

Kick-off Meeting for Funded ATTRACT Projects

Flash summaries of funded projects (part 1)

WHEN Monday 20 May: 14h35 -> 16H05

WHERE CERN, Main Auditorium (Conference Room, Building 500)

Order of presentation	Name of the Project
1	3D Kinematics for Remote Patient Monitoring (RPM3D)
2	3D-CANCER-SPEC
3	3D-Printable Metamaterial Integrated Piezopolymer-Based Sensing Platforms
4	A Novel Approach for Near-field Optical Microscopy based on Tip-enhanced Fluorescence via Plasmon Resonance Energy Transfer (TEFPLASNOM)
5	A novel holistic approach for hardware trojan detection powered by deep learning (HERO)
6	A point-of-care device for non-invasive multiplexed diagnosis of malaria
7	Active High-QE Photocathode
8	ADAPTIVE LIQUID CRYSTAL LENSES (ALL)
9	ASPECT: Algebraic SPECKle Tomography
10	Automated 3D organoid manipulator robot
11	Automated real-time 3D ultrasound mapping of arteries and nerves
12	Automated SEgmentation of Microtomography Imaging (see Part 3 N. 56)
13	AutoMatic integration of ECG and cardiac MRI to guide caTheter-based substrate ablation for Ventricular Arrhythmias (MERIT-VA Project)
14	Bridging the epilepsy diagnostic gap: a fast, reliable and cost-effective rapid test (BREEDING)
15	Carbon quantum dots/graphene hybrids with broad photoresponsivity - BANDPASS-
16	COSMIC- Compressive Spectral Imaging Microscopy for Cancer Detection
17	DEBARE: Deep-learning based Activity Recognition on the Edge
18	Dental Magnetic Resonance Imaging (DentMRI)
19	DESIGN AND CONSTRUCTION OF AN X-Y-Z MOTORIZED HEAD TO PERFORM DEEP-UV RAMAN FROM -30 TO -5 oC (CORaHE)
20	DetectIION
21	Detection of DC beams using electro-optical crystals
22	Development and Application of Versatile, Highly UV Reflecting and Absorbing Coatings
23	Development of radiation-hard and cost-effective inorganic scintillators for calorimetric detectors based on binary glass compositions doped with cerium - SCINTIGLASS
24	DIBIS (Digital Burst Image Sensor)
25	DISRUPTING BLOOD GAS ANALYSIS
26	DM-MX: Dynamic multi-modal x-ray imaging for additive manufacturing and beyond
27	Dynamic metasurfaces for 3D imaging (3D-META)

28	ECHOBRAIN
29	EMERGING LIFE
30	Enabling next level research on roots - automatizing MiniRhizotron Image Acquisition and Analysis (NextMR-IAA)
31	Endoscopy by Interferenceless Coded Aperture Correlation Holography Device with Annular Optical Aperture (EI-COACH)
32	Energy harvesting under harsh conditions: towards a safe Oil & Gas industry (Energy4Oil)
33	Essence
34	EU-RainS4 - Enhanced Urban Rain Surveillance Systems for Smart city Solutions
35	EXPITIS: Edge illumination X-ray phase contrast imaging with equiangular time-delay integration scanning
36	FastICPix: Integrated Signal Processing for a New Generation of Active Hybrid Single Photon Sensors with Picosecond Time Resolution
37	FASTPIX
38	FUSCLEAN: Focused ultrasound cleaning of implanted shunts in patients of hydrocephalus
39	GASRAMAN - A novel Raman-based sensor for combustible gas analysis
40	GIMOD Project
41	GISIPHOD GHz Single Photon Detector
42	GP2M: A modular detector for the emergent field of energy resolved neutron imaging and 3D reconstruction.
43	GRaphene Golay micro-cell Arrays for a color-seNsitive TeraHertz imaging sensor (GRANT)
44	H3D-VISIOOnAiR Head-worn 3D-Visualation of the Invisible for Surgical Intra-Operative Augmented Reality
45	HERALD Hyperspectral retinal imaging for non-invasive detection of amyloid- β in patients with Alzheimer disease

Flash summaries of funded projects (part 2)**WHEN** Monday 20 May: 16h30 -> 18h**WHERE** CERN, Main Auditorium (Conference Room, Building 500)

