

H I G H L I G H T S

ANNUAL REPORT

BiO
TROPICAL
RESOURCES
B I O B A N K



2021

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“The Biotropical Resources (BIOTROP) biobank was created in 2016 and is now fully implemented and available to support national and international researchers or institutions, aiming to foster the biomedical research for the innovation and translation on Global Health.”

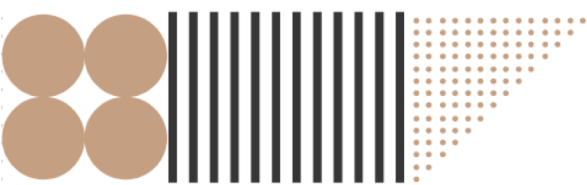
Message from the Coordinator

During 2021, a special effort has been made to increase the visibility and the accessibility to the infrastructure. The information on the IHMT/GHTM and NOVA University Websites was improved, and a new online catalogue was released. This aim is now being reinforced with the inclusion in social media.

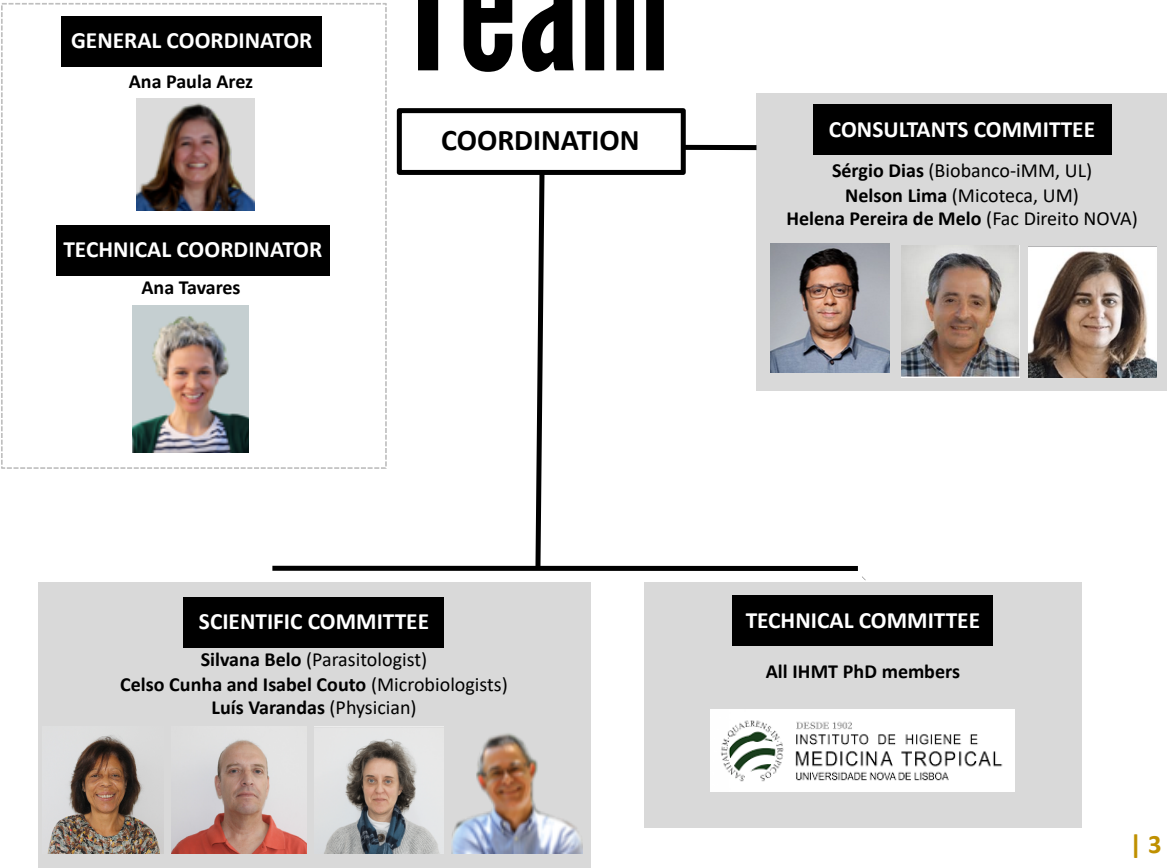
New services were also implemented, activity within national strategic networks continues and contacts have been made to establish new collaborations with international entities in Europe and Africa.

