



Navigator

Kick off Meeting

20/10/2020

Project Overview

Speaker: Rita Borgheresi

Overview

Aim & Objectives

Partnership

Operational Objectives

Workplan & Deliverables

Aim & Objectives

Aim

NAVIGATOR aims to set up an open **imaging biobank** with a ***Virtual Research Environment (VRE)*** available to **extract gold-standard** and **novel imaging biomarkers**; and create and test **digital patient models**

Objectives

- Obj.1:** • *Coordination and dissemination* of the **overall project activities**
- Obj.2:** • *Design and operation* of a **Biobank** containing standardised imaging data and related omics data
- Obj.3:** • *Design and operation* of **VRE** that offer web access to a digital laboratory where are available data analytics tools based on Radiomics and IA algorithms to test and validate novel or known **biomarker**.
- Obj.4:** • *Collection of quantitative imaging data* (CT, MRI and PET) for three relevant tumour cases: **colorectal, prostate** and **gastric cancer**.
- Obj.5:** • The *extraction and storage* of **imaging biomarkers** with the definition of **digital patient models**.
- Obj.6:** • *Definition of policies* for operating the NAVIGATOR service infrastructure ensuring: **privacy and security** preserving and its **sustainability** after the project closure.

Partnership

Partnership

Scientific Leader	Azienda USL or research organization	Role
Emanuele Neri	University of Pisa (UNIPi)	Leader
Sara Colantonio	Institute of Information Science and Technologies of the National Research Council (ISTI-CNR)	Partner
Andrea Barucci	“Nello Carrara” Institute of Applied Physics of the National Research Council (IFAC-CNR)	Partner
Roberto Carpi	Azienda USL Toscana Centro (AUSL TC)	Partner
Maria Antonietta Mazzei	Azienda Ospedaliera Universitaria Senese (AOUS)	Partner
Vittorio Miele	Azienda Ospedaliera Universitaria Careggi (AOUC)	Partner

List of external participants

Department of Computer Science and Technology of the University of Cambridge

Centre for Intellectual Property Policy & Management of Bournemouth University

Azienda Regionale di Sanità (ARS Toscana)

Fondazione SIRM (Società Italiana di Radiologia Medica e Interventistica)

Operational Objectives

Operational Objectives Overview

Operational Objective N	Operational Objective Title	Leader Partner	Other Participant
001	Management and Networking	UNIFI	ISTI-CNR, IFAC-CNR, AOUC, AUSL TC
002	NAVIGATOR infrastructure: design, setting, and development	ISTI-CNR	UNIFI, IFAC-CNR, AUSL TC, AOUC
003	NAVIGATOR infrastructure: deployment, maintenance, and operation	ISTI-CNR	UNIFI, IFAC-CNR
004	Data acquisition. Definition of clinical models and protocols	AOUS	AOUS, UNIFI, AOUC, AUSL TC
005	Data analytics and Artificial Intelligence for Precision Medicine	IFAC-CNR	ISTI-CNR
006	Biobank policies and sustainability	UNIFI	IFAC-CNR, AUSL TC, ISTI-CNR

Work Plan

Work Plan

Description		Month																																			
	Leader	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36
001 Management and networking	UNIPi																																				
1.1 Project coordination	UNIPi					D1.1																															
1.2 Quality assurance and risk management	UNIPi					D1.2																															
1.3 Dissemination & Communication	UNIPi		D1.4			D1.3																															
002 NAVIGATOR infrastructure: design, setting, and development	ISTI-CNR																																				
2.1 Configuration of D4Science services for the aggregation of data sources	ISTI-CNR					D2.1																															
2.2 NAVIGATOR Infrastructure storage services: ensuring data security and anonymization	ISTI-CNR																																				
2.3 NAVIGATOR Virtual Research Environments	ISTI-CNR									D2.2																											
003 NAVIGATOR infrastructure:deployment, maintenance, operation	ISTI-CNR																																				
3.1 Infrastructure deployment and maintenance	ISTI-CNR																																				
3.2 Biobank content	ISTI-CNR																	D3.1																			
3.3 Biobank biomarkers integration	ISTI-CNR																			D3.2																	
004 Data acquisition. Definition of clinical models and protocols	AOUS																																				
4.1 Establishment of standardized acquisition and segmentation protocols, and reports	AOUS												D4.1						D4.1						D4.1					D4.1			D4.2				
4.2 Prostate cancer: Data acquisition and curation	AUSL-TC																																				
4.3 Gastric cancer: Data acquisition and curation	AOUS																																				
4.4 Colorectal cancer: Data acquisition and curation	UNIPi																																				
005 Data analytics and Artificial Intelligence for Precision Medicine	IFAC-CNR																																				
5.1 Definition and implementation of "Gold standard", Radiomics biomarkers, Data Analytics and AI tools	IFAC-CNR					D5.1																															
5.2 Biomarkers extraction and evaluation	IFAC-CNR												D5.2																								
5.3 Data Analytics and Artificial Intelligence tools evaluation	ISTI-CNR																								D5.3												
006 BioBank policies and Sustainability	UNIPi																																				
6.1 Data privacy and security policies: anonymization, GDPR	ISTI-CNR					D6.2									D6.1																						
6.2 Ethical/Legal Issues and clinical policies	IFAC-CNR												D6.3					D6.4	D6.5											D6.6		D6.9					
6.3 Biobank Exploitation and Sustainability	IFAC-CNR																											D6.8		D6.7		D6.9					