CIVIS call for researchers MSCIF 2020

PANEL: Life Science (LIF)



Co-funded by the smus+ Programme e European Ur



AIX MARSEILI	E UNIVERSITE -	France	contact person: civis@univ-amu.fr		
SUPERVISOR	RESEARCH LAB/GROUP	AREA OF EXPERTISE	LINES OF INVESTIGATION	KEY FACILITIES	WEBSITE
Laurent Goffard	INT, Institut de Neurosciences de la Timone	Neurophysiology of visually- guided eye movements	The goal of our research is to identify in the non-human primate the neurophysiology underlying the ability to visually capture (foveate) a target and to track it when it is moving.	Husbandry and veterinarian care of rhesus macaque monkeys	<u>http://www.int.univ-</u> amu.fr/_GOFFART- Laurent_?lang=en
Olivier Coulon	Institut de Neurosciences de la Timone (INT)	Neuroimaging	The scientific goal of Methods and Computational Anatomy research team at INT is the quantification and modelling of cortical variability and development, and their link with white matter connectivity, using mostly magnetic resonance imaging on human and non-human primates. Specifically we aim at: quantifying and modelling cortical variability and organization	The 'Institut de Neurosciences de la Timone' has an MRI acquisition center entirely dedicated to research. It also has access to large animal facilities and we work closely with the Mediterraneran Primate Research Center, which gives us access to large colonies of non-human primates. We have all necessary means to analyse data, in particular a computing cluster and high performance computing data servers.	<u>http://meca-brain.org/</u>
Daniele Schon	Institut de Neurosciences des Systèmes	Cognitive Neurosciences	Speech and music perception, temporal attention, rhythm, prediction	EEG, MEG, access to intracranial data (sEEG)	<u>https://ins-amu.fr/</u>
Jean-Paul Borg	Centre de Recherche en Cancérologie de Marseille (CRCM)	cancer, cell polarity, targets, biomarkers, cell biology, proteomics	The tumoral phenotype often includes alteration of cell polarity of epithelial tissues, increased cell migration and resistance to apoptosis of tumor cells and, ultimately, formation of metastasis. Cell polarity is a fundamental process initiated during embryonic development and maintained throughout adult life. For many years, our team has focused on the study of cell polarity proteins implicated in cancer. Our team has significantly contributed to the identification of molecular networks associated to these molecules in physiological and tumoral situations, and has demonstrated the implication of some of them (VANGL2, PRICKLE1, PTK7, SCRIBBLE and ERBIN) in cancer. Our aim is to pursue our fundamental studies on the mode of action of these proteins using cell biology, proteomic and genetic methods and to assess their involvement in cancer using our mouse models and clinical resources/expertise of Institut Paoli-Calmettes (IPC), the hospital hosting the Centre de Recherche en Cancérologie de Marseille (CRCM). - Daulat A.M., Puvirajesinghe T.M., Camoin L., and Borg JP. Mapping cellular polarity networks using mass spectrometry- based strategies. (2018) Invited review in J. Mol. Biol., 430: 3545-3564. - Daulat A.M. and Borg JP. Wnt/Planar Cell Polarity 1ersistenc: new opportunities for cancer treatment. (2017) Invited review in Trends in Cancer, 3: 113-125. - Puvirajesinghe T.M., et al. Identification of p62/SQSTM1 as a component of non-canonical Wnt VANGL2-JNK 1ersistenc in breast cancer. (2016) Nat. Commun., 7:10318. - Daulat A.M., et al. PRICKLE1 contributes to cancer cell dissemination through its interaction with mTORC2. (2016) Developmental Cell, 37: 311-325.	The CRCM and IPC host 17 state-of-the-art technological, preclinical and clinical platforms, which are all co-headed by a scientist/clinician and an engineer. All platforms are accessible to the CRCM research teams. Some of them are labelled by AMU (cytometry, pre-clinical assays, immunomonitoring, nanobodies, proteomics) and by the French National Institute of Cancer (department of clinical research and innovation), by the French Infrastructure Biology and Health (IbiSA) agency (immunomonitoring, pre-clinical assay, proteomics).	https://www.crcm- marseille.fr/en/teams/r esearch-teams/jean- paul-borg/

Benjamin Goislard de Monsabert	Institute of Movement Sciences (ISM)	Computational and experimental biomechanics of the hand and upper limb	The Motor Performance and Multiscale Modeling (P3M) group aims at an intergrated approach to study the biomechanics and control of human movement of healthy, ageing and sportsmen populations.	The Institute of Movement Sciences offers many facilities allowing the study of human movement : - Motion capture, ergometers, treadmills and instrumented sportsfield (TechnoSport – <u>https://technosport</u> .univ-amu.fr/) - Virtual reality and augmented reality (CRVM / <u>http://crvm</u> .ism.univ-amu.fr/) - Mechnical testing of biological tissues (MecaBio / <u>https://ism</u> .univ-amu.fr/fr/mecabio) - Flight arena for autonomous bio-inspired robotics (AVM / <u>https://ism</u> .univ-amu.fr/en/avm)	<u>https://ism.univ-</u> amu.fr/en
Marie-Helene Grosbras	Laboratoire de Neurosciences Cognitives	Human brain imaging	Our research, in Cognitive Neuroscience, concerns action- perception coupling, in particular in the context of processing social stimuli. We are interested in how this coupling is implemented in the brain and how this implementation matures during adolescence.	Psychophysics labs – Eye tracking – Non-invasive brain stimulation – 3 T MRI scanner – EEG – Computing cloud – Technical support	https://lnc.univ- amu.fr/en/profile/gros bras-marie-helene
Michel Khrestchatisky	Health, Biological Sciences	Neuroscience	Neurodegenerative diseases, glioblastoma, neuroinflammation, blood brain barrier, drug delivery to the brain	Research Institute in NeuroScience, 11 research groups and one partner biotechnology company, specialized in different fields of neuroscience, cellular and molecular biology, animal models, learning and memory, behavioral studies, technological platforms, (imaging, molecular interactions, human iPS cells, animal facility), translational neuroscience, drug and imaging agent development	https://inp.univ- amu.fr/en https://www.vect- horus.com
Flavio Maina	Developmental Biology Institute of Marseille (IBDM)	2ersisten, cancer,	We explore cellular/molecular contexts at the root of resilience versus vulnerability of biological systems. The team is expert on receptor tyrosine kinase (RTK) 2ersisten networks and associated mechanisms in developmental processes, tissue homeostasis, and cancer (particularly liver and breast cancer). We generated clinically relevant genetic cancer mouse models that recapitulate several features of human cancer patients. We applied a system analysis strategy to identify new cancer regulators, confronting human -omics data with knowledge emerging from cancer models, then assessing functionality in vitro and in vivo. Interdisciplinary research through collaborations is based on 2ersisten/biochemistry, mouse genetics, high-throughput screens, bioinformatics, mathematical modelling, cancer and immune cell crosstalk, in vivo longitudinal imaging. We also employ human induced pluripotent stem cells (hiPSCs) to study 2ersisten perceptions and cell-matrix interactions to regulate pluripotency maintenance and cell lineage acquisition.	Pathogen-free animal facilities – Mouse Functional Exploration Platform – High resolution and specialized microscopy workstation (including STED, PALM / STORM, Polarization- resolved imaging, Optical tweezers, SHG Imaging) – Non- invasive in vivo imaging (micro-CT, ultrasound) through established collaboration with the CPPM.	http://www.ibdm.univ- mrs.fr/equipe/signallin g-networks-for- stemness-and- tumorigenesis/
Guillaume Rao	Institute of Movement Sciences, Sport Sciences Department	Computational and experimental biomechanics of the lower limb	The Motor Performance and Multiscale Modeling (P3M) group aims at an integrated approach to study the biomechanics and control of human movement in healthy, ageing and pathological populations as well as expert sportsmen. More specifically, I'm interested in studying the (biomechanics) interaction between the participant and its equipment in sport (running, biking) or pathology situations.	The Institute of Movement Sciences offers many facilities allowing the study of human movement : - Motion capture, ergometers, treadmills and instrumented sportsfield (TechnoSport – <u>https://technosport</u> .univ-amu.fr/) – Virtual reality and augmented reality (CRVM / <u>http://crvm</u> .ism.univ- amu.fr/) – Mechnical testing of biological tissues (MecaBio / <u>https://ism</u> .univ-amu.fr/fr/mecabio) – Flight arena for autonomous bio-inspired robotics (AVM / <u>https://ism</u> .univ- amu.fr/en/avm)	<u>https://ism</u> .univ- amu.fr/fr/
Stéphane Canaan	INSB, Biologie, CNRS	Microbiology, Infectious diseases, Tuberculosis	My group is working on pathogenic mycobacteria (M. tuberculosis, M. abscessus, M. ulcerans, as well as M. marinum). Wea re interested in intracellular and cell wal lipid	Molecular biology (transcriptomic equipments), production unit for recombinant protein, L2 laboratory, Electron and	https://tuberculosis- lbp.wixsite.com/tuberc ulosis-lbpteam

			metabolism involved in virulence, propagation and	confocal microscopy are avalaible in the laboratory or at the	
			3ersistence.	Institut.	
James Sturgis	LISM UMR7255	Membrane protein biochemistry and biophysics	We are interested in the interactions between membrane proteins and the forces that drive membrane protein folding and the assembly of supra-molecular structures. Currently as model systems we use aquaporins, VDAC and bacterial photosynthetic systems.	We have access, and use in our research, numerous biochemical and biophysical approaches including: electron microscopy, mass spectrometry, fluorescence spectroscopy and FTIR.	https://www.lism.cnrs- mrs.fr/JS_files/Page_JS
Eric Durand	Laboratoire d'Ingénierie des Systèmes Macromoléculaires	Structural biology, microbiology, bacterial secretion system, virulence	My group is working on bacterial virulence factors, such as toxin secretion systems. We use a combinaison approaches from genetics, membrane protein biochemistry, molecular microbiology and to structural biology. Notably, we use cryo- electron microscopy (cryo-EM) to decipher the intimate structure and functioning of these bacterial nanomachines. All these data are combined in integrative models of the nanomachine we are studying. Finally, we have developed a powerful pipeline to screen anti-virulence compounds targeting these virulence nanomachines.	Our lab is equipped with P2 laboratory to manipulate the bacterial pathogens we are studying. All the molecular and genetics tools are available. We have several microscopy facilities on campus, for light fluorescence microscopy and for cryo-EM. Moreover, we have access to high-resolution cryo- EM platforms in France.	https://scholar.google. com/citations?view_op =list_works&hl=fr&user =h7-KGiwAAAAJ https://lism.cnrs- mrs.fr: My team (VN2M) has been created recently and the department website hasn't change yet.
Brigitte Gontero	Laboratoire Bioénergétique et Ingéniérie des Proteines, BIP2	microalgae, CO2, lipids, biochemistry	We are interested in the CCM especially from diatoms. The fixation of CO2 in the Calvin-Benson-Bassham (CBB) cycle is performed by the RuBisCO that has a Km for CO2 of 23 to 65 $\hat{1}$ ¼M in diatoms. Since in aquatic environment, the CO2 concentration is lower than these values, microalgae have evolved CO2 concentration mechanisms (CCM) that increase the local CO2 concentration nearby the RuBisCO active site. Recently, we have identified a new class of carbonic anhydrase, the iota carbonic anhydrase ($\hat{1}^{-}$ CA) that participates to the biophysical CCM of a marine diatom, Thalassiossira pseudonana. Besides, we have identified proteins that are more abundant in low-CO2 conditions (50 or 400 ppm) vs high concentration (20 000 ppm), in the marine diatom T. pseudonana. In particular, we have identified a protein homologous to CP12 (Thaps-CP12).	We have incubators for algae growth, Biolistic equipment for transformation, spectrophotometers, akta for purification. All equipment required for molecular biology. We have lipid extraction expertise and equipment dedicated to their analysis. Moreover the lab benefits from different platforms in our Intsitute including transcriptomics, proteomics and electronic microscopy. We have privileged access to NMR and SAXS facilities.	http://bip.cnrs- mrs.fr/spip.php?article 304 this site will be replaced by: http://bip.prod.lamp.cn rs.fr/groups/bip02/rese arch/ and https://www.researchg ate.net/profile/Brigitte Gontero https://www.researchg ate.net/profile/Frederic Carriere
MarieT Giudici	Bioenergetic and Protein engineering. Microbiology	Microbiology, metabolism, bioenergy	My group has characterized the main metabolic chains of micro-organisms involving metalloenzymes, complexes and supercomplexes, and now studying their dynamics and interactions under different conditions. Characterisation of new biocatalysts for biotechnological devices (biomass, biogas, bioH2). I initiated an innovative axis, which consists in the microbial study of bacterial consortia involved in bioH2 production.	Bacterial growth under various conditions (anaerobic, toxic) protein purification microscopy	http://www.imm.cnrs.f r/
Michel Khrestchatisky	Health, Biological Sciences	Neuroscience	Neurodegenerative diseases, glioblastoma, neuroinflammation, blood brain barrier, drug delivery to the brain	Research Institute in NeuroScience, 11 research groups and one partner biotechnology company, specialized in different fields of neuroscience, cellular and molecular biology, animal models, learning and memory, behavioral studies, technological platforms, (imaging, molecular interactions, human iPS cells, animal facility), translational neuroscience, drug and imaging agent development	https://inp.univ- amu.fr/en https://www.vect- horus.com
Serge van de Pavert	CIML	Developmental Immunology, ILC, lymph node	Our group studies the development of the immunesystem with an emphasis on lymph node formation. We have shown that neurons might be involved in determining the location of lymph node formation and one of the research lines in the lab is establishing their influence using embryos from different	extensive microscope facility, including light sheet microscopy - extensive flow-cytometry facility, including 2 AIRIA sorters - mouse facilities - genomics and bioinformatics platform http://www.ciml.univ-mrs.fr/immunology-nanoscience- system-biology	http://www.ciml.univ- mrs.fr/science/lab- serge-van-de-pavert