BIOTROP biobank belongs to the scientific community and its consolidation and success depends largely on the commitment and collaboration of all of us through partnerships within the scope of scientific projects or the donation and reinforcement of collections.

Ana Paula Arez



Team





Vision & Mission



In line with UN Sustainable Development Goal#3 to ensure access to a healthy life and promote well-being for everyone and Goal#17 to strengthen the means of implementation and revitalize the global partnership for sustainable development

Vision

Contribute to the role of biological product banks as a tool at the service of a healthy society and asserting itself as a reference infrastructure for collections of biological products associated with Infectious Diseases and Tropical Regions.

Mission

Maximize the biological resources to promote research of excellence on health sciences, particularly of infectious diseases and tropical medicine, with the main objectives:

- Provide the access to high-quality biological samples and associated data, through a collaborative structure
- Obtain collections that can correspond to researchers current and future needs
- Adapt basic operating strategies and technical procedures to legal and ethical requirements
- Ensure respect for the fundamental rights and freedom of patients and donors, with special emphasis on the protection of dignity and identity in the treatment of individual data
- Promote technological innovation or promising results in biomedical research

Strategic plan 2021-2023



After analyzing the strengths and limitations of the first phase of biobank implementation – “Narrative and Implementation 2016-2020” -, a **Three Year Strategic Plan** was created focused on four main areas of intervention:

INTERVENTION AREAS

Sample diversity and quality	Sample management	Visibility	Sustainability
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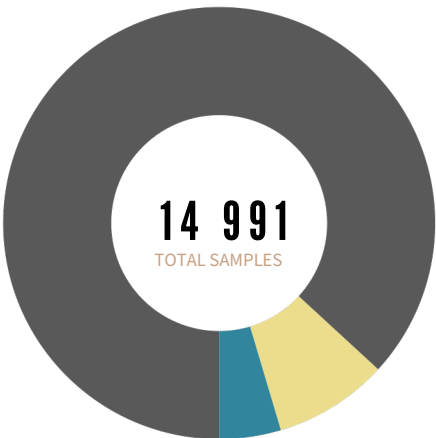
OBJECTIVES AND EXECUTION PLAN

<p><u>Establish</u> prospective collections</p> <p><u>Encourage</u> samples donation within projects</p> <p><u>Promote</u> new collaborations within GHTM activities (RGs/CCI)</p> <p><u>Develop</u> SOPs for quality assessment</p>	<p><u>Promote</u> sample turnover</p> <p><u>Implement</u> a Laboratory Information Management System</p>	<p><u>Improve</u> the presence at IHMT and GHTM websites</p> <p><u>Promote</u> participation in collaborative networks</p> <p><u>Participate</u> in scientific and outreach activities</p>	<p><u>Establish</u> fees for maintance and sample deposit/order</p> <p><u>Implement</u> new Services and start to provide</p> <p><u>Participate</u> in project as team member</p> <p><u>Establish</u> collaboration with industry</p>
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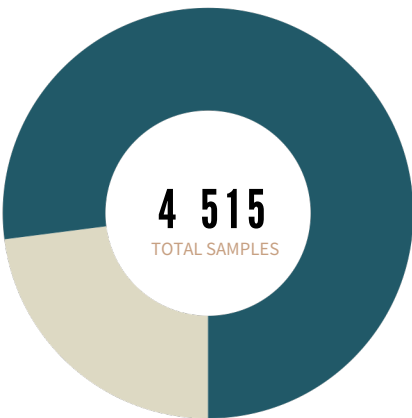
Sample collection

Currently, about twenty-one thousand samples are registered both of non-human and human origin, some representative of different human infectious diseases. In the current year we received positive blood and serum for the presence of *Plasmodium spp.*

