



22nd Meeting

March 23-26, 2022
Moorea, French Polynesia

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AGENDA

22nd Genomic Standards Consortium Meeting

Wednesday March 23, 2022

Arrival

1:00 - 3:00 pm GSC Board Meeting (GSC Board members)
Gump Station Conference Room

5:00 pm Board Reception & Dinner with PLATINUM sponsors (Gump House & restaurant)

* Virtual Presentations

Thursday March 24,2022

Genomics, Biodiversity, and Environmental Change Location: CRIODE

8:00	<u>Welcome</u> Lynn Schriml (GSC President, University of Maryland School of Medicine)
	Nikos Krypides <u>Presentation:</u> Dawn Field Award for Outstanding Contributions to Genomic Standards
8:15	<u>Keynote</u> *Serge Planes (CRIODE, Directeur de Recherche-CNRS) Tara Pacific, revisiting the microbial diversity of coral reefs in the Pacific
8:45	<u>PLATINUM Sponsor Presentation</u> (15 min) Ryan Walters (Genapsys) - The Genapsys NGS platform: Purpose-built for your research.
9:00	<u>Topic 1: Issues in Biodiversity and Climate Change</u> (15 min talks) Chair: Ramona Walls George Roderick - (UC Berkeley) - NextGen Biodiversity Monitoring of invasive Alien Arthropods across the Pacific *Pieter Provoost and Saara Suominen (OBIS) - Pacific Islands Marine BioInvasions Alert Network (PacMAN) project and the DwC DNA-derived metadata extension *Jane Anderson (NYU) Maui Hudson (Waikato) - Ethical, Legal and Social aspects of biodiversity genomics: CARE principles Chris Meyer (Smithsonian) - Environmental samples: Opportunities and Challenges for observing biodiversity change at the molecular scale
10:00-10:30	Coffee break
10:30	<u>PLATINUM Sponsor Presentation</u> Ashley Van Zeeland (Illumina) - The role of NGS in pathogen surveillance, during and post COVID
10:45	<u>Topic 2: Aligning standards: Biodiversity and Environment</u> (15 min talks) Chair: Emiley Eloe-Fadrosh Ramona Walls (Critical Path Institute) - Modernizing the MiXs standards technology stack for

flexibility and sustainability
Pier Luigi Buttigieg ((Helmholtz Metadata Collaboration // GEOMAR) GBWG DwC-MIxS alignment & MoU - briefing and endorsement
Neil Davies (Berkeley) - Ocean Biomolecular Observation Network (OBON), "iSamples" and "Sampling Nature"
Kathleen Pitz (MBARI) - UNESCO-IOC: Ocean Best Practices System & Ocean Data and Information System / MIOP - Minimum information about an omics protocol
***Phil Hugenholtz** (University of Queensland) - SeqCode Initiative: a solution for naming these uncultivated Archaea and Bacteria

12:00	<u>PLATINUM Sponsor Presentation</u> - Zymo Research * Raul Cano (The BioCollective) - Characterization and Data Sharing of a True Diversity Microbiome Reference
12:15	<u>PLATINUM Sponsor Presentation</u> Andy Page (Innovaprep) - Low Biomass Environmental Sample Collection and Concentration Tools for Metagenomics
12:30-1:30	Lunch
	Afternoon Breakout Sessions Location: CRIODE and Gump Station
13:30	<u>Breakout groups</u> (in-person only); findings posted online for input/consultation <ul style="list-style-type: none">• Minimum Information for an Omic Protocol (MIOP) - Pier Luigi Buttigieg, Raissa Meyer, Neil Davies (Gump Station Conference Room)• MixS (CRIODE Breakout Room)
16:00	Close

Evening Events

18:00	<u>GSC22 Reception/Dinner</u> - Fare Natura - Eco Museum at CRIODE
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Friday, March 25, 2022

Genomic Standards in Human Health and Disease

Location: Gump Station

08:00	<u>Welcome</u> Lynn Schriml (GSC President, University of Maryland School of Medicine)
08:15	<u>Keynote</u> Françoise Mathieu-Daude (IRD - French National Research Institute for Sustainable Development) and Hervé Bossin (Institut Louis Malardé) - Genomic approaches to monitoring mosquito-borne infectious diseases and combating disease vectors in the Pacific Islands
08:45	<u>Topic 1: Disease Monitoring</u> (30 min talks) Chair: Scott Tighe Christopher Mason (Weill Cornell Medicine) - Human health surveillance informed by the unique microbiomes of cities