			mouse modes defective for neurogenesis. Innate lymphoid		
			during embruogenesis. We are interested in the origin and		
			dovelopmental nathway of the ILC towards their function like		
			lymph node formation. When do they arise within the embryo		
			and how do they compare to their counterparts in the adult		
			which are derived from the hone-marrow? We have setup		
			different mouse models to study IIC differentiation by lineage		
			tracing single cell sequencing and also to visualise them using		
			whole-embryo or organ immunofluorescence		
Pedro Ballester	Cancer Research	Artificial Intelligence	Our research aims at developing technologies to enable	This environment is highly beneficial for career development	https://www.crcm-
	Center of Marseille	Machine Learning Drug	biomedical discoveries. It is structured into two research axes	For instance, to improve or acquire skills in applied data	marseille fr/en/teams/r
	(Université Aix-	Design. Precision Oncology	each within one of the five major domains of Recherche	analysis in these research areas. There are currently three PhD	esearch-teams/pedro-
	Marseille UM105)		Technologique identified by INSERM: Drug Design within	students and one MSc student in the group (a new postdoc	ballester/
			Développement du Médicament domain and Precision	will start soon too), who can provide in situ help to get started.	https://publons.com/re
			Oncology within Santé Numérique domain. These two axes	apart from that of the group leader (Dr Ballester). At the host	searcher/975063/pedr
			leverage two current opportunities: Big Data (BD) and Artificial	department (Cancer Research Center of Marseille), the	o-j-ballester
			Intelligence (AI). Machine Learning (ML), a major subarea of	successful candidate will also have the opportunity to	,
			AI, has been around for guite some time now. However, BD	frequently interact with a range of pharmacologists, cancer	
			has become of such size and diversity that, when allied with	biologists and clinical oncologists during internal seminars or	
			the right ML algorithm and domain knowledge for the	proactively approaching them. Furthermore, there are	
			considered problem, major advances can now be achieved.	opportunities to exchange with researchers in chemical	
			Some recent work from our lab:	informatics, drug design and bioinformatics within the CRCM	
			https://onlinelibrary.wiley.com/doi/abs/10.1002/wcms.1478	(e.g. the Integrative Structural & Chemical Biology team, the	
			https://www.frontiersin.org/articles/10.3389/fgene.2019.010	Integrative Bioinformatics platform or the Oncogenomics	
			41/full	platform).	
			https://doi.org/10.1093/bioinformatics/btz183		
			https://www.frontiersin.org/articles/10.3389/fchem.2019.005		
			09/full		
			https://academic.oup.com/nar/article/44/W1/W436/2499330		
Christophe Bordi	microbiology	biofilm, regulatory pathway,	The team " Sensing environment & community lifestyle "is	Our institute we have all the facility to perform genomic	https://lism.cnrs-
		genomic	focused on two interconnected themes: the regulatory	approach (DNA-seq, RNA-seq , Chip-seq) a platform dedicated	mrs.fr/CB_files/Team_F
			network involved in the transitions between a planktonic and	to microscopy and mass spectroscopy	r.html
			community lifestyle (blofilm) and the molecular actors		
			involved in the development of biofilms in Pseudomonas		
			aeruginosa. More precisely, we study the molecular regulatory		
			aspects driving to the sedentary life as well as the		
			phosphoreiais, small KNA of the alternative signal factors		
			lifestyle in P. seruginoss and the interconnections between		
			these various regulation systems during the infectious process		
			To achieve ours aims we use genomic approaches such as		
			RNA-seq. Chin-seq but also fluorescent microscopy		
Andrea Brovelli	Institut de	Cognitive Neuroscience	Brain Networks and Learning (BraiNets)	High-performance computing center of the INT required for	http://andrea-
	Neurosciences de la	Computational Neuroscience.	My research group tries to elucidate how information flows	intensive data analysis and modelling	brovelli.net/
	Timone (INT)	Information Theory, Brain	across brain regions and how Brain Networks coordinate to	Access to MEG and fMRI centre for neuroimaging experiments	, http://www.int.univ-
		Newtorks, Learning and	support cognitive functions such as Learning and Adaptive		amu.fr/
		Decision-making	Behaviors. To do so, we exploit multimodal neuroimaging		
		_	techniques (MEG, intracranial EEG and fMRI) and		
			computational models of learning and decision-making.		
Rochelle Arckerley	Laboratoire de	Neuroscience, touch,	We study the sense of touch in humans, which includes	We are the only research group in France, and one of few in	https://Insc.fr/equipe/e
	Neurosciences	humans, skin,	recording from different types of mechanoreceptive afferent	the world, that performs microneurography, i.e. single unit	quipe-corps-et-
		mechanoreceptive afferents.	and linking this to sensations about the perceived tactile	electrophysiology in humans, where we record from and	1

	Sensorielles et	microneurography,	interaction. We investigate discriminative and affective touch,	stimulate peripheral nerves. We complement this with	multisensorialite/ackerl
	Cognitives	psychophysics, neuroimaging	which includes how you can feel differences over a multitude	psychophysical and behavioural studies, as well as	ey-rochelle/
			of surfaces (e.g. between silk and sandpaper) and how this	neuroimaging (with access to EEG in the department, as well	https://sites.google.co
			makes you feel (e.g. pleasantness). We are also interested in	as MEG and fMRI (3T and 7T) locally).	m/site/rochelleackerley
			how humans sense liquids, especially the perception of drops		1
			of water on the skin. For this project, we propose to work		
			closely with our collaborator Prof. Cornelius Schwarz at the		
			University of Tübingen, which is a partner within the CIVIS		
			network. Cornelius Schwarz and his group are experts in cell		
			and network level electrophysiology, behavioral monitoring,		
			and psychophysics, working with both rodents and humans.		
Anna Montagnini	Institut de	vision and eye movements	I am interested in the mechanisms that drive eye movements	4 high resolution video-based eye trackers (Eyelink 1000).	http://www.int.univ-
	Neurosciences de la		in humans, for an efficient selection of visual information and	Access to the imaging center (with a 3T MRI scanner	amu.fr/MONTAGNINI-
	Timone		its integration with contextual and predictive information. We	completely dedicated to research). 2 TMS stimulators and	Anna?lang=en
			analyse high-resolution eye movement recordings across a	Neuronavigation. Powerful computing resources for data	
			number of tasks (including with controlled stimuli with	processing and computational models.	
			natural-like statistics), and more recently we got interested in		
			the neurofunctional bases of active vision through fMRI and		
			non-invasive brain stimulation. We also study the variation of		
			visual and oculomotor performance across development and		
			pathologies (ASD, Parkinson's disease).		

NATIONAL AN	NATIONAL AND KAPODISTRIAN UNIVERSITY OF ATHENS – Greece					
SUPERVISOR	RESEARCH LAB/GROUP	AREA OF EXPERTISE	LINES OF INVESTIGATION	KEY FACILITIES	WEBSITE	
DIALLINAS George	Aspergillus Genetics Lab	Molecular Biolgy / Cell Biolgy / Fungal genetics	The major interests of our group concern studies related to the regulation of cellular expression, structure, function and evolution of transporters. We use Aspergillus nidulans, but also Saccharomyces cerevisiae, as model systems for: a) genetically, biochemically and functionally dissecting structure-function relationships underlying purine-pyrimidine transporter kinetics, specificity and molecular evolution, b) identifying the pathways and molecular mechanisms involved in the membrane trafficking, endocytosis and turnover of specific transporters in response to various physiological, developmental and genetic signals, c) studying the role of transporters in fungal pathogenicity and use in silico modeling of specific purine transporters for rational antifungal drug design.	Standard Molecualr Biology and fungal genetics facilities, inverted fluorescence microscopy	http://scholar.uoa.gr/d iallina	
KOLLIA Panagoula	Laboratory of Human Genetics	Characterization of genes, transcription factors and signaling pathways in monogenic and polygenic abnormalities and especially in bone disorders, using human tissues and pluripotent mesenchymal cells.	The repair of a fractured bone is a complex biological event that essentially recapitulates embryonic development and requires the orchestration of a number of different cell types undergoing proliferation, migration, adhesion and differentiation, all under the direct control of a host of different genes. Understanding the temporal and spatial expression of these genes during the progression of a healing callus will ultimately enable us to comprehend the essential processes of inflammation, chondrogenesis, ossification, and remodeling. RUNX2 is a master regulator of skeletal development, playing multiple roles in the specification and differentiation of bone remodeling. Within the last decade in my research group we investigate the role of Runx2 in bone formation.	Facilities	http://www.biol.uoa.gr /tomeis/tomeas- genetikis- biotexnologias.html	
STRAVOPODIS Dimitrios	Laboratory of Cellular Pathology and Molecular Oncology; Dimitrios Stravopodis	A. Molecular Mechanisms and Targeted Chemotherapy of Bladder Cancer: Precision Medicine in Urothelial Oncology; B. Development of Animal Model Systems for Human Diseases: Exploitation of Drosophila for Brain Pathologies	A. Dissection of molecular mechanisms that control the progression of Urothelial Bladder Cancer from low- to high- malignancy grade and metastatic states, and discovery of targeted chemotherapy protocols based on the precise mutational signatures typifying the oncogenic setting of the examined tumor-cell populations; B. Drosophila brain-specific targeting of fly genes whose human counterparts critically control organ's pathology in disease environments, with emphasis on mTOR-dependent signaling aberrations.	Cell culture (e.g. Laminar flow, CO2 incubator; Autoclave, Inverted microscope, ddH2O device, +160oC oven, pH-meter, 37oC water-bath, LiN2 tank, etc); Confocal imaging; Protein biochemistry; Elisa reader; MUSE-FACS; Transmission electron microscopy; Scanning electron microscopy; Real-time PCR; Recombinant DNA technology; Drosophila genetics; LC- MS/MS-based proteomics (in collaboration); RNA- sequencing/transcriptomics (in collaboration); Metabolomics (in collaboration); Lipidomics (in collaboration).	http://www.biol.uoa.gr	
TROUGAKOS Ioannis	Molecular-Cellular Aging and Carcinogenesis	Ageing, Cancer, Proteostasis, Metabolism	 With the aim to gain valuable insight into the fundamental science underlying aging, our scientific-research is focused on the understanding of molecular and cellular basis of healthy aging and age-related diseases, in a multidisciplinary systems biology approach. More specifically we focus our research on studying: a. The different levels of regulation and cross-talk of the various proteostatic machineries. b. The interaction, wiring and functional integration of proteostatic modules with mitostasis, metabolic pathways and genomic integrity. c. The systemic effects induced at the whole organism level by 	As part of the fully renovated Department of Cell Biology and Biophysics (DCBB), we are equipped with state-of-art research facilities including settings for molecular biology, cellular biology, biochemistry, bioimaging and high throughput screenings. Recent additions include the upgrade of a Nikon Confocal Laser Scanning Microscope for live cell CLSM imaging, acquisition of new inverted fluorescent scopes, the purchase of state-of-the-art equipment for cryo-Electron Microscopy sectioning; high throughput microplate reading (nanoquant UV-VIS-Fluorescence-TRF); cell culturing at regulated O2 concentration; a hyper-centrifuge, an apparatus for analyzing mitochondrial respiration and also a high	To be released shorty	