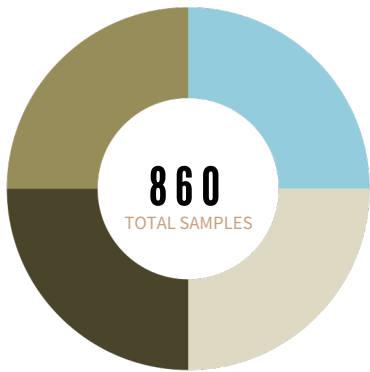
SAMPLE DIVERSITY AND QUALITY



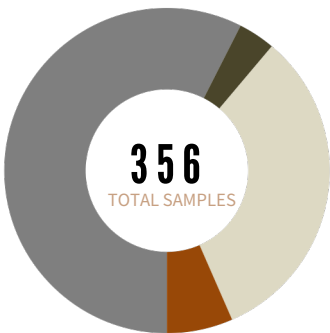
- GHANA *Anopheles gambiae*
- GHANA *Culex quinquefasciatus*
- GHANA Other insects



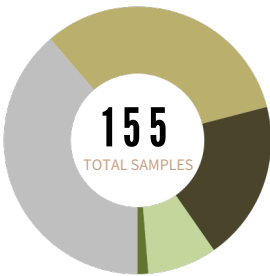
- PORTUGAL Serum Positive (antibody anti-) *Leptospira interrogans*
- PORTUGAL Serum Negative/Not Conclusive (antibody anti-) *Leptospira interrogans*



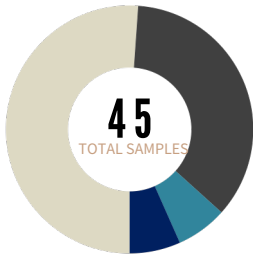
- GUINEA-BISSAU Gut Microbiome - Raw material
- GUINEA-BISSAU Upper Respiratory Microbiome - Raw material
- GUINEA-BISSAU Gut Microbiome DNA
- GUINEA-BISSAU Upper Respiratory Microbiome DNA



- PORTUGAL RNA *Rhipicephalus bursa*
- PORTUGAL RNA *Ixodes scapularis* (cell line IDE8)
- PORTUGAL Blood Kennel Cats
- PORTUGAL Blood Kennel Staff



- PORTUGAL *Galba* sp.
- PORTUGAL *Radix* spp.
- PORTUGAL *Physa* sp.
- PORTUGAL DNA *Galba truncatula*
- PORTUGAL DNA *Galba schirazensis*



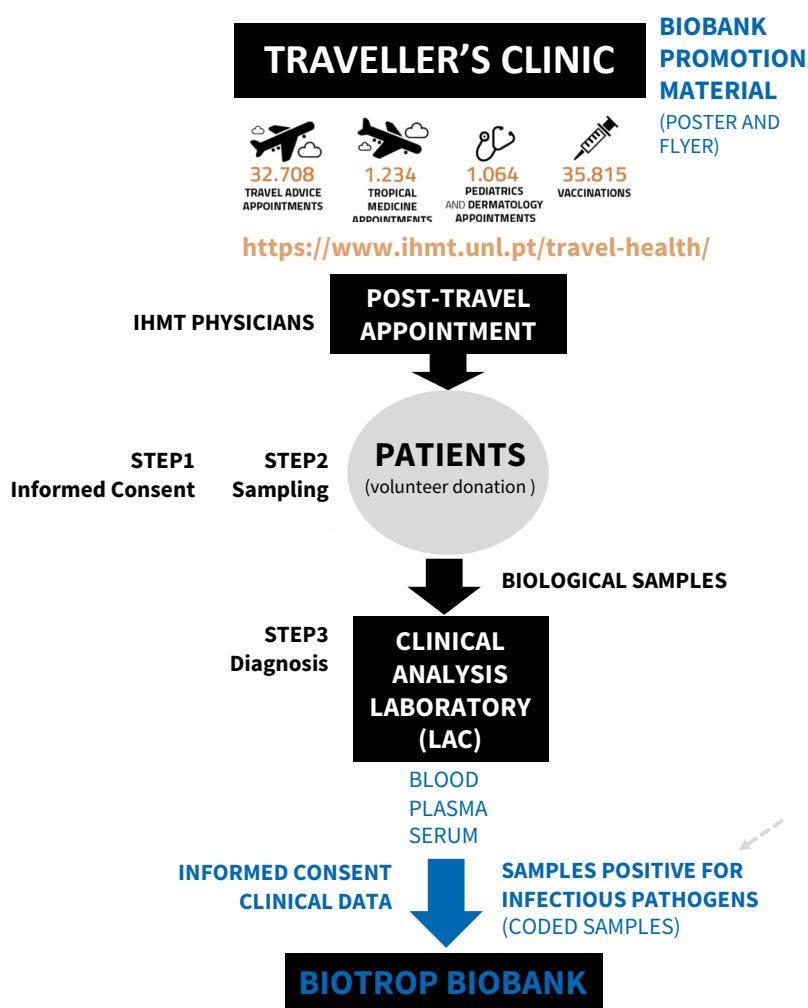
- PORTUGAL Blood Positive Dengue
- PORTUGAL Serum Positive Dengue
- PORTUGAL Blood Positive *Plasmodium falciparum*
- PORTUGAL Blood Positive *Plasmodium malariae*