Order of presentation	Name of the Project
1	GEMTEQ - GEMPix detector for microdosimetry with tissue-equivalent gas
2	LaGEMPix
3	High Power Laser Beam Profile and Pointing Measurement
4	Higher-harmonic Generation Microscopy Beyond the Diffraction Barrier based on Re-scan Strategies for Optical Data Acquisition (HARMOPLUS)
5	HIOS: Heterogeneous I/O for Scale
6	Hyperspectral remote sensing of marine plastics – HyPeR
7	iDMS – breakthrough in molecular imaging
8	immunoSpot Layer Imaging of Cell Excretions (iSLICE)
9	InGaN FULL SPECTRUM
10	IN-SILICO QUANTUM GENERATION OF RANDOM BIT STREAMS
11	INSTANT project (Imaging iN SpaceTime ANd Tracking)
12	Integrated Multimodal Optical and Magnetic Resonance Imaging IMAGO
13	Integrated Photonic Electronic platform for Quantum Technologies
14	INTRINSIC LASING WITHIN MICROALGAE TO MONITOR BIOFUEL PRODUCTION
15	LIROC – Read-Out Chip for SiPM LIDAR
16	Live, autonomous biosensor modules for environmental monitoring (SENSEI)
17	MAROT: low-noise MAGnetometer based On Tunnel junctions
18	MC2 – Mini CdTe On Chip
19	MERMAID: Multi-Emission Radioisotopes – Marine Animal Imaging Device
20	METABOLIC PROFILING OF IN VITRO FERTILIZATION EMBRYOS USING HYSPECTRAL IMAGING (HYSPLANT)
21	MIIFI – Multimodality Integrated Imaging for Foetal Intervention
22	Mixed reality for brain functional and structural navigation during neurosurgery
23	ML-CYCLO-CT: Combining cycloidal computed tomography with machine learning: a mechanism to disrupt the costly relationship between spatial resolution and radiation dose
24	Monitoring tissue implants by field-cycling MRI of quadrupolar-peak contrast agents (QP-MRI)
25	MonPicoAD – Monolithic Picosecond Avalanche Detector
26	Multiparametric MR approaches for non-invasive Glioblastoma therapy response follow-up (MAGRes)
27	NanoUV
28	NEAR-INFRARED RESONANT CAVITY ENHANCED GRAPHENE/SILICON PHOTODETECTORS (REVEAL)
29	NeXt Generation of Time to Digital Converters - NXGTDC
30	One dimensional, Single-Chain polymers for gas sENSors through high-pressure Technology (SCENT)

31	Optical Biosensing Universal System - OBUS
32	OptoGlass3D
33	Percussion sensor for wood disease evaluation
34	Personal Radars for Radio Imaging and Infrastructure-less Localization (PRIMELOC)
35	PERSONALISED BRAIN IMAGING
36	PerXI (Perovskite for spectrometric X-ray Imaging)
37	Picosecond Scintillator Timing with Superconducting Nanowire Single-Photon Detectors (PIZZICATO)
38	Polarization-SEnsitive Imaging Detectors with Organic Nanostructured coatings (POSEIDON)
39	POLMOSSA (2 μm High-Power/Short-Pulse Laser Based on Monolithic Semiconductor Saturable Absorber)
40	POSiCS: POsition-sensitive SiPMs Compact & Scalable beta-camera
41	Positronium surface-scanning microscopy
42	PROTEUS
43	PTMsense TM - biosensor for an electrochemically-based point-of-care diagnostics
44	Quantum Imaging for Tomography (QuIT)
45	Quantum Membrane Accelerometer Microchip

Flash summaries of funded projects (part 3)**WHEN** Tuesday 21 May: 10h30 -> 12h**WHERE** CERN, Main Auditorium (Conference Room, Building 500)