RAHIOTIS Christos BASDRA Effie	Operative Dentistry Cellular and	Cariology Biomechanics,	tissue-specific loss of proteostasis. d. The deregulation of proteostatic and mitostatic modules in aging and/or age-related diseases (e.g. cancer). Also, we are actively involved in the study of the cellular- molecular effects induced by therapeutic anti-tumor proteasome inhibitors and in high-throughput screening for the identification of small molecules, from various natural sources, with anti-aging and/or anti-cancer bioactivity. We conduct clinical research in dental caries. We investigate all the fields of Caries. Anti-cariogenic agents, Caries diagnosis, Caries risk assessment, Caries management. Unraveling the molecular mechanisms of	resolution fluorescence stereoscope with high depth of field and maximum resolution for precisely detailed 3-D information. Clinical facilities, diagnodent pen, QLF, Fully equipped Biochemistry lab supported by national and	
	Molecular Biomechanics, Dept. of biochemistry	Mechanotransduction, Cell Biology, Signal Transduction, Craniofacial anomalies	endothelial cells, keratinocytes, and suture lining cells.	international funds.	
CHATZIGEORGIOU Antonios		Metabolism	Obesity-related complications such as insulin resistance and NAFLD	Mouse models of metabolic dysregulation and analysis of them by utilizing methods of cellular and molecular biology	https://www.researchg ate.net/profile/Antoni os Chatzigeorgiou
CONSOULAS Christos	Laboratory of experimental physiology	Behavior, Neuroscience, aging of the nervous system, Drosophila	We investigate physiological and molecular mechanism underlying aging of the motor and cognitive systems in the genetic-model organism Drosophila. In particular, we challenge the plasticity-vumerability hypothesis proposed for the rodent and human brain, that the more plastic is a neuronal circuit the more pruned is to aging and neurodegenerative diseases.	Electrophysiology (two electrophysiological setups for extra, intracellular recordings and TEVC), Calcium imaging (monochromator, CCD camera), behavioral rooms, PCR, cell cultures and all facilities in A. Fleming Institute where I serve as joint member.	http://physiology.med. uoa.gr/
DONTAS Ismene	Laboratory for Research of the Musculoskeletal System, School of Medicine, National & Kapodistrian University of Athens, KAT Hospital, Kifissia, Greece. Please see http://lrms.med.uoa .gr/index.php/en/ for more details.	Bone Metabolic Diseases. Our Laboratory conducts clinical and experimental research studies on osteoporosis and other bone metabolic diseases. As it is the Reference Center for Musculoskeletal System Diseases of the Ministry of Health, rare cases from throughout the country come to us for diagnosis, therapy and follow-up. The Experimental Surgery department conducts Microsurgical training and original research on osteoporosis, osteoarthritis, skeletal growth, orthodontic and implant research, and biomaterials.	Our Laboratory participates in multi-center clinical research studies (e.g. with the IFCC, the IOF, the Karolinska Institute) and other national scientific societies, producing Guidelines and scientific publications. It is currently conducting one clinical and one experimental study supported by the Greek General Secretariat of Research and Technology. Our Laboratory hosts and advises many PhD candidates who conduct their clinical or experimental theses.	Our clinical research is conducted by our scientific personnel, with the support of technical staff and the densitometry equipment of Dual-Energy X-ray Absorptiometry (Lunar Prodigy) and peripheral Quantitative Computerized Tomography (Stratec 2000 and 3000). Our experimental research is conducted by authorised and trained researchers, with the support of the nursing staff and the authorised Veterinarian in fully-equipped operating rooms. Microsurgical training is conducted with 2 training microsurgical microscopes (Zeiss). With the analyses of the research results that our collaborating Biostatistician conducts, the Laboratory's output is more than 10 peer-reviewed publications per year.	http://lrms.med.uoa.gr /index.php/en/
FERENTINOS Panagiotis	Affective Disorders and Suicide Research Group	Affective Disorders, Data analysis, Psychiatric Genetics, Neuropsychology	Clinical fields: -Affective disorders (genetics, phenomenology, diagnostic assessment, etiopathogenesis, neuropsychology, psychopharmacology, treatment-resistance, psychoeducation) -Suicidal behavior Methodological fields:	Facilities: various generic and specialized software. Resources: Dataset of >500 patients with affective disorders with various clinical data, psychometrics, genome-wide genotypes, biomarker profiles, CANTAB battery measures, multimodal imaging, treatment-response profiles (in various subsets). Our group is part of the Psychiatric Genetics Consortium	https://orcid.org/0000- 0001-8531-5623

			-Psychometry in affective disorders and suicide -Neuropsychology (of affective disorders) -Psychiatric genetics (esp. of affective disorders)/ Pharmacogenetics	(PGC)-Bipolar Disorder and of the Group for the Study of Resistant Depression (GSRD), giving the opportunity of submitting secondary analysis project proposals.	
			-Systematic reviews/ Meta-analysis		
GOLEMATI Spyretta	First Intensive Care Unit, Evangelismos hospital	My key expertise lies in ultrasound image analysis and identification of novel markers of arterial function. I apply advance methods of image analysis (multiresolution and multiscale methods, block matching), and machine learning to describe anatomical, morphological and mechanical properties of the arterial wall.	My research involves the study of vascular mechanics, arterial wall physiology and pathophysiology, pathophysiology of atheromatous plaque, sepsis-related arterial properties	ICU patient data, vital signs, monitoring, ultrasound imaging devices	http://scholar.uoa.gr/s golemati/home
GONIDAKIS Fragiskos	EATING DISORDERS UNIT	PSYCHIATRY, EATING DISORDERS, BORDELINE PERSONALITY DISORDER	DIALECTICAL BEHAVIOR THERAPY FOR EATING DISORDERS, FAMILY INTERVENTIONS FOR BORDERINE PERSONALITY DISORDER	PSYCHOTHERAPY ROOMS, PC, ACCESS TO ONLINE LIBRARY, OFFICE AT EGINITION UNIVERSITY HOSPITAL	
KANTZANOU Maria	Dept of Hygiene, Epidemiology and Medical Statistics	Public Health, Preventive Medicine, Epidemiology, Administration of Health Units	Preventive medicine, epidemiology, public health, administration of health units	Unit of Laboratory Diagnosis, Dept of Hygiene, Epidemiology and Preventive Medicine	<u>dehems.med.uoa.gr</u>
KARAMOUZIS Michalis		MOLECULAR ONCOLOGY AND SIGNAL TRANSDUCTION	IN VITRO AND IN VIVO EXPERIMENTS IN MECHANISMS OF CARCINOGENESIS IN GI TUMORS, BREAST CANCER AND UROTHELIAL TUMORS	CELL CULTURES, ANIMAL MODELS, MANY CO-OPERATIVE ACTIVITIES, POST-DOC AND PHD STUDENTS	
MAVRAGANI Clio	Autoimmune diseases	AUTOIMMUNE DISEASES	Role of Interferons in systemic autoimmunity; genetic contributors of lymphomagenesis in the setting of Sjogren's syndrome	LAB TECHNIQUES pcr, westrern blot, cell cultures, ELISA, Immunohistochemistry, BIOBANK	http://scholar.uoa.gr/k mauragan/home
MELETIADIS Joseph	Clinical Microbiology Laboratory, University General Hospital Attikon	Microbiology, Infectious Disease, Antimicrobial susceptibility testing, Pharmacokinetics, Pharmacodynamics, Preclinical in vitro and animal models, Bacterial and Fungal infections, Simulations, Drug combinations	The in vitro activity of antibacterial and antifungal drugs, alone and in combination, is assessed in simple static, complex dynamic and finally animal infection models. Mathematical models are used to analyse drug interactions, pharmacokinetics, pharmacodynamics, PK/PD relationships and extrapolate to humans using Monte Carlo simulations in order to propose new dosing regimens for clinical studies, optimize standard dosing regimens, determine susceptibility breakpoints for detection of resistant isolates, define drug concentrations for therapeutic drug monitoring and increase efficacy of antimicrobial therapy particularly against drug- resistant microorganisms.	Fully equipped microbiology laboratory for analyzing clinical samples, isolating/culturing bacterial and fungal pathogens, antimicrobial susceptibility testing, animal models unit, infectious disease department, collaboration with the department of pharmacy and other departments within university with access to different assays and equipment. International collaborations for dissemination of research findings.	
PAPADAVID		DERMATOLOGY	Research is focused in autoimmune disease of the skin such as	Clinical, translational research on skin and immunology,	www.dermatology-
Evangelia	Allergy Det 2-1		psoriasis and neoplastic disease cutaneous lymphomas.	clinical trials on autoimmune and neoplastic skin diseases	attikon.gr
PAPADOPOULOS Nikolaos	Allergy Upt, 2nd Pediatric Clinic, NKUA	Allergy, immunology, virology, microbiome, cell & virus cultures, molecular, epidemiological and clinical studies, real-life research. Translational focus.	We explore all aspects of allergic diseases, with emphasis on asthma and food allergy. Our main focus is the effect of microbes, mostly viruses, on initiation, exacerbation and persistence of hypersensitivity conditions. Active programs: 1- CURE:EU H2020 on evaluating bacteriophage therapy and microbiome rebalancing as a potential intervention in asthma.	Wet Iab (cell cultures, molecular assays, flow cytometry, etc). Clinical research facility.	nttps://www.cureasth ma.eu

		https://scholar.google.com/ci	2-PeARL:A think tank intending to optimise Pediatric Asthma		
		tations?user=sc0m4EUAAAAJ	management. 3-PAT:Evaluation of mHealth in monitoring		
			respiratory allergy (rhinitis and asthma). 4-iClock:The role of		
			epigenetic programming in the early maturation of innate		
			immunity in health and allergy/asthma. 5-REINA: Evaluation of		
			oral immunotherapy to tree nuts. 6-CLEAR: Reintroduction of		
			milk to children with allergic proctocolitis. 7-Surveillance of		
			SARS-Cov2 in healthcare professionals		
PAPAGEORGIOU	MEMORY -	COGNITIVE-BEHAVIORAL	CLINICAL BASED OUT AND IN-PATIENT SETTING FOR THE	CLINICAL SETTING, TEACHING OF CLINICAL SKILLS AND	
Sokratis	COGNITIVE	NEUROLOGY,	COMPREHENSIVE MANAGEMENT OF PATIENTS WITH	NEUROPSYCHOLOGICAL TESTING	
	DISORDERS CLINIC	NEUROPSYCHOLOGY,	COGNITIVE DISORDERS DUE TO VARIOUS DEMENTING		
		DEMENTIA	ILLNESSES (DEGENERATIVE, IMMUNE, METABOLIC, etc)		
PAPAIOANNOU	Biomedical	Biomedical engineering,	Health technology assessment, validation of medical devices,	Facilities include all available technology and patients at the	
Theodore	Engineering unit and	medical technology, data	data analysis, development of digital health applications,	1st University Department of Cardiology, Cath Lab and ICU at	
	Department of	analysis, digital health,	modelling, study of history of medicine	Hippokration General Hospital. At the Department of History	
	History of Medicine	cardiovascular mechanics,		of Medicine we have access to databases, libraries and other	
		hemodynamics, history of		sources (books, proceedings etc) for research and education in	
		medicine, bioethics		medical humanities.	
PAPANIKOLAOU		Genetic engineering of	Gene therapy for hemoglobinopathies. Gene therapy for	Tissue culture. Flow cytometry facility. Molecular biology (end-	
Eleni		hemopoietic stem cells for	multiple myeloma. Graft engineering.	point PCR, real-time PCR, cloning, plasmid isolation). Through	
		autologous hemopoietic		collaboration with Miltenyi Biotec access to the CliniMACS	
		stem cell transplantation and		Prodigy.	
		graft engineering, i.e.			
		depletion of certain cell			
		populations from grafts to			
		enhance GvL and reduce			
		GVHD in the heterologous			
		hemopoietic stem cell			
		transplantation setting.			
PAPARRIGOPOUL		Addictions / Sleep Medicine /	Clinical research on alcoholism	inpatient and outpatient services for alcohol detoxification /	
OS Thomas		Psychiatry		sleep lab / microbiology lab	
PAPAVASSILIOU	Laboratory of	- Signal transduction	- Biochemistry of the osteoblast-specific transcriptional	- Immunophenotyping/Flow cytometry/Calibur Flow	
Athanasios	Biological Chemistry	mechanisms in cancer and	activator Runx2: investigation of signalling cascades and	cytometer, Beckton Dickinson	
		certain pathophysiologies	interacting proteins modulating its function	- Culture of primary, commercial cell lines/Inverted	
		- Mechanotransduction -	- Role of the AP-1 transcription factor (Jun- and Fos-related	microscope/Class I hoods, CO2 incubators, centrifuges, water	
		mechanobiology	proteins) in stimulus-specific differentiation of human	baths	
			osteoprogenitor cells to mature osteoblasts: analysis of	- Cytokine secretion profiling /ELISPOT analysis/AID Elispot	
			expression profiles, DNA–protein / protein–protein	Reader	
			Interactions (Runx2) and transcription factor phosphorylation	- immunohistochemical analysis/hoods, incubators	
			events	- Immunopiotting/ Immunopiot,transfer apparatus BIO-	
			- Signal transduction mechanisms employed by physical	KAD/Gei documentation, developing apparatus	
			stimuli: piochemical responses (nuclear effectors: AP-1, Runx2,	- PCK analysis / T100 TM ThermalCycler BIO-RAD	
			STATL/3, NF-KB, NFAIC1, p53) of cells that are subjected	- iviecnanobiology/Hydrostatic pressure equipment	
			pnysiologically to mechanical stress (stretch / pressure / shear	- Cell pnenotyping/Fluorescence Microscopy, Zeiss	
			stress) – human bone cells (pre-chondroblasts, pre-	- Cell Tragmentation/Homegenilization/ Sonicator	
			osteoplasts, osteoplast-like cells), human vascular endothelial	- Protein analysis/Electrophoretic equipment, BIO-RAD	
			cells (correlation with atheroscierosis)	- Immunoassays, ELISA/Chemwell analyser, Awareness	
			- Analysis of: I) deregulated processes in signalling axes	- Ceil/ Lissue biobank/-800C freezers, liquid nitrogen	
			targeting certain transcription factors and ii) epigenetic	containers	
			control of signalling pathways in human cancers (colorectal-		
			gastric / aerodigestive tract / breast-prostate / bone / brain		
			neoplasms)		
			 Role of polycystin-1 (PC1) and polycystin-2 (PC2) in 		