SAMPLE QUALITY (New SOP)
SOP#4.01.001 Assessement of DNA quality

Ongoing collaboration

Ethical Committee approval of informed consent, workflow and standard procedures, elaborated to the joint action between biobank, Traveller's Clinic and Clinical Analysis Laboratory (LAC) to build prospective collections.



IHMT Ethical Committee

<https://www.ihmt.unl.pt/organizacao/conselho-de-etica/>

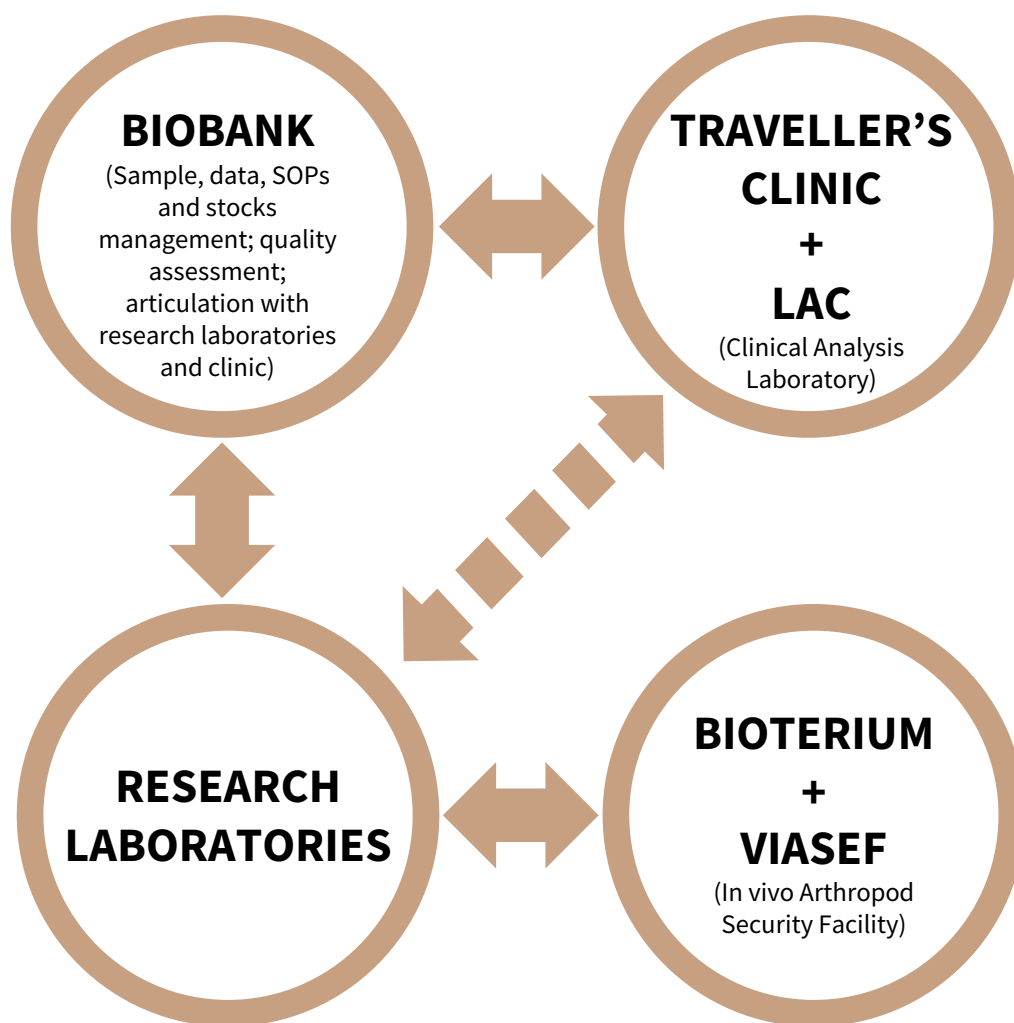
Approved

Evaluation of the Informed consent, new SOPs (four), FORMs(two), workflow and promotional material

Becoming digital

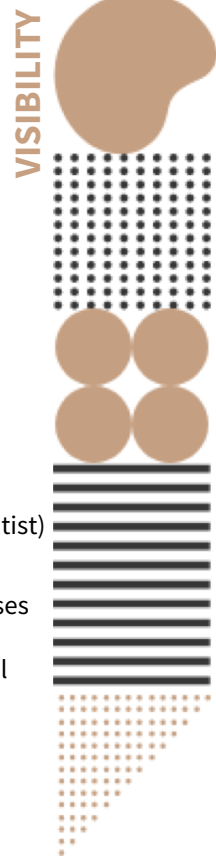
Biobank collaborated in the IHMT effort to implement NOVA DIGITAL PROCESSES, which aims at digital transformation and process automation solutions for laboratory processes and interface with Patients, Hospitals and Laboratories.

Different IT solutions were found, taking into consideration the requirements, desirable communication, and interaction of various institutional intervenient parties:



Networking

Contacts have been established with international entities in Europe and Africa. Moreover, ongoing networking has been made through communication activities, meetings, and conferences attendance.