***Susan Fairley** (GA4GH) - The Global Alliance for Genomics and Health

09:45	GOLD Sponsor Presentation - Kit Krishnan (New England BioLabs) A simple, customizable approach to selectively remove abundant unwanted RNAs and improve the sensitivity of transcript detection in any species
10:00-10:30	Coffee break
10:30	Topic 2: Aligning Standards: Microbiome, Health, and Environment (15min talks) Chair: Nikos Kyrpides Emiley Eloe-Fadrosh (Joint Genome Institute, Department of Energy) - U.S. National Microbiome Data Collaborative Scott Tighe (University of Vermont) - Minimum requirements of producing high performance whole cell microbial reference standards for DNA and RNA applications. Raissa Meyer (Alfred Wegener Institute) - The Omic Biodiversity Observation Network (Omic BON) Keolu Fox (UC San Diego) Indigenous genomics and health Scott Jackson (NIST) - Standards for Microbiome Measurements Kasthuri Venkateswaran (NASA): Standardization of molecular methods in characterizing Microbiome associated with future NASA missions.
12:00	*GOLD Sponsor Presentation Jeremy E. Wilkinson (PacBio) - Setting the Standard with PacBio HiFi sequencing
12:15	Handoff to GSC 23 Thailand in 2023 - Lynn Schriml (GSC President, University of Maryland School of Medicine)

12:30-1:30 Lunch

Afternoon Breakout Sessions

Location: Gump Station

13:30	<u>Breakout groups</u> (in-person only); findings posted online for input/consultation
	<ul style="list-style-type: none">● Island Sampling Day● Minimum Information for any Observatory (MIxO) - Pier Luigi Buttigieg, Raissa Meyer, Neil Davies (Gump Station Conference Room)● MIxS working group

16:00 Close

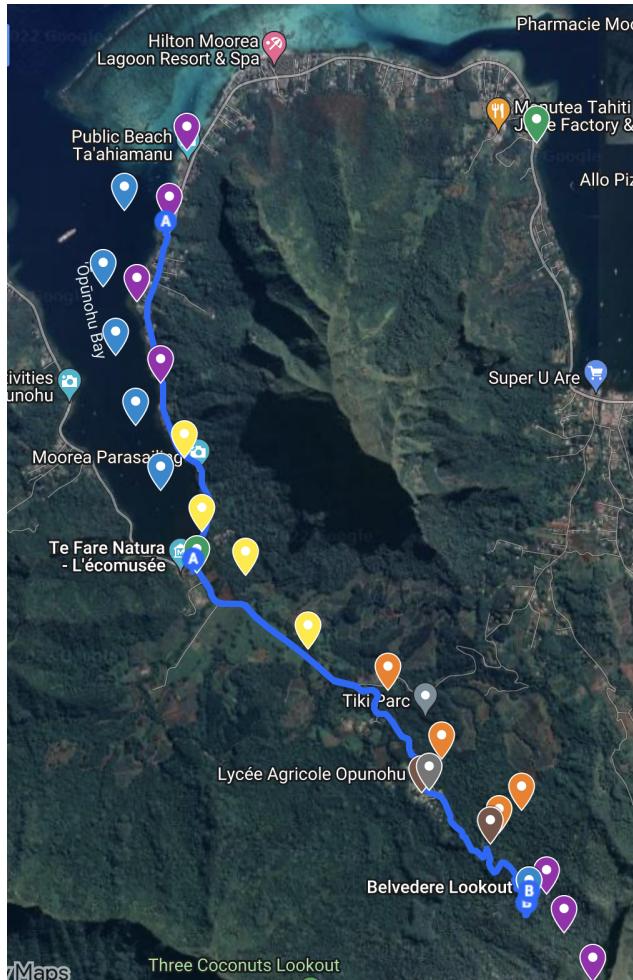
Evening Events

6:00 pm Banquet: Tahitian Feast - Atitia Community Center (Gump Station)

Saturday March 26, 2022

Island Sampling Day

- 8:00 Meet up for Island Sampling Day - Reef to Ridges
9:00 Soil, water, sediment sampling



The GSC thanks the National Institute for Standards and Technology (NIST) for their support of GSC22.

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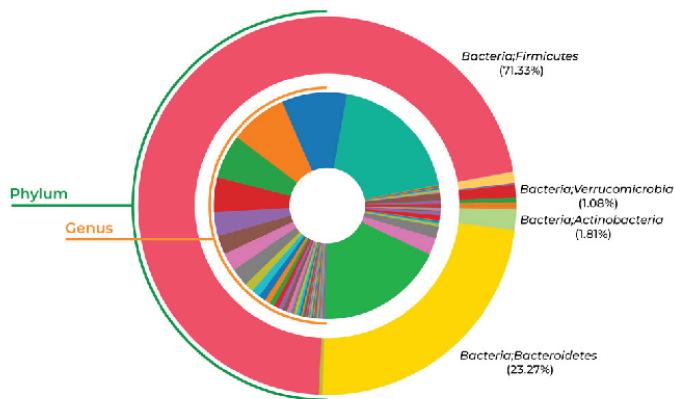




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Made from real human fecal material, the reference contains hundreds of microbial species including bacteria, fungi, and archaea.