			mechanotransduction and cancer-cell invasion/metastasis		
			(tumor mechanobiology)		
PEHLIVANIDIS Artemios	Adult Neurodevelopmenta I Disorders Unit	Adult Neurodevelopmental Disorders (Attention Deficit Hyperactivity Disorder, Autism Spectrum Disorders)	Assessment of adults with Neurodevelopmental Disorders	Neurodevelopmental Disorders Unit in the context of the First Department of Psychiatry of the National and Kapodistrian University of Athens. Clinical and neuropsychological assessment of newly diagnosed adults with Neurodevelopmental Disorders.	<u>nad.edu.gr</u>
PHILIPPOU Anastassios	PHYSIOLOGY LABORATORY - "PHYSIOLOGEION"	Dr Philippou's scientific work covers a wide range of research topics in muscle physiology. The research projects he has been involved are extended to both in vivo and in vitro studies on functional, biochemical and molecular responses after skeletal muscle mechanical loading and/or damage, using multiple methods and techniques.	 Dr. Philippou's research topics can be classified as follows: 1. Projects on skeletal muscle hypertrophy/atrophy: These studies include the topic of muscle atrophy due to disuse, immobilization, or lack of mechanical loading and it has been studied at various levels of approximation using in vivo and in vitro models. The main aim of these studies is to identify the protein complexes that sense mechanical signal transduction into muscle cell, which will establish a mechanistic understanding of the mechanical responses through muscle cell membrane complexes and will provide the groundwork for developing novel strategies to prevent muscle atrophy. In this context and in the framework of collaboration/funding by the National Air and Space Association (N.A.S.A.), we extended our research (Barton Lab, University of Pennsylvania, PA, USA) to study the mice brought back from the final shuttle mission into space (STS-135). 2. Functional responses after exercise-induced muscle damage: These studies refer to the effects of muscle damage on human skeletal muscle physiology and biomechanics. 3. Studies on muscle inflammation, degeneration and regeneration: These studies examine the biological processes that regulate skeletal and cardiac muscle inflammation, regeneration and remodeling at the cellular and molecular level. 4. Biochemical responses after muscle damage: These studies investigated the biochemical responses following exercise and muscle damage in humans. 5. Studies on the insulin-like growth factor 1 (IGF-1) bioregulation system: These studies investigate the role of IGF-1 isoforms in various pathophysiological conditions including muscle damage, myocardial infarction, endometriosis and cancer, and we have proposed differential actions of the different IGF-1 isoforms/peptides. Overall, Dr Philippou's research interests include: skeletal muscle physiology; muscle damage, inflammation and 	Key Research facilities and infrastructure The Department of Physiology operates the following Research Units: Cellular Physiology, Neurophysiology-Neurosciences, Molecular Endocrinology, Reproductive Endocrinology, Molecular Cardiology, Exercise Physiology, Bone Physiology, and Molecular and Applied Physiology. In particular, these Units include facilities and equipment for Genomics, Molecular diagnostics (Real Time-PCR machines and electrophoresis equipments; gene expression profiling and genotyping applications; development/optimization of techniques for the determination of circulating tumor cells, molecular biomarkers analysis, and clinical diagnostics; Photometric and Immunofluorescence assays); Cell culture, 3D cell culture and tissue culture facilities; Exercise mimetics: Cell stretching and compression systems; Flow cytometry (Two Laser Flow Cytometer-PARTEC with 4 fluorescence colors, cell cycle and apoptosis analysis); Fluorescence microscopes; Electrophysiology (electrophysiological systems and fly rooms of controlled temperature and humidity used in the genetic model of Drosophila); Calcium intracellular signaling (stereoscopes ZEISS, calcium dynamic imaging system).	http://en.physiology.m ed.uoa.gr/; http://physiology.med. uoa.gr/
PIPERI Christina	Laboratory of Biological Chemistry	Neuro-oncology, neuro-	regeneration; muscle hypertrophy and atrophy; molecular and applied exercise physiology; IGF-1 bio-regulation system. Investigation of histone modifications in pediatric gliomas, studies of metabolic enzymes (ALDEL) and of metabolic by-	The laboratory possesses all basic biochemical equipment (pH	PIPERI Christina
	ыоюдісаї Chemistry	mnammation, epigenetics,	studies of metabolic enzymes (ALDH) and of metabolic by-	electrophoresis apparatuses), cell culture facilities, molecular	

		histone modifications, signal	products (AGEs) and their signaling (RAGE, glyoxalase) in adult	biology equipment (PCR, western blotting devices), Flow	
		transduction	gliomas	cytometer, IHC facility, ELISA reader, ELISPOT reader. It also	
				possesses all required reagents for the above-mentioned	
				techniques and a biobank of human brain tumors as well as	
				pediatric and adult glioma cell lines for mechanistic studies.	
SCARMEAS		Born and raised in Athens	My research interests have started from the topic of cognitive	There are 2 basic datasets to work on, the HELIAD study and	SCARMEAS Nikolaos
Nikolaos		Greece. After obtaining an	reserve (i.e. how higher IQ, education, more demanding	the ALBION study. For more details see publications below	
		M.D. degree from the	occupational attainments, or more engagement in cognitive-	https://www.ncbi.nlm.nih.gov/pubmed/?term=scarmeas+heli	
		University of Athens I moved	social-physical leisure - lifestyle activities can help elderly cope	ad	
		to the US and had Neurology	better with the damage caused to their brains by Alzheimer's	https://www.ncbi.nlm.nih.gov/pubmed/?term=scarmeas+albi	
		residency training and then a	disease and aging and therefore reduce their risk for dementia	on	
		2-year clinical fellowship in	and slow down their rates of cognitive and functional decline)		
		Aging and Dementia at	Lalso have a special interest in the contribution of diet (in		
		Columbia University Medical	particular composite dietary patterns such as a		
		Center also completed a	Mediterranean-type diet and others) and physical activity in		
		Masters degree in	dementias and healthy aging		
		Biostatistics – Epidemiology			
		at the Mailman School of			
		Public Health at Columbia			
		University			
		Lioined the faculty of			
		Columbia University in 2002			
		Lourrently share my time			
		between research and			
		clinical work in National and			
		Kapodistrian University of			
		Athens and at Columbia			
		University. My clinical work			
		includes seeing elderly			
		patients with dementias and			
		cognitive dysfunction,			
		supervising and teaching of			
		Medical students and			
		Neurology residents.			
SMYRNIS Nikolaos	Laboratory of	Psychiatry-Cognitive	The laboratory focuses on the cognitive aspects of movement	1) Psychophysical measurements of movement parameters.	SMYRNIS Nikolaos
	Cognitive	Neuroscience	planning and visuomotor coordination for the control of arm	The laboratory is equipped with the Polhemus Liberty 240/16	
	Neuroscience and		movements and eye movements in two dimensional and three	system for accurate 3-D measurement of movement . The	
	Sensorimotor		dimensional space. We study space representation and he	ISCAN ETL-200 and the SMI RED250 mibile eyetrackers are	
	Control		planning and execution of movements and how motor control	used for measuring two dimensional movements of the eyes	
			is affected by cognitive processes such as decision, attention	as well as pupil diameter. The saccadometer (Ober Consulting,	
			and working memory. The laboratory also engages in the	Poznan, Poland) and IRIS-SCALAR infrared systems are also	
			study of the same cognitive processes affecting movement	used for fast measurement of saccdic eye movements in	
			planning and execution in patient populations suffering from	clincial settings. A system for measuring manual responses	
			psychosis (schizophrenia, bipolar disorder etc) and other	(using optic fiber operated pads) and linking stimulation and	
			psychiatric and neurological disorders.	recording (LUMINA CADMUS system) is used in the magnetic	
				resonance imaging environment. Finally the laboratory has	
				software for stimulus presentation and recording of behavioral	
				responses (e-Prime).	
				2) Neurophysiological measurements in humans. The	
				laboratory is equipped with a high density 64 electrode system	
				(Neuroscan) for scalp electroencephalography (EEG) and has	
				developed software for stimulation, EEG data preprocessing	
				and analysis. State of the art tools for complex analysis of EEG	

				signals have been developed. The BIOPAC system for	
				psychophysiological meassurments such as heart rate and	
				galvanic skin response is also avalibale and analysis tools for	
				these measurments are also available (Cubios etc)	
				3) Magnetic resonance imaging measurements in humans. The	
				laboratory has access to a 3T magnet for measuring structural	
				and functional magnetic resonance imaging (fMRI) of the Unit	
				of Research in Radiology and Medical Imaging located in	
				Agginition University Hospital Processing and analysis tools	
				for these data have been developed using standard available	
				software (SPM etc) as well as novel tools	
MANTAS John					http://op.hil.purs.uop.g
	INFORMATICS LAB		MAKING, CLASSIFICATION		r/
STAMATAKIS	Biology-	Behavioral neuroscience,	We investigate the effects of early life adverse or rewarding	Fully equipt behavioral facilities within an in-house animal	http://scholar.uoa.gr/a
Antonios	Biochemistry	early life experiences, stress,	experiences on the structure and function of the prefrontal	house. All infrustructure for immunohistochemistry, western	stam/home
		prefrontal cortex, amygdala	cortex, the amygdala and the reward system, exploring novel	blotting, ELISA, and neurochemistry is available in the lab.	
			epigenetic mechanisms	Close collaboration with other labs in research ibstitutes for	
				stem cells and confocal fascilities.	
DRAKOULIS	Research Group of	Nutrition, Well-being,	Genetics, Genomics, Pharmacogenetics, Pharmacogenomics,	PCR -, protein-, gene expression analysis, HPLC, GC, clinical	
Nikolaos	Clinical	Epidemiology, Medical	Precision Medicine, clinical studies, COVID19 research	chemistry-, hematology-, immunology-analyses	
	Pharmacology and	Studies, Neurosciences,	(diagnostics, therapeutics, food supplements)		
	Pharmacogenomics,	Genetics, Genomics,			
	Genetics, Genomics,	Pharmacogenetics,			
	Pharmacogenetics,	Pharmacogenomics, Clinical			
	Pharmacogenomics,	Pharmacology			
	Clinical				
	Pharmacology,				
	Population Genetics				
FOKIALAKIS		Natural products from plants	We screen extracts from plants, marine organisms and	The laboratory is fully equipped with all instruments for the	www.pharm.uoa.gr
Nikolaos		and microorganisms	microorganisms of global biodiversity for the discovery of	extraction, isolation and identification of small molecules. Also	
			novel anti-aging compounds. Using a bioguided approach and	commercial and in house libraries for dereplication are	
			state of the art tools (including HRMS dereplication,	available.	
			metabolomics and molecular networks) we manage to		
			perform targeted isolation and identification of bioactive small		
			molecules. Furthermore we perform a biological evaluation		
			and a safety assesement of the isolated natural compound.		
KOLOCOURIS		Computational drug design	Computational drug design and synthesis - Computational	Workstations, supercomputers, wet lab for organic synthesis	https://en.pharm.uoa.
Antonios		and synthesis -	Biochemistry - Computational Organic Chemistry - Binding free		gr/el/personnel/faculty
		Computational Biochemistry	energy calculations - MD simulations - Coarse Grained MD		_members/pharmaceu
		- Computational Organic	simulations - Membrane proteins - Influenza A M2 protein -		tical chemistry/koloco
		Chemistry	Adenosine receptors - P2X7 purinergic receptors - Mmpl3		uris antonios/
			transporter of tuberculosis - Theranostics against cancer		
PANTERI Eirini	Laboratory of	Pharmaceutical Analysis	I am a Pharmacist with over 20 years' experience in leading	HPLC system with UV, FL, PDA and Mass Spectrometric	https://en.pharm.uoa.
	Pharmaceutical		research in the fields of Pharmaceutical Analysis and Analytical	detection, Sample Preaparation techniques	gr/personnel/faculty
	Analysis		Chemistry developing analytical methods for the analysis of		members/pharmaceuti
			drugs, metabolites and bioactive compounds in		cal chemistry/panderi
			pharmaceuticals, cosmeceuticals. biological fluids and human		irene/
	1				
1			tissues, These methods are applied to clinical testing.		
			toxicology studies, doping control and quality control of drugs		
RALLIS Michail	Laboratory of	Skin Pharmacology	tissues. These methods are applied to clinical testing, toxicology studies, doping control and quality control of drugs. Treatments for different skin diseases as squamous cell	Animal. cell cultures facilities, β-counter. UV lamp. hvpoxia	www.pharm.uoa.gr
RALLIS Michail	Laboratory of Pharmaceutical	Skin Pharmacology	tissues. These methods are applied to clinical testing, toxicology studies, doping control and quality control of drugs. Treatments for different skin diseases as squamous cell carcinoma, wounds, burns, atopic dermatitis, psoriasis. Study	Animal, cell cultures facilities, β-counter, UV lamp, hypoxia chamber. HPLC-EC Detection. Elisa-Fluorescence-	www.pharm.uoa.gr
RALLIS Michail	Laboratory of Pharmaceutical	Skin Pharmacology	tissues. These methods are applied to clinical testing, toxicology studies, doping control and quality control of drugs. Treatments for different skin diseases as squamous cell carcinoma, wounds, burns, atopic dermatitis, psoriasis. Study of oxidative stress induced by UV light, tobacco smoke and	Animal, cell cultures facilities, β-counter, UV lamp, hypoxia chamber, HPLC-EC Detection, Elisa-Fluorescence- Chemiluminescence counter	www.pharm.uoa.gr

