15:50	Samantha V. Beck	Genomic insights into run timing in Canadian Atlantic salmon ( <i>Salmo salar</i> ): Assessing vulnerability to climate change
15:50 - 16:00	Lorenz Hauser	Extrinsic and intrinsic drivers of population structure in Pacific herring

<b>16:00 - 16:30</b>		<b>COFFEE/TEA BREAK</b>
16:30 - 16:40	Romina Henriques	Genclim: evolutionary and socioeconomic consequences of shifting distribution ranges in commercially exploited marine fishes
16:40 - 16:50	Cait Nemecek	Potential inversions among small brook trout ( <i>Salvelinus fontinalis</i> ) populations of Nova Scotia, Canada
16:50 - 17:00	Gopi Krishnan Prabhakaran	Genomic perspectives on adaptation and biological invasion: A comparative study on catfishes
17:00 - 17:10	María Saura	Evidence of inbreeding depression for morphological traits in European hake
17:10 - 17:20	Joshka Kaufmann	Unexpected variation in genetic diversity in a small Atlantic Salmon population: the role of anthropogenic impacts
17:20 - 17:30	María-Eugenia López	Poolseq and dynamic outlier thresholding uncover novel and confirmed targets underlying humic-driven adaptation in Eurasian perch
17:30 - 17:40	Stellia Sebihi	Genetic differentiation along an ocean/river gradient captures the signature of intragenerational selection in the European eel ( <i>Anguilla anguilla</i> )
17:40 - 17:50	Thomas Reed	Whole genome resequencing reveals polygenic signatures of directional and balancing selection on alternative migratory life-histories in brown trout
<b>20:00 - 23:00</b>		<b>Gala dinner</b>

## Friday 19th July

<i>Session 7: Harnessing DNA for species identification and phylogenetic analyses</i>		
09:30 - 10:20	Stefano Mariani	<b>KEYNOTE: From Revolutionary to Complementary: a DNA Journey through the Seafood Trade</b>
10:20 - 10:30	Lucilia Lorusso	Next-Generation Sequencing (NGS) applications for seafood authentication and sustainability
<b>10:30 - 11:00</b>		<b>COFFEE/TEA BREAK</b>
11:00 - 11:10	Ram Krishan Negi	DNA barcoding for identification of freshwater fish species in the River Beas, India
11:10 - 11:20	W. W. Rochelle Chan	Molecular barcoding of fish larvae reveals intergenerational connectivity across a seascape

11:20 - 11:30	André O. Ferreira	Unveiling diversity and seasonal variations in ichthyoplankton communities using DNA metabarcoding
11:30 - 11:40	Rajeev Raghavan	Phreatic puzzles: remarkable patterns of cryptic diversity and distribution in fossorial and aquifer-dwelling fishes of southern India
11:40 - 11:50	João T. Fontes	Benchmarking the species discriminatory power of commonly used markers and amplicons in marine fish (e)DNA metabarcoding
11:50 - 12:00	<b>Leg stretching break</b>	
12:00 - 13:00	<b>Awards &amp; Closing Ceremony</b>	
13:00 - 14:00	<b>LUNCH</b>	

## Posters

Giulia Mariani	Validation of a pipeline for eDNA analysis by mock communities: evaluation of variables influencing mitochondrial DNA abundance
Luís Machado	Fish-DNA-Monitor: Supporting management of fisheries resources in Guinea-Bissau through eDNA metabarcoding
Vivian Fischbach	Larval length per developmental stage decreases during spawning season of Atlantic herring
Luciano Pastorelli	Performance of environmental DNA metabarcoding for long-term integrated fish monitoring around marine infrastructure
Ilaria Coscia	Using genomic tools to monitor skate and ray communities in Irish Atlantic coastal waters
Rajeeshkumar MP	Abandoned, Lost, or Discarded Fishing Gears (ALDFG) in the Arabian Gulf
Alessia Prestanti	Environmental DNA (eDNA) as a non-invasive genetic tool for monitoring Antarctic fish community
Simo Njabulo Maduna	Invasion genomics of a non-indigenous salmonid in Norway: local lessons, global challenges
Lou-Anne Jannel	eDNA metabarcoding, a promising tool for monitoring aquatic biodiversity in the estuaries of Reunion Island (South-West Indian Ocean)
Luca Schiavon	Genetic connectivity in a key nesting icefish in the Weddell Sea, a candidate area for protection in the Southern Ocean
José Gregorio Martínez	Influence of a hydroelectric dam on the selection and local adaptation of the Amazonian fish <i>Cichla temensis</i>
Rajeev Raghavan	Mitogenome organization and evolution in a living fossil, <i>Aenigmachanna gollum</i>

Arya Sidharthan	Mitogenome-based phylogenetics and molecular evolution in <i>Travancoria elongata</i> , an endangered mountain loach from the Western Ghats Biodiversity Hotspot
Gaëlle Brahy	Can telomere length be estimated from fish scales to inform on individual stress?
Marina Papadopoulou	A tale of clones, robots, and agents: the role of behavioural individuality in the schooling dynamics of the Amazon molly
Ana Sánchez	Using the microbiome to discriminate production method in turbot ( <i>Scophthalmus maximus</i> ): wild versus farmed.
Oriol Canals	Quantification of Atlantic bluefin tuna environmental DNA in the Mediterranean Sea
Claudio Silva De Freitas	Ecological consequences of single base pair variation in rhodopsin
Becca Millard	Untangling the diets of gelatinous zooplankton using DNA metabarcoding
Danielle Davenport	Regional environmental genetic adaptation leads to differential climate vulnerability of two ecologically important copepods in the Northwest Atlantic
Ambra D'Aurelio	Assessing past fish distribution throughout collagen fingerprint: a study on archaeological remains of Salmonids
Jose A. Fernandes-Salvador	Omics and experimental needs to advance with ecosystem models under management and climate scenarios
V. Thranduil Hudgins	The Rapid Historic Expatriation of <i>Dipturus batis</i> , <i>Dipturus intermedius</i> and Other British Elasmobranchs Based off Notes Made by W. C. MacIntosh in 1884
Emma Weschke	Unveiling the nightlife of coral reef fish in our changing world
Eve Croxford	Nocturnal predators drive community composition of acoustically enriched restoration reefs
Camille Leblanc	Developmental plasticity within and among populations of Icelandic Arctic charr
Alex Piro	Does mercury biomagnification in a boreal lake food web vary year-round? – assessing patterns with bulk $\delta^{15}\text{N}$ and compound-specific $\delta^{15}\text{N}$ of amino acids
Sara Maggini	Can environmental DNA metabarcoding estimate catch composition of commercial bottom trawling fisheries?
Pavan-Kumar, Annam	Unravelling Ballast Water Biodiversity: A Genomic Approach to Non-Native Species Management
Charlotte Robison-Smith	Problem Polymers in Aquaculture: Proteomic Insights into PVP Exposure

A full programme, including abstracts, will be available shortly.

Stay tuned at: <https://fsbi.org.uk/symposium-2024/>