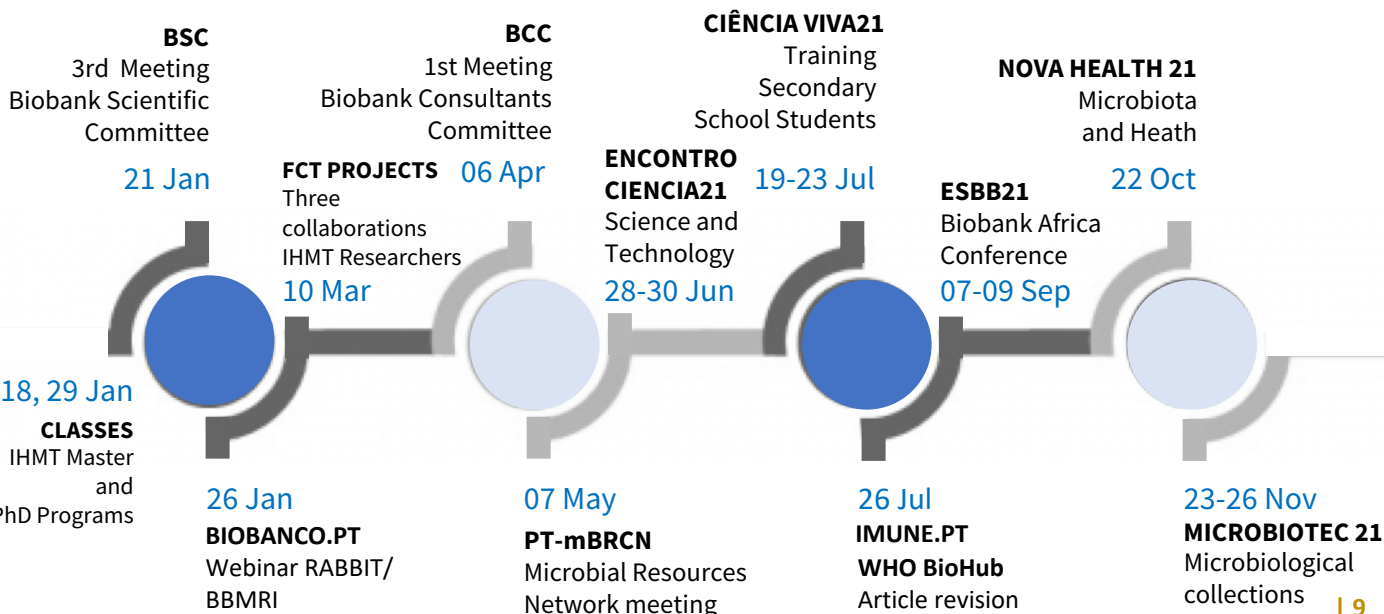


Francesca Perandin (Lab Head)
Francesca Tamarozzi (Senior Scientist)

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 IRCCS Sacro Cuore Don Calabria Hospital
Verona-Italy

Portugal-Lisboa
Biotropical Resources Biobank
 GHTM-IHMT NOVA

Angola-Luanda
Professor Madalena Chimpolo
 Agostinho Neto University
 Faculty of Medicine



Virtual presence

This year an online catalogue was launched together with the presence in websites and implementation of a Communication Plan in collaboration with the GHTM and IHMT Communication Office (phase1#social media).



Feb 2021

Online catalogue # connected to biobank software
Updated in real time

<http://biotropical.ihmt.unl.pt/>



Feb 2021

@NOVA Innovation # available technologies & services
"One stop shop" of NOVA University

<https://impact.webview.pt/2021/03/05/biotrop-biotropical-resources-biobank/>

@IHMT Research # biobank information
Strategic research to support Health Science

<https://www.ihmt.unl.pt/investigacao/biobanco/>;
<https://ghmt.ihmt.unl.pt/consultancy-and-services/>



Oct 2021

<https://www.facebook.com/biotropicalresources/>



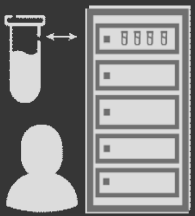
Oct 2021

<https://www.instagram.com/biotropbiobank/>

New services

Standard/On request