	Technology/dermat		other environmental agents. The studies are usually realized		
	opharmacology		either in vitro in skin cells or in vivo in mice		
ZOIDIS Grigoris	opharmacology Zoidis - Medicinal Chemistry Group	Medicinal and Organic Chemistry	 either in vitro in skin cells or in vivo in mice Medicinal chemistry (i) Design and synthesis of anti-viral agents, structure-activity relationships One of our main interests is the design and synthesis of anti-viral agents that inhibit the function of certain viral proteins and the exploration of their structure-activity relationships. Current targets are hepatitis B (HBV), influenza A and hepatitis C (HCV) viruses. (ii) Novel flutimide analogues targeting the influenza virus PA endonuclease (iii) Chemistry of Adamantane and mapping of influenza A M2 protein channel (iv) Design and synthesis of compounds with antiparasitic activity (v) Design and synthesis of anticancer agents -"Innovative development of new anticancer drugs with the therapeutic aim of MYC oncoprotein" 	Our laboratory is fully equipped for synthetic medicinal chemistry as well as molecular analysis and modeling and metabolic studies. Specifically, the team has access to 2 HPLC- UV, 2 HPLC-DAD, 1 HPLC-RI, 1 HPLC-ELSD, 2 GC-MS, 2 GC-FID, 2 LC-MS, 1 SFC-UV / MS, 1 UPLC -MS, 1 UHPLC-HRMS, 1 UPLC- DAD / FD, 1 HPTLC, 3 NMR spectrometers (200, 400 and 600 MHz), HR-IT-Orbitrap (ESI, APCI and APPI), FT-IR, UV, 2 FCPC (analytical and preparative). It also has licenses to use commercial software for Pharmaceutical Design: Schrodinger Suite 2015, Openeye suite 2016, Matlab, Simca, Topspin 3.5, Gromacs, AMBER, Desmond, Spartan as well as access to supercomputer systems for HPC Aris Cytera (Cyprus). (Greece) and Jureca (Germany).	http://users.uoa.gr/~zo idis/index.html
BOGDANIS Grigorios	Sport & Exercise training research group	exercise physiology	antiproliferative activity high intensity interval training, eccentric training, strength and power training	force plates, linear encoders, electomyograph, expired air analysis systems, cycle ergometers and treadmills, muscle biopsy	https://www.researchg ate.net/profile/Gregor y Bogdanis
DANIA Aspasia	Sport Pedagogy Laboratory	Sport Pedagogy, Curriculum, Professional Development of PE teachers and Coaches	Teaching in Physical Education and Sport, Curriculum Development, Physical Literacy, Professional Development of PE teachers and Sport Coaches, Analysis of Teaching	Systematic Observation Instruments, Pedometers, Model Based Instruction resources, Community of Practice (group of PE professionals working on teaching and coaching), Physical Literacy assessment instruments	http://en.phed.uoa.gr/
DONTI Olyvia		youth sports, gymnastics, strength and power development, flexibility	We examine the development of physical abilities and sport- specific skills of child athletes with the goal to enhance health- and skill-related physical fitness. Furthermore, we examine the effect of flexibility training on muscle architecture, joint range of motion and performance in youth athletes.	 Muscle architecture evaluation, (Product model Z5, Shenzhen, Mindray Bio-Medical Electronics Co., Ltd., Shenzhen, China) Jumping performance and rate of force development parameters (contact platform (WP800 Applied Measurements Ltd Co., Aldermaston, United Kingdom, with a recording frequency of 1kHz). 	https://www.researchg ate.net/profile/Olyvia Donti
TERZIS Gerasimos	Sports Performance Laboratory	Exercise physiology, resistance exercise, rehabilitation in neuromuscular disease patients	Skeletal muscle adaptations in response to chronic resistance exercise. Link between muscle physiology and human performance. Effect of exercise training on the rehabilitation of neuromuscular disease patients.	Skeletal muscle ultrasonography, muscle strength, rate of force development, muscle power, electromyography, muscle biopsy, body composition.	
YIANNAKOPOULO S Christos		sports medicine	sports medicine, gait analysis, sports injuries	motion analysis suit, g walk gait analysis, 3d printer	

UNIVERSITY OF BUCHAREST - Romania contact person : Filuta Ionita <u>filuta.ionita@cdi.unibuc.ro</u>						
SUPERVISOR	RESEARCH LAB/GROUP	AREA OF EXPERTISE	LINES OF INVESTIGATION	KEY FACILITIES	WEBSITE	
Marieta COSTACHE	Department of Biochemistry and Molecular Biology/ Department of Molecular Investigations	Molecular Biology, Genomics, Transcriptomics	Stem cell biology & differentiation Tissue engineering & regenerative medicine Biomaterials and biocompatibility Cancer biology (breast cancer, colon cancer, melanoma) Liver fibrosis Ulcerative colitis	Genomics and Transcriptomics Facility (PCR & qPCR instruments, microarray, NGS (Life Technologies), single-cell qPCR) Cell Culture facility Microscopy facility (fluorescence microscopy, confocal microscopy)	https://erris.gov.ro/DM I-PCBE	
Beatrice Mihaela RADU	Faculty of Biology - Department of Anatomy, Animal Physiology and Biophysics	Cellular and molecular neurobiology, Membrane biophysics, In vitro pharmacology, Advanced fluorescence microscopy	Proarrhythmogenic risk of drug candidates, Blood brain barrier in health and disease, In vitro models of the neurovascular unit and their exposure to biological and physical/chemical stimuli	The laboratory is fully equipped for a research work in cell cultures, electrophysiology, and fluorescence microscopy. Our department possesses the following apparatus: automated patch-clamp set-up, manual patch-clamp set-up, calcium imaging set-up, inverted fluorescence microscopes, Western- blot, PCR, qRT-PCR, cell culture facilities, advanced software for cell imaging analysis, access to an external confocal and multiphoton microscopy facility	https://unibuc.ro/user/ beatrice.radu/ https://cipa3.unibuc.ro /en/home-2/	
Violeta RISTOIU	Neuro-immune interactions in the pain pathogenesis	Neurobiology of pain (electrophysiology, molecular biology, behavioral studies)	 The role of endogenous macrophages in the dorsal root ganglia in the peripheral neuropathic pain pathogenesis. Peripheral nerve regeneration with biocompatible nano- materials. Modulation of microglia functioning by interactions with the cytoskeleton. 	https://erris.gov.ro/Department-of-Bioinformatics	http://www.neurobiolo gie.ro/en/members/18 1-prof-dr-violeta-ristoiu	
Monica NEAGU	Immunology	Biomarkers	Proteomics for discovering new biomarkers in oncology. In vitro and in vivo models.	The laboratory is fully equipped for proteomic research. It is equipped with Protein microarray, Flow Cytometry Unit with cell sorter, Cell Culture facilities, Animal Husbandry for in vivo models.	https://www.researchg ate.net/profile/Monica Neagu	
Eugen Gheorghiu	Int. Centre of Biodynamics	BioPhysics & Biodynamics: Modeling, data analysis and experimental aspects of non- invasive analysis of dynamics of living cells and bio- interfaces	Non-invasive analysis of dynamics of living cells and bio- interfaces using time-lapse electro-optical (microscopy) assays. Integrated, highly sensitive optical wave guides (including SPR), per se or in conjunction with AC Electric or/and Magnetic fields to provide angle resolved both reflectivity and phase Fast Point-of-care: (A) sensitive identification & quantitation of pathogenic microorganims and (B) Antibacterial & Antifungal Susceptibility Testing based on immune-magnetic capture, magneto-phoresis and electro-optical fingerprinting	State of the art equipment for a electrochemical & optical assessment of single cell dynamics as well as for highly sensitive bioaffinity assays		
Carmen Postolache	Systems Ecology and Sustainability/Facult y of Biology	Environmental biogeochemistry	Changes in biogeochemical cycles of nutrients under anthropic impact and climate change, development of nutrient balance for hydrographic basins, ecotoxicology of heavy metals, soil enzyme activity, quality of water resources, long term monitoring design of socio-ecological complexes	High Resolution liquid chromatography coupled with mass spectrometry LC/MS; Elemental analyzer CHNS/O with isotope ratio determination; Dissolved organic carbon analyzer (TOC); Atomic absorption spectrophotometer with flame and graphite furnace; Gas chromatograph coupled with mass spectrum GC–MS; High-performance ion chromatograph; FTIR/NIR spectrometer; Dual-beam UV-VIS spectrophotometer with thermostat system and kinetic analysis system; System for in situ monitoring of physical-chemical parameters; system for in situ measurement of phytoplancton; Ship - laboratory; light boat; off-road cars	https://erris.gov.ro/De partment-of-Systems- Ecology	

UNIVERSITÉ LIBRE DE BRUXELLES - Belgium			contact person: Emily Mainetti <u>ulb-europe@</u>	oulb.be	
SUPERVISOR	RESEARCH LAB/GROUP	AREA OF EXPERTISE	LINES OF INVESTIGATION	KEY FACILITIES	WEBSITE
Philippe PEIGNEUX	Centre for Research in Cognition & Neurosciences - Neuropsychology and Functional Neuroimaging Research Group	sleep, memory, neuroimaging	The current research conducted at the Neuropsychology and Functional Neuroimaging Research Group is experimental in nature while extending to the clinical and developmental domains. Our research activities mainly but not exclusively focus on investigating the relationships between sleep, learning and memory consolidation processes, and in a wider perspective, the interrelationships between cognitive processes and vigilance states. This includes sleep and biological rhythms in both healthy and pathological conditions as our areas of research cover sleep and circadian disorders, children development and healthy ageing, developmental (e.g. ADHD) and epilepsy syndromes, other neurological disorders (Multiple Sclerosis, Parkinson) and pathological ageing (Alzheimer disease). We specifically focus on the processes by which novel representations are created in memory and the mechanisms by which information is consolidated into long- term memory. Our studies are primarily conducted using behavioural protocols as well as advanced brain imaging techniques, e.g. structural (MRI) and functional magnetic resonance imaging (fMRI), electroencephalography (EEG), magnetoencephalography (MEG), transcranial current stimulation (TCS) and near-infrared spectroscopy (NIRS).	Our studies are primarily conducted using behavioural protocols as well as advanced brain imaging techniques, e.g. structural (MRI) and functional magnetic resonance imaging (fMRI), electroencephalography (EEG), magnetoencephalography (MEG), transcranial current stimulation (TCS) and near-infrared spectroscopy (NIRS).	http://crcn.ulb.ac.be/la b/ur2nf/
Fabienne Chetail	Dpt of Psychology - Lab Cognition Langage Développement	Cognitive psychology; neurosciences; reading and spelling	In my research group, we investigate the cognitive mechanisms of reading, written word perception, and word learning, as well as in how literacy impacts brain mechanisms.	See here : <u>http://crcn.ulb.ac.be/resources/</u>	http://fchetail.ulb.ac.be
Axel Cleeremans	Center for Research in Cognition & Neurosciences - Consciousness, Cognition & Computation Group	consciousness, learning, cognitive neuroscience	The group's research has always been essentially focused on elucidating the relationships between conscious and unconscious processing during implicit and statistical learning, but its research interests have now broadened to additionally explore differences between conscious and unconscious processing in domains such as free will, voluntary action, and the sense of agency; decision making (including pathological gambling); visual awareness and priming; conditioning and associative learning, skill acquisition, as well as hypnosis, placebo, and suggestion. Additional research lines focus on virtual reality, emotion, and working memory over the life- span. A second focus is on developing and testing a novel, dynamical theory of consciousness in which learning plays a central role. From this perspective ("The Radical Plasticity" project funded until October 2019 by the European Research Council), consciousness arises as a result of the brain's continuous attempts at predicting not only the consequences of action on the world and on other agents, but also the consequences of activity in one cerebral region on activity in other regions. By this account, the brain continuously and unconsciously learns to redescribe its own activity to itself, so developing systems	The Center of Research in Cognition & Neurosciences at the Université libre de Bruxelles features a wide array of behavioural and cognitive neuroscience resources to carry out experimentation on human volunteers. These include behavioural testing facilities, eye-tracking and virtual reality equipment, electroencephalography, fNRIS as well as access to PET/fMRI/MEG. The CO3 also features a tachistoscope enabling the presentation of µsec visual stimuli. The group has also recently acquired and installed a baby lab (babylab.ulb.ac.be) to initiate cognitive research on infants.	https://crcn.ulb.ac.be/l ab/co3/