Order of presentation	Name of the Project
1	Hybrid High-precision In-vivo Imaging in Particle Therapy
2	Quantum Optimization of Worldwide LHC Computing Grid data placement
3	RaDFOS
4	Radiation tOlerant THz Sensor (ROTOR)
5	Real-time Fluorescence Lifetime Acquisition System (RfLAS)
6	Re-designed whole-cell biosensors for environmental monitoring (Re-Sense)
7	SALT -Self-aligning Achromatic Light Transducers
8	Seismic Imaging & Monitoring Systems (SIMS)
9	Single photon sensor for Mid-Infrared Lidar (SMIL)
10	Single Photon Visible Light Image Sensors for Science and Technology
11	Single Pixel Infrared/Thermal Camera
12	SINGLE SPIN NMR (NMR1)
13	Single-Cell Metabolic Imaging for High-Content Screening for Metabolism Research and Drug Development (HCS+M)
14	SiPhoSpace
15	Smart Optical Biopsy with Polarized Light (SmartOpsy)
16	Smart Wall Pipes and ducts (SWaP)
17	SMILE: SAW-MIP Integrated device for oraL cancer Early detection
18	SNIFFDRONE: Drone-based Environmental Odor Monitoring
19	Speech-based Predictive Enrolment in Clinical Trials for Alzheimer's
20	SP-LADOS: Innovative single-photon large-area optical probe for diffuse optical spectroscopy
21	SRS Histopathology
22	SUGAR – Surgical Guidance Using Augmented Reality
23	SUPERCONDUCTING MOLECULE DETECTOR (SUMO)
24	Superior γ detection and IR imaging via ALD-passivated germanium nanostructures (SUGER)
25	Super-Resolution Microscopy Enhanced by Deep-Learning
26	SUPER-SENSITIVE MULTIPURPOSE/MULTIFUNCTIONAL AVALANCHE GASEOUS DETECTORS FOR ENVIRONMENTAL HAZARD INTRUSION SYSTEM
27	Surface plasmon resonance sensor technology for early detection of biomarker proteins in whole blood, in point of need settings (MarkerSense)
28	Tailored Metamaterials for Extremely High-Resolution Imaging and Sensing (TEHRIS)
29	Taking Hyperspectral Terahertz Imaging to the Industry (HYPERTERA)
30	Temperature-to-Phase Conversion THz Radiation Sensors (T-CONVERSE)
31	Terahertz Computer Tomography for plastics extrusion (TACTICS)
32	THE CURIOUS CRYOGENIC FISH (CCF)
33	TOPiomics: Topological Radiomics

34	Transformational Infrared Detectors for Medical and Environmental Sensing (TIMES)
35	Ultra-fast volumetric imaging of biological processes (4DBio)
36	Ultra-low-power non-volatile RAM for the Internet of Things (ULTRARAM™)
37	Ultra-sensitive optoacoustic sensor for dosimetry in proton therapy (OMUS4PT)
38	Unchaining Hyperspectral Imaging with Quantum- Inspired Compression
39	Viral lasers for biological detection (VL4BD)
40	VISIR: Novel combined visible - infrared detectors
41	VLADIMIR - Visible Light Communication for Indoor Monitoring
42	WPET – Wearable PET
43	XCOL. Low-cost, large area X-ray colour image sensors
44	SPACC – Self Powered Autonomous CMOS Camera
45	SPHYNX (Structure Probing by Holographic Imaging at Nanometer scale with X-ray lasers)
46	Ultra High-level Radiation Monitoring with Thin Metal Nano-layers (NanoRadMet)
47	SINATRA
48	RAPTOGEN
49	A compact instrument for the objective Measurement Of Macular pigMENT Optical density (MOMENTO)
50	Photoquant
51	Hardware module for single Ion channel spectroscopy with 100ps time resolution
52	ULTRAMAGFIBER
53	Nanoscale thermal imaging with spins in diamond ThermoQuant
54	Photonic System for Liquid Biopsy: PHIL
55	CHEDDAR - Chipless RFID Radiation Detector
56	Automated SEgmentation of Microtomography Imaging
57	Unstained Targeting: X-ray Phase-Contrast micro-CT as a bridging imaging modality (UTX μ CT)
58	STEMs - a STimulated EMission sensor
59	Plasmonic Enhanced Silicon Photomultipliers for Near Infrared Light detection (PlaSiPM)
60	MESO-CORTEX Wide-field Cortical Imaging at mesoscopic scale
61	Commodification of Scintillator Detectors using 3D Printing Techniques (3DSCINT)
62	NanoDisc
63	Enhanced Medical Endoscopic Detection and Sensing with Ultra-Bright Light (MEDS-Light)
64	Vortex Lasers and Sensor Manufacturing (VORTEX-SENSORS)
65	Opto CS: Optogenetic cell sorting
66	Nano-MEG Nano-scale patterned high critical-temperature superconducting sensor technology for next-generation neuroimaging with magnetoencephalography
67	PRINTBIO: 3D-printing electricity-producing bacteria: a new paradigm for developing graphene-based biosensors

68	u-RWELL Advanced Neutron Imaging Apparatus (uRANIA)
69	BioPIC - Integration of Biosensors based on Photonic Integrated Circuits by local-backside etching
70	UBID: Ultrasound Breast Imaging with Deep learning