Biobank continues to provide a set of services such as samples organization, SOPs development, sample processing and preservation according to good laboratory practices. Further, new services have been launched during this year: bacteria, virus and parasites nucleic acids extraction, quantitative or qualitative detection and bioinformatics analysis (or other services on request).



**Biobank
management
support**



Culture/isolation:
Bacteria
Virus
Parasites



DNA/RNA extraction
PCR
qRT-PCR
NGS
Metagenomic



IFA



**Sequence and gene
expression analysis**

Future Plans

The BIOTROP biobank goal is to continue promoting biobanking activities standing as the national and international leading reference in the field of (tropical) infectious diseases.

For the next year, the focus will be on:

SAMPLE DIVERSITY, QUALITY AND MANAGEMENT

- Integrate prospective collections
- Requalify retrospective historical collections
- Continue efforts to implement the Traveller's Clinic-LAC collaboration
- Implement sample quality assessment strategy plan

VISIBILITY AND SUSTAINABILITY

- Establish collaboration with similar infrastructures at Portuguese-speaking countries
- Continue to attract the main target users
- Provide new services
- Increase scientific output
- Search for collaborations within the pharmaceutical and biotechnology industry





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<https://impact.webview.pt/2021/03/05/biotrop-biotropical-resources-biobank/>
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<https://www.facebook.com/biotropicalresources/>

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