			of metarepresentations that characterize and qualify their target representations. To explore these issues, the team combines the three main methods characteristic of contemporary cognitive		
			computational modelling methods. CO3 has developed specific expertise in elaborating detailed neural network models of performance in various domains of cognition, and of designing and testing methods to explore the relationships between conscious and unconscious proceeding.		
David Vermijlen	Department of Pharmacotherapy and Pharmaceutics - Institute for Medical Immunology - Team DV	immunology; gammadelta T cells; early life; microbiome	yδ T cells are unconventional T cells that express a yδ T cell receptor (TCR) on their cell surface instead of an αβ TCR as on conventional αβ T cells. yδ T cells can have several roles, including protection against infections and tumors. The general approach of our current research is to obtain insight into human yδ T cells by applying sophisticated molecular biological techniques on clinical samples. Important in vivo findings are then further investigated in vitro in order to understand molecular mechanisms. A main focus of our research is the role and ontogeny of human yδ T cells in early life. This research is leading to novel targets (molecules, cells) for pharmacotherapy.	flow cytometry and sorting platform; bulk and single-cell high- throughput sequencing; access to clinical samples; SPF animal facility	https://pharmacie.ulb. be/version- francaise/la- recherche/chercheurs/ david-vermijlen-1
Stéphane Baudry	Laboratory of Applied Biology and Research Unit in applied neurophysiology (LAB Neuro)	understanding of the neuromechanics of human motor control. central and peripheral control in various motor tasks, age-related changes in the neuromuscular system, acute and long term adaptations in relation with physical activity (sport) and rehabilitation	The LAB Neuro currently investigates: The effect of age-related alterations in proprioception on postural control and dexterity. The impact of virtual reality practice on postural control in healthy young and older adults, and patients with chronic pain. Cortical and spinal adaptation in response to motor skill learning. Optimizing strength training methods	The LAB Neuro has the how-to on electrophysiological methods, and the corresponding devices, to investigate adujstments and adaptations of the nervous system in humans. In addition, the LAB Neuro has expertise in muscle- tendon ultrasound, muscle near-infrared spectroscopy (tissue oxygenation), tendon vibration and posturography analysis.	http://homepages.ulb.a c.be/~sbaudry/welcom e.html
Serge Schiffmann	Laboratory of Neurophysiology	Neurophysiology, Basal Ganglia, Motor function, Parkinson's disease, addiction, Patch clamp	For a brief description of some lines of investigation, see: <u>http://neurophy.ulb.ac.be/projects-an-integrated-</u> <u>approach/project-basal-ganglia</u>	For facilities and ressources, see: <u>http://neurophy.ulb.ac.be/platform</u>	http://neurophy.ulb.ac. be

UNIVERSIDA	UNIVERSIDAD AUTÓNOMA DE MADRID (UAM) - Spain						
SUPERVISOR	RESEARCH LAB/GROUP	AREA OF EXPERTISE	LINES OF INVESTIGATION	KEY FACILITIES	WEBSITE		
SUPERVISOR Angela Martinez Valverde	RESEARCH LAB/GROUP Metabolismo y señalización celular	AREA OF EXPERTISE inmunometabolism, endocrinology, type 2 diabetes, non-alcoholic fatty liver disease	LINES OF INVESTIGATION Insulin resistance is an early event in the development of type 2 diabetes mellitus (T2DM). The close relationship between metabolism and the immune system (immunometabolism) plays an essential role in the development of insulin resistance and T2DM associated to obesity. The changes in intestinal microbiota that occur in obese individuals are the first trigger of the low-grade chronic inflammation that alters the functions of the tissues responsible for the control of whole body glucose homeostasis. Among them, the liver is a target organ of pro-inflammatory mediators derived from the intestine (bacterial endotoxins) and adipose tissue (cytokines, adipokines, free fatty acids and reactive lipid species) and, in addition, is able to recruit circulating monocytes that together with resident macrophages (Kuppfer cells) contribute to exacerbating the intrahepatic inflammatory response. These conditions determine the progression of nonalcoholic fatty liver disease (NAFLD), a disease of high incidence within the obese and insulin resistant population that begins with accumulation of fat in the liver (steatosis) and progresses to steatohepatitis (NASH), fibrosis, cirrhosis and, finally, to hepatocellular carcinoma (HCC). Our laboratory investigates on the role the key molecules that modulate insulin signaling and the interrelation between different liver cells in the progression of NAFLD. To achieve these goal we make use of cellular models (hepatocytes, Kuppfer cells, oval progenitor cells and liver stellar cells), as well as experimental in vivo models that recapitulate the different stages of NAFLD. We are particularly focused in the phases of NASH and fibrosis. Another aspect of interest in the laboratory related to NAFLD is the study of the impact of the interactome between extracellular vesicles, particularly exosomes, released by hepatocytes and biomarkers with diagnostic value in NAFLD. In this context, we are also studying the efficacy of therapeutic ap	KEY FACILITIES Pathogen-free animal facilities - Mouse Metabolic Phenotyping Platform - Confocal microscopy and Time lapse - Nuclear Magnetic Resonance Unit -Histology Unit -Genomic Unit -Electronic microscopy -Flow Cytometry Unit -Electronic microscopy -Flow Cytometry	WEBSITE		
			actions of insulin in target tissues. Our group is also interested in understanding the impact of inflammation in brown adipose tissue in relation to the responses to insulin and beta-				
			adrenergic agonists. We aim to enhance the activation and/or				

			the presence of brown or beige fat cells to improve the functionality of these fat depots in a chronic pro-inflammatory context. In this regard, we are studying the role of HIF1 alpha and SIRT1 as two potential modulators of insulin and beta- adrenergic responses in brown and beige adipocytes exposed to a proinflammatory environment.		
Francisco Javier Diez-Guerra	Molecular Biology (UAM) and CBMSO (CSICUAM)	Neuroscience and Advanced Bioimaging	Analysis of calmodulin-mediated signaling underlying synaptic plasticity. Activityregulated genes in neurons: signals and mechanisms. Exosomes as vehicles to deliver neuroprotective miRNAs against lschemia. Evaluation of low-intensity electrical stimulation in the treatment and prevention of ischemia damage.	We use models based on cultured neurons, organotypic slices and whole animals. Our lab provides expertise in molecular and cell biology, biochemistry, and advanced microscopy techniques. The CBMSO a range of core facilities (confocal and electronic microscopy, cytometry, animal house, proteomics & genomics, etc). Our group is currently funded by a grant from the Spain Government ("Plan Nacional") and by private companies.	http://www.cbm.uam.e s/fidiez
Elena Solesio- Jofre	Biological and Health Psychology	Aging, cognition, physical condition, neural plasticity, neuroimaging techniques	We are mainly focused in the study of age-related changes in cognition, physical condition and emotional regulation by means of different neuroimaging tools (EEG, NIRS, MRI and MEG) and neuropsychological tests.We examine learning- related changes in neural networks that occur with age (using both task-activated and resting state paradigms), which are indicative of neural plasticity. To do so, we employ training protocols that include cognitive, physical and emotional exercises. We are interested in both healthy and pathological aging. Importantly, we have recently launched a project dealing with frail aging.	Our lab has different EEG equipment (one 64-channel BioSemi EEG system, one 128-channel BioSemi EEG system and one 16-channel portable Emotiv system). We have recently acquired one NIRS system. Additionally, we have close collaborations with other research teams. This gives us access to MRI and MEG equipment. The CEACO laboratory is at the Department of Psychology (UAM), which means that the fellow will have full access to different facilities, including library, lab equipment and space, other laboratories, etc., as well as more general facilities related to sports and housing facilities. Importantly, Dr. Elena Solesio-Jofre has been a former MSCA Fellow, which will facilitate managerial, administrative and scientific development of the project.	https://www.psicologia uam.es/CEACO/overvie w.htm
Javier Diaz-Nido	Centro de Biologia Molecular Severo Ochoa	HEALTH: NEUROSCIENCE Neurodegenerative Diseases	We have developed distinct experimental models to study the molecular mechanisms underlying the neurodegenerative process in Friedreich's ataxia. These models are also being used to test molecules (drugs or genes) capable of delaying neurodegeneration	The "Centro de Biologia Molecular Severo Ochoa" and the campus of UAM provide all the facilities to carry out cutting- edge research in molecular neuroscience. These include cell culture and animal facilities, as well as microscopy, in vivo imaging, transgenesis, genomics, proteomics & bioinformatics services	http://www.cbm.uam.e s/en/research/program s/physiological-and- pathological- processes/molecular- neuropathology/neuro nal-repair-and- molecular-therapy-in- neurodegeneration- spinocerebellar-ataxias

SAPIENZA UNIVERSITY OF ROME - Italy

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SUPERVISOR	RESEARCH LAB/GROUP	AREA OF EXPERTISE	LINES OF INVESTIGATION	KEY FACILITIES	WEBSITE
Fabiano Bini	Industrial	Bio-nanomechanics of	Industrial Bioengineering Research Group acquired skills and	Industrial Bioengineering Laboratory includes PC, work-	http://www.dima.uniro
	Bioengineering	Human Trabecular Bone	expertise mainly in two fields.	benches and instrumentation for basic applications. While for	ma1.it/dima/en
	Research Group	Tissue;	1. Human Trabecular Bone Tissue: micro-mechanical testing	specific applications, the facilities available are: ultrasound	
		 3D Diffusion Model of 	and study of diffusion coefficients of water through the	scanner; ultrasound phantom; low frequency ultrasonic	
		nanostructured	collagen-apatite porosity in human trabecular bone tissue. We	cavitation sonicator; linear and angular micro-positioners.	
		apatite/collagen Porosity;	involved in projects on the histomorphometry of cancellous		
		 3D FEM Model of 	bone microstructures based on the patient's micro-CT scan.		
		Osteoarthritis in the Human	Furthermore, we focused research activity on the nano-micro		
		Femur Head;	model in order to simulate finite element models to explain		
		 3D Tissue Modelling for 	biomechanical behavior due to pathologies as osteoarthritis.		
		Surgical Planning and	Finally, we are interested to the rehabilitation engineering, the		
		Training;	focus is on design of tailored wearable sensors systems,		
		 Rehabilitation Engineering; 	development of portable and low-cost solutions for home-		
		 Experimental Investigation 	care rehabilitation and development of advanced and specific		
		and technology assessment	biomechanical models for applying in translational medicine.		
		of ultrasound equipment.	2. Clinical Ultrasound imaging: We focused on the		
			characterization of Medical Array Transducer, performance		
			Testing of medical echo/doppler equipment. Now, we are		
			interested on the Histomorphometric analysis of clinical		
			images of thyroid nodules and simulation of treatment by High		
Mariana			Intensity Focused Ultrasound (HIFU).		
Mariano	Systems Biology	Carcinogenesis; Systems	• Systems Biology approach in the integrative understanding	random positioning machine; PCR; western-blot; confocal	https://sbglab.org/
Bizzarri	Group Lab	Biology; microgravity	of cell and tumor blology, namely by focusing on cell	microscopy	
			phenotypic transition, tumor reversion and cell-		
			Disphysical constraints in coreing gangeis and call fata		
			Biophysical constraints in carcinogenesis and cell fate		
			Inosital in physiology and pathology		
			Metabolism and pharmacodynamics of network		
			pharmacology focusing on Inositol and Melatonin as		
			pleiotronic-like drugs		
			Cytoskeleton and fractal shape analysis		
			Space Biomedicine		
Patrizia	Psychopharmacology	Pharmacology, Neuroscience,	Our laboratory is located at the Department of Physiology and	The lab is fully equipped for behavioral experiments in rodents	https://patriziacampolo
Campolongo	of memory	Learning and Memory,	Pharmacology "V. Erspamer" of Sapienza University of Rome.	and for optogenetic modulation.	ngo.com/
	modulation	Neuropsychopharmacology	Our research focuses on the effects of stress on memory		
			function, investigating the role of different neural circuits that		
			mediate behaviour in response to stress. Particularly, our		
			laboratory investigates the role of the endocannabinoid		
			system in regulating memory consolidation, memory retrieval		
			and memory extinction and its specific action in response to		
			both acute and chronic stressors. Our research aims at		
			providing important insights on the brain mechanisms that are		
			affected by stress in physiological and pathological conditions		
			and may improve our ability to identify therapeutic targets for		
			stress-related disorders.		
			Our research interests have recently expanded from rodents		
			to human settings to explore the neural mechanisms		