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PACBIO PRESENTATION

SETTING THE STANDARD WITH PACBIO HIFI SEQUENCING

FRIDAY, MARCH 25, 12:00 PM

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drive DISCOVERY
stay GENUINE

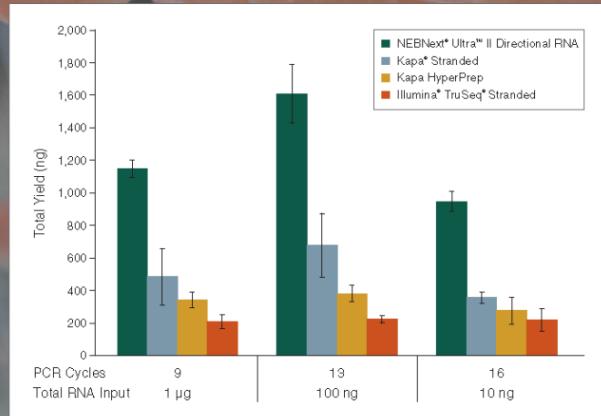
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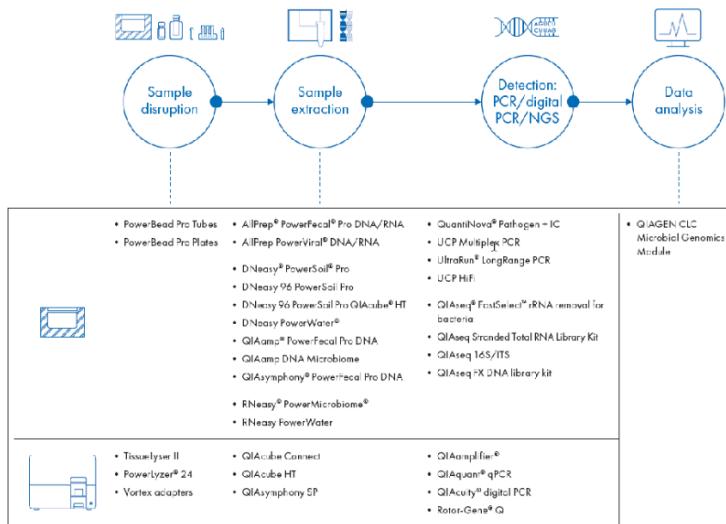
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Poly(A)-containing mRNA was isolated from 10 ng, 100 ng and 1 µg of Universal Human Reference RNA (Agilent® #740000) and libraries were made using the NEBNext Ultra II Directional RNA Kit (plus the NEBNext poly(A) mRNA Magnetic Isolation Kit), Kapa Stranded mRNA-Seq Kit, Kapa mRNA HyperPrep Kit and Illumina TruSeq Stranded mRNA Kit. The input RNA amount and number of PCR cycles are indicated.

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Includes probes for whole genome enrichment, detection and characterization of 89 separate viral targets, including SARS-CoV-2, influenza, rhinovirus, enterovirus and more.



AMR (antimicrobial resistance)

Sequencing and detection of the presence of 2786 antimicrobial resistance genes in bacteria. Consists of targets pulled from the QIAGEN CLC QMI-AR database



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For the detection of 132 separate viral targets, including human adenovirus; norovirus, rotavirus, influenza, SARS-CoV-2, HPV, Epstein-Barr, HIV, hepatitis A/B viruses and more.

Viruses that can be contaminants in bioreactors for vaccines biotherapeutics manufacturing

Microbial identification and profiling on QIAcuity digital PCR

dPCR Microbial DNA Detection Assays

Microbial species, virulence factor genes and antibiotic resistance genes

- Up to 5 targets per well
- Reliable results driven by integrated control assays
- Applicable across a breadth of research applications
- Probiotics, microbiome
- Water monitoring and more
- Planned Launch: early April

QIAcuity UCP Probe PCR Kit

- Depleted for contaminating DNA
- Used in high-sensitivity research or routine monitoring
- Planned Launch: July

Assay Targets

Virulence & Resistance Genes

Fungi, Bacteria, Virus

Protists



Speakers and In-Person Attendees



Jane Anderson



Aaron Berlin



Hervé Bossin



Pier Luigi Buttigieg



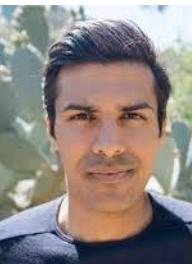
Phil Cleves



Neil Davies



John Deck



Raja Dhir



Emiley Eloë-Fadrosh



Susan Fairley



Keolu Fox



Maui Hudson



Phil Hugenholtz



Scott Jackson



Kit Krishnan



Janina Krumbeck



Nikos Kyriides



Chris Mason



Françoise Mathieu-Daude



Chris Meyer



Raissa Meyer



Craig Nelson



Ann Packingham



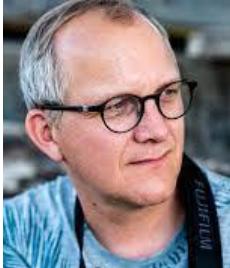
Andy Page



Kathleen Pitz



Serge Planes



Pieter Provoost



Neda Razavi



George Roderick



Krista Ryon



Lynn Schriml
Venkateswaran



Saara Suominen



Braden Tierney



Scott Tighe



Ashley Van Zeeland



Kasthuri



Ramona Walls



Ryan Walters



Jeremy E. Wilkinson