			underlying the development of cognitive disorders in PTSD		
			patients and neurobiological underpinnings of memory		
			processes in a unique Italian human population of subjects		
<u> </u>			with highly superior autobiographic memory (HSAW).		
Giulio	NanoDelivery Lab	Health	Drug delivery; Gene Delivery; Development of	Particle synthesis Lab; Particle Characterization Lab; BioLab	
			nanotechnologies for early cancer detection	(more information are available on request)	
Isotta Chimenti	Experimental	cardiovascular regeneration	we study resident cardiac stromal progenitors in humans and	Cellular and molecular biology labs. Biosafety level 2 cell	https://research.uniro
	cardiovascular	and the cardiac stroma.	rodents, and how the microenvironment and/or pathologic	culture lab. Animal facility for rodents with imaging	ma1.it/users/isotta%20
Destals	pathology lab		conditions can affect their phenotype.	equipments.	<u>cnimenti</u>
Daniela Da Biasa		Biochemistry, Microbiology,	Acid stress response in Micro-organisms in relation to Health	Daniela De Blase laboratory in the above Dpt is a fully	https://pnd.uniroma1.it
De Blase		Molecular Biology, Stress	The chility of microarganisms to respond to mild to bareh	equipped Biochemistry and Molecular Biology lab. The know-	/web/DANIELA-DE-
		responses in microorganisms,	and a plinty of microorganisms to respond to mild-to-harsh	now and the skills for enzymatic work and for developing new	BIASE_NC2311_II.aspx
		actuic pH	actuic pH conditions poses rundamental questions about the	assays are available in the group. In the Dpt there is a fully	
			physiology and adaptation to specific filters, such as the gut,	equipped BSL2 bacteriology lab. Additional equipment include:	
			chemicals for the green chemistry and for food preservation	misrosconos multimodo misroplato roador, an animal house	
			My group is working since a long time on the amine acids	(for mice) a P2 lab (for GMM)	
			has a responses of microorganism to low nH. This has		
			implications on Health too, which is why last year I supported		
			as supervisor the application of a candidate for a MSCA-IE (2		
			vears) The proposal received 74 40% (Excellence 3 10: Impact		
			4.5: Implementation 4.1) I think that the weaknesses can be		
			amended and therefore I would like to propose the same		
			topic.		
Robeto Alberto	Intensive Care Unit	Intensive Care Medicine -	Non invasive assessment of microcircolatory dysfunction in	Near infrared spectroscopy instrument prototype for the	https://web.uniroma1.i
De Blasi		Anesthesiology	critically ill patients - Non invasive assessment of venular	assessment of emoglobin and water concentrations within	t/dip_smcmt/
		57	compartment - development of statistical models for the	tissues	
			organs' failure prediction in critically ill patients		
Luciano	Biophotonics	Nanotechnology and optics	Diagnostic techniques and advanced therapies based on the	Besides its own instrumentation such as laser sources, optical	https://research.uniro
De Sio	Laboratory		interaction between biological tissues and photons	microscopies, thermal-cameras and spectrophotometers, the	ma1.it/gruppo-di-
				biophotonics laboratory can utilize all the shared facilities	ricerca/21624
				present in the Latina Campus (culture cells laboratory,	
				magnetic resonance, PET, electron and confocal microscopies	
).	
Silvia	Biophysics and	neurophysiology, glia neuron	I'm a biophysicist with a strong background in	Cell culture room for primary cells, cell lines and for iPSC	https://web.uniroma1.i
Di Angelantonio	Neuroimmunology	interaction, organoids,	electrophysiology and imaging. My main ongoing project relies	micromanipulation. A fully equipped molecular biology	t/neuroscienzesapienza
		microscopy,	on the production and functional characterization of 3D	laboratory offers workspace for 5 people and key equipment	/person_detail/216
		electrophysiology	bioprinted biological tissues using human cells from healthy	(including a Real Time PCR on time system). The cell culture	
			subjects or patients. These new biological models are aimed at	room is equipped to develop 2D and 3D organoid cultures	
			developing new physiologically relevant in vivo platforms for	(incubators with agitator). The bioprinting unit is equipped	
			the study of cell-cell interactions. My research in the field of	with a customized 3D bioprinter and aims to develop new	
			neurophysiology has been focused on synaptic transmission.	biotabrication methods and tools. An imaging facility	
			iviy background education in physics made me able to play a	(including a multi-photon platform, and a deep sim system, for	
			key role in the development of multidisciplinary projects, in	Intraging in 3D constructs); four complete electrophysiology	
			SME producing soveral publications	ומטטו מנטו ופג.	
Antongiulio		Endocrino tumoro	Sivie, producing several publications.	Outpatient and DH afference for nationts with and asi's	
Faggiano		Nouroondocrino Noonlasma	clinical and traslational studies on epidemiology, diagnosis,	outpatient and DH afference for patients with endocrine and	
raggiario		Endocrine syndromos	thyroid tumors, also including tumors associated to genetic	assessment (also chromatohranhy) DCP	
		(MEN1-2	syndromes (MEN1-2 naragangliomatosis)	immunohistochemistry immunofluorescence	
		naragangliomatosis)		minunonisconenisti y, minunonicorescence	
	1	paragangnomatosisj	1		

Francesco Fazi	Epigenetic regulation of normal and pathological cell differentiation	Cancer and its biological basis - Role of non-coding RNA in normal and pathological cell fate determination.	 Transcriptional regulation and functional characterization of non-coding RNAs in normal and pathological cell fate determination Epitranscriptomic regulation in cell development and neoplastic transformation Role of epigenetic modifications and microRNAs in the pathophysiology of thymic epithelial tissue. Role of UPR (Unfolded Protein Response) and oxidative stress in normal and pathological myeloid differentiation. 	The Unit is equipped with an QuantStudio7 Flex Real-Time PCR System and with the Nanodrop 1000 and Agilent 2100 Bioanalyzer instruments for the quantification and quality control of DNA and RNA samples. Additionally the following technical suites are on site: - Microscopy suite: housing standard light microscopes and a Leica and a Zeiss confocal microscope - FACS suite: housing a Flow Cytometer DAKO CyAn, Flow Cytometer Coulter and BD FACSCalibur - Histology suite: housing a Leica cryostat and supporting equipment for analyzing tissue sections - Safety level 2 (SL2) laboratory for recombinant viral work - 1000m2 of Animal Laboratory space The activities of our laboratory are supported by grants from different Institution: AIRC; MIUR-PRIN and Sapienza University of Rome	https://sites.google.co m/a/uniroma1.it/franc escofazi/
Nicola Galea	Unit of Cardiovascular	Advanced Technique of	Cardiomyopathies (in particular: Fabry Disease, Amyloidosis),	State-of-art Technologies in Diagnostic Imaging, Partnership	
	Imaging	Cardiovascular Imaging (CT/MR)	Inflammatory Myocardial Disease, Coronary Artery Disease, Ischemic Heart Disease, Congenital Heart Disease, Metabolic Cardiopathies	with Companies for development of Image Analysis Software, Partnership with high standard Lab for histological and ultrastructural evaluation of EMB samples,	
Claudia	Anatomia Clinica	Apoptosis, autophagy, cancer	The scientific activity of Dr. Giampietri focuses on molecular	Cell and molecular resources are available:	https://sites.google.co
Giampietri		cells	 mechanisms controlling cell death and proliferation in normal and pathological conditions both in humans and in experimental models. More in detail these issues have been addressed in: a) male and female gonads; b) heart; c) skeletal muscle stem cell compartment; d) endothelial cells from large vessels; e) fibroblasts; f) human cancer cell lines (from melanoma, prostate cancer, hepatocarcinoma). Dr. Giampietri has contributed to clarify different roles of the well-known anti-apoptotic cellular-Flice Like Inhibitory Protein (c-FLIP) in several in vitro and in vivo models. Dr Giampietri has been involved in the production of a c-FLIP transgenic mouse model and she has identified novel un-expected functions of c-FLIP in autophagy modulation, endoplasmic reticulum stress response and lipid accumulation. Dr Giampietri studies have been carried out through cellular and molecular biology techniques and have been published in peer-reviewed research papers (https://www.ncbi.nlm.nih.gov/pubmed/?term=giampietri+c). 	Hoods Biohazard BioAir Topsafe 1.2 Incubators CO2 "HEPA2" - Shel Lab 5215-2. Plate readers Lyophilizer Centrifuges Time Autoclave cycle programming Real Time PCR instruments Western blot equipments Automated histology processor Microtome Cryostat Fluorescence Microscopy with video camera and image analysis apparatus Confocal Microscopy Scan Glass Slides Aperio University Scanscope CS. Scan Glass Slides Aperio University Scanscope Fluorescence with themonochrome camera and quad multi-band pass filter set. Animal House	m/a/uniroma1.it/claudi agiampietri-eng/
Alessandro Laviano	Clinical Nutrition Unit	disease-associated malnutrition	Mechanisms of anorexia and cachexia. Nutritional approach for the prevention and treatment of disease-associated malnutrition	Clinical unit with equipment ot measure body composition	
Cristina Limatola	Cellular and molecular neurophysiology	neurophysiology, neuroimmunology, nanomedicine, Glial- Neuronal Communication,	 Gut-immune system-brain tumors communication: we are studying how the alterations of the intestinal microbiota influence the interactions between the immune system and the tumoral microenvironment to identify new therapeutic 	Enclosure, microscopy laboratory, molecular and cellular biology laboratory, electrophysiology set-up and calcium imaging	https://web.uniroma1.i t/dff/it

		brain tumors and neurodegenerative disorders	 targets to use in the treatment of the glioblastoma. 2)Role of microglia and immune system in Amyotrophic lateral sclerosis: we are studying how to modulate the activation status of microglial cells and how to control the leukocyte extravasation in the central neural system to slow down the degenerative processes of motor neurons 3) Interactions glioblastoma-brain parenchyma: we are studying the effects of sensory stimuli on the growth of brain tumors 4) Role of microglia on the wake/sleep cycle: we are studying the role of microglial cells in the different pahes of the circadian cycle 		
Sandro Mazzaferro	Nephrology	Mineral Metabolism i Chronic renal Failure	Assay of divalent ions metabolism biomarkers with potential impact on cardiovascular disease of renal patients (FGF23, Klotho, Sclerostin, Vitamin D)	Laboratory Unit at 2 Medical Clinic	https://web.uniroma1.i t/dmtp/home
Salvatore Minisola	BONE DISEASES	VITAMIN D, METABOLIC BONE DISEASES	We have a long-standing interest in Vitamin D, metabolic bone diseases (mainly osteoporosis) and primary hyperparathyroidism.	We are carrying mainly clinical investigations. We generally see 20 patients a day, with specific skeletal problems, on ambulatory basis.	
Gabriella Palmieri	Immunology and Immunopathology	Innate immunity; anti-tumor immune responses; lymphocyte cytotoxicity; mucosal immunity and immune-mediated diseases of the gastrointestinal tract	Phenotypic and functional characterization of Natural Killer cell subsets; imune profiling of physiological and pathological mucosal compartment	The Department of Experimental Medicine is equipped with the latest equipment for research in immunology and biomedical field in general, including an ApoTome 3D fluorescence microscope, Transmission Electron microscopy facility, several flow cytometers (FACSCantoII, FACSAria, FACSCalibur) and a cell sorter facility, AutoMACS for the automatized immunomagnetic separation of cell populations, ultracentrifuges, microplate scintillation and luminescence counter (TopCount), ELISA microplate reader. The Immunology and Immunopathology Laboratory is endowed with a fully equipped cell culture laboratory, and with a biochemistry and molecular biology laboratory. Access to other sophisticated equipments, such as: LSR II Fortessa (BD) cytofluorometer, Bio-Plex multiplex array system for cytokine quantification, confocal microscope, real-time PCR facility, and DNA sequencing service, can be provided through well- established collaborations with other Departments in Sapienza University. In addition, access to and expertise in the use of, flow cytometry data analysis and statistical analysis softwares (FlowJo, and SPSS and Prism, respectively) that will be necessary to analyze experimental data, is also in place.	https://web.uniroma1.i t/dip_dms/ricerca/labo ratori/patologiageneral epatologiaclinica/Immu nologia%20e%20Immu nopatologia
Davide Ragozzino	Synaptic physiology	Synaptic physiology; microglia, glia-neuron interactions, ion channels, receptors neuromodulation, chemokines,	Understanding the role of microglia in normal synaptic functioning, Microglia properties in health and disease conditions, microglia-neurons signaling pathways	Electrophysiology, patch clamp, fluorescence monitoring, confocal microscopy, wet lab, animal facility, behavioral apparatus, surgery	https://web.uniroma1.i t/neuroscienzesapienza /person_detail/156
Caterina Scuderi	Lab of cellular and molecular neuropharmacology	Pharmacology, Neuroscience	Preclinical research on the role of glial cells in the etiology and/or progression of neuropsychiatric diseases. Active projects on the stress response, binge eating disorder, aging, and Alzheimer's disease.	Cell culture equipment (primary and lines), ex vivo analysis, protein expression analysis by enzyme immunoassay techniques (ELISA, Western blot, spectrophotometric assays, immunofluorescence, immunohistochemistry), microscopy, nucleic acid analysis (RT-PCR, qRT-PCR)	
Alberto Spalice	Pediatric Neurology	Epilepsy, genetic Syndromes, PANDAS/PANS Synrome	Pandas/Pans, Epilepsy	Outpatients ambulatory, Pediatric Neurology Division	WWW.pediatrianpi.it

Raffaele Strippoli	Molecular Biology Prof Tripodi	Cellular and molecular biology; Epithelial to mesenchymal transition (EMT) and fibrosis; Epigenetics and gene regulation; Cell migration; Cancer biology; cell to cell communication; cell signalling and cellular interactions	I am interested in the study signalling pathways controlling epithelial/mesenchymal cell plasticity and in particular in the genesis of fibrosis in the peritoneum. I have published several papers for the definition of signalling pathway controlling mesothelial to mesenchymal transition (MMT) and reversal (Strippoli et al 2010 J cell Science, 2012 PloS One, 2015 Embo Molecular Medicine, 2016 Stem cells International). I have also extended my study to experimental models of EMT In tumors. More recently, I focused on the role of epigenetic modifications during MMT, which is related to the persistence of the mesenchymal phenotype after removal of the fibrogenic stimuli in mesothelial cells. In a study recently published (Rossi et al. Scientific Reports, 2018) we have analyzed the role of histone deacetylase HDAC1 in maintaining the mesenchymal phenotype in the peritoneum. Accordingly, EMT modulation by epidrugs in cancer and in the cancer/stroma interface is an attractive field of study. At the	State of the art facilities for Molecular biology studies, access to facilities for confocal microscopy and proteomics.	https://phd.uniroma1.it /web/RAFFAELE- STRIPPOLI nC1967 IT.a Spx
Loretta	Cellular and Molecular	Immunopatologia:	same time, I have been studying the role of biomechanical stimuli in the modulation of mesothelial cell plasticity (Strippoli et al, submitted). Role of CD28 in the regulation of the inflammatory response	One laboratory for cell cultures, equipped with laminar flow	
Tuosto	IMmunology	infiammazione; autoimmunità; signal transduction	mediated by Th17 and Th22 cell in chronic inflammatory/autoimmune diseases and in response to pathogens	hoods (P2), CO2 incubators and optic as well fluorescence microscopes. Facilities with: an automatic developer for autoradiography (KODAK); two FACScalibur cytofluorimeter (BD Biosciences); spectrophotometers; thermal cyclers (PE Applied Biosystem PCR 9700); multilabel counter for flash or glow luminescence, fluorescence and photometry (Wallac 1420 Victor); Typhon 9410 imager (Amersham Biosciences); Scan-array light (PackardPerkin Elmer); 7900 HT Fast Real- Time PCR System (Applied Biosystems). A facility with 2 confocal and 1 imaging microscopes. The Laboratory of Prof. Tuosto is also well equipped for research in cellular and molecular biology and signal transduction	
Paola Vittorioso	Vittorioao	Arabidopsis thaliana, seed development, photomorphogenesis, signal transduction, transcriptional control, epigenetic regulation	We are interested in the hormonal control of seed development and in light-mediated seedling development. We focus also our attention on the transcriptional and epigenetic control of seed and seedling development . We developed pharmacological approaches to inhibit epigenetic markers, i.e. PRC2 and acetylase activities. Seed germination and seedling development in Cardamine hirsuta are under study too.	Arabidopsis growth chambers, greenhouse, molecular biology facilities, imaging facilities.	http://bbcd.bio.unirom a1.it/bbcd/cv/vittorioso -paola-2018
Massimo Volpe		Heart, Cardiovascular Disease, Hypertension, Heart Failure, Renin Angiotensin, Natriuretic Peptides	Identification of the pathophsiolocic role of NEUROHORMONAL SYSTEMS in Hypertension and Heart Failure with clinical studies and molecular approach Studies of the genetic basis of Hypertension and its complications using animal models and population approach Clinical studies for treatment of Hypertension and Heart Failure Cardiovascular Disease Prevention	Integrated lab and clinical cardiovascular facilities in the S Andrea Campus of Sapienza for the above mentioned lines of research	

STOCKHOLM	STOCKHOLM UNIVERSITY - Sweden contact person: henrik.aspeborg@si				
SUPERVISOR	RESEARCH LAB/GROUP	AREA OF EXPERTISE	LINES OF INVESTIGATION	KEY FACILITIES	WEBSITE
Antonio Barragan	Infection Biology of Host-Parasite Interactions, Molecular Biosciences, The Wenner-Gren Institute	Parasitology, Immunology, Neurobiology	Our current research on the pathobiology of parasitic infections integrates molecular parasitology with immunology and cell biology to understand how obligate intracellular parasites interact with host cells. We work on the intracellular parasite Toxoplasma gondii, which is an important opportunistic pathogen in humans and animals, and a model for understanding the biology of intracellular parasitism. The research aims to define the molecular mechanisms utilized by Toxoplasma, and related apicomplexan parasites, to manipulate the host's immune system to their own advantage and thereby promote colonization and transmission of infection. Host cell manipulation and immunomodulation are important features of obligate intracellular parasites. Yet, the precise mechanisms leading to systemic dissemination of intracellular parasites (acute infection) and life-long persistence in the central nervous system (chronic infection) of the human or animal hosts remain enigmatic. The processes of host-cell interaction, systemic dissemination and persistence are studied using molecular and cellular experimental approaches and various imaging modalities. Understanding the immune evasion strategies utilized by Toxoplasma and how it orchestrates the subversion of leukocytes may provide key elements of pathogenesis and on the rationale for designing future prophylaxis.	Techniques in Cell biology, Immunology, Advanced imaging techniques, Animal facilities, Molecular biology	https://www.su.se/mb w/research/research- groups/infection-and- immunobiology/group- barragan
Christos Samakovlis	Molecular Biosciences, The Wenner-Gren Institute/SciLifeLab	Developmental Cell biology	Respiratory organ development and disease	https://www.scilifelab.se/infrastructure/	https://www.scilifelab.s e/researchers/christos- samakovlis/
Martin Jastroch	Department of Molecular Biosciences, the Wenner-Gren Institute	Energy metabolism, mammals, obesity, metabolic disease, mitochondria	Investigating mammalian cell and animal models for metabolic mechanisms in relation to the obesity pandemic.	State-of-the art assessment of cellular and mouse energy metabolism, plus conventional molecular methods	https://www.su.se/mb w/research/research- groups/integrative- biology/group-jastroch
Pål Stenmark	Department of Biochemistry and Biophysics	Structural biology, single particle cryo-EM, X-ray crystallography	The botulinum neurotoxins (e.g. Botox) are the most toxic substances known; they are one million times more toxic than the cobra toxin. The toxins are possible agents for bioterrorism and the development of countermeasures and detection methods are a high priority. In spite of their extreme toxicity the toxins are used in the treatment of a variety of medical conditions. We use structural biology, mainly X-ray crystallography and single particle cryo-EM, and several other methods to investigate questions concerning the botulinum neurotoxins. We have discovered several novel toxin and develop new therapeutic toxins.	 We have ample access to the new single particle cryo-EM facility established in 2016 at Stockholm University, hosted by our department. We have generous access to high quality synchrotron radiation sources (Diamond, Bessy, SLS and ESRF) and we greatly benefit from MAXIV, the Swedish synchrotron that was inaugurated in 2016, and is currently the brightest X-ray source in the world. Our laboratory is well equipped with: crystallization robotics, circular dichroism and fluorescence spectrometers, temperature controlled rooms, cryogenic equipment, fermentation equipment, chromatography systems with state of the art dynamic light scattering, SPR, differential scanning fluorimetry equipment and a MicroCal ITC200. 	https://www.su.se/prof iles/stenm-1.182287

EBERHARD KARLS UNIVERSITY OF TÜBINGEN- Germany contact person: christian.voehringer@uni-tuebingen.de					
SUPERVISOR	RESEARCH LAB/GROUP	AREA OF EXPERTISE	LINES OF INVESTIGATION	KEY FACILITIES	WEBSITE
Holger Lerche	Dept. of Neurology and Epileptology	Clinical and experimental epileptology, focus on genetic epilepsies and other neurological ion channel disorders	We identify genetic variations causing/being associated with epilepsy or other paroxysmal neurological disorders (such as migraine or paroxysmal movement disorders), investigate the pathophysiological consequences and search for specific precision therapies.	We collaborate with high throughput genetic facilities in and outside Germany and are part of national and international consortia. We perform functional studies of ion channels and transporters in heterologous expression systems, cultured neurons and brain slices, in whole animal models and in iPS cells. We use in vitro and in vivo electrophysiological recordings, such as patch clamp, two-microelectrode voltage clamp, multielectrode arrays, extra- and intracranial EEGs. We also do brain imaging studies of epilepsy patients using high- density EEG, MEG, MRI, and PET with collaborators at our University.	https://www.hih- tuebingen.de/en/forsch ung/neurology-and- epileptology/
Thomas Gasser	Neurodegenerative Diseases	Parkinson's Disease, genetics, molecular biology	Analysis of genetic factors in hereditary and non-hereditary forms of Parkinson's disease.	Sanger and next generation sequencing, molecular and cellular biology, biochemistry, biomarker analyses, bioinformatics.	https://www.hih- tuebingen.de/en/forsch ung/neurodegenerative -diseases/research- groups/genetics-of- parkinsons-disease/
Jonas Neher	Cellular Neurology	Neuroimmunology, Microglia, Alzheimer's Disease	It is now well established that most (if not all) neurological diseases present with an inflammatory component. These include acute conditions such as stroke as well as chronic neurodegenerative diseases such as Alzheimer's disease (AD). However, it has proven difficult to determine when the activation of the brain's immune system is beneficial or detrimental in these diseases and considerable controversy still exists in the literature. This controversy may partially be due to the fact that tissue resident macrophages (including microglia) are highly plastic cells that can adapt to their particular microenvironment. Therefore, one of our aims is to understand how the microglial activation state changes in Alzheimer's disease. To this end we are analyzing the gene expression and epigenetic profiles of microglia in mouse models and investigate how these cells adapt in response to inflammatory stimuli. In particular, we are interested how peripheral inflammation changes the microglial activation state. In this regard, we were able to demonstrate recently that microglia are capable of immune memory. This means that these cells undergo long-term epigenetic reprogramming, which modulates their immune responses to later developing neurological disease. Importantly, we found that microglial immune memory is sufficient to modulate hallmarks of neurological disease, indicating that this mechanism may be a novel risk factor for neurodegenerative conditions. In current projects, we are analyzing the molecular mechanisms of innate immune memory in microglia both in mouse models and human tissue. In addition, we study whether epigenetic	We work with transgenic mouse models and human tissue to determine changes in the immune response during neurodegenerative disease. We use a range of methods, including immunhistochemistry, FACS sorting, RNA-sequencing (incl. single cell RNA-seq) and epigenetic analyses (incl. single cell ATAC-seq) to answer how the immune system contributes to brain disease.	https://www.hih- tuebingen.de/en/forsch ung/cellular- neurology/research- groups-and- foci/experimental- neuroimmunology/ www.dzne.de/neher

			microglial reprogramming occurs across neurodegenerative		
			diseases and whether innate immune memory impacts on		
			other neurodegenerative conditions, such as Parkinson's and		
			Huntington's disease.		
Cornelius	Center for Integrative	Neuroscience, behavioral	Our main scientific hypotheses concern firstly coding and	Rodent lab with four rigs for monitoring behavior,	https://www.cin.uni-
Schwarz	Neuroscience	monitoring, psychophysics,	perception in the tactile system. Which role does friction play	electrophysiology, stimulation. One rig for two-photon	tuebingen.de/research/
		cell and network level	for neuronal coding and perception? Second we are interested	imaging. One psychophysical work place. Great scientific	research-
		electrophysiology, and	how tactile signals are integrated with internal predictive	environment at the home institutes and Tübingen	groups/research-
		neurostimulation, cortex,	signals to guide movement and improve tactile perception.	neuroscience	groups/schwarz-c-
		cerebellum, tactile system,	We have established our hypotheses using a combination of	(https://tuebingenresearchcampus.com/research-in-	<u>systems-</u>
		sensorimotor Integration and	behavioral observation, and cellular neurophysiology in	tuebingen/tnc/people-of-the-tnc/)	neurophysiology/resear
		perception. Work in rodents	rodents. Our results from the rodent whisker system		ch-directions.html
		and humans.	concerning the role of friction for perception has led us to do		
			psychophysical work in humans studying tactile perception		
			mediated by papillary ridges on the fingertip. For this project		
			we will closely cooperate with our partner Dr. Rochelle		
			Ackerley at Aix-Marseille University (AMU). AMU is a partner		
			within the CIVIS network. Rochelle Ackerley and her group are		
			experts in microneurography, the axonal recording from		
			tactile afferents in human skin. Further we will cooperate with		
			Prof. Dr. Christoph Braun at the MEG Center of our institute to		
			will focus on percentual and neuronal adding of tastile stimuli		
			spanning work in rodents and humans		
Simone Mayer	Hertie Institute for	Molecular Brain	The mammalian neocortex is a highly complex and spatially	In my research group, we are using mainly in vitro models of	https://www.hih-
Simone wayer	Clinical Brain Research	Development	heterogeneous structure, which has expanded significantly in	human brain development including cerebral organoids as	tuebingen de/en/forsch
	chined bruin Research	bevelopment	mammalian evolution. Neocortical networks are at the heart	model systems. We characterize how different experimental	ung/independent-
			of cognitive function. While the increased complexity of the	manipulations affect the proliferation of progenitor cells, as	research-
			human neocortex may have contributed to the higher	well as the migration and differentiation of neurons using	groups/molecular-
			cognitive abilities, it may have also caused the emergence of a	diverse approaches such as immunohistochemistry, calcium	brain-development/
			plethora of psychiatric and neurological disorders. Since major	imaging, and single cell RNA-sequencing. The Hertie Institute	
			differences in brain anatomy and hence function between	for Clinical Brain Research is a centre for basic and	
			species arise during development, it is crucial to understand	translational neuroscience research and is well-equipped with	
			the cellular and molecular mechanisms governing cortical	microscopy, molecular biology, and animal research	
			development. Although we have recently gained significant	ressources.	
			insights into the contribution of genetically "hard wired"		
			mechanisms of proliferation, differentiation, and maturation,		
			less is known about the degree to which environmental		
			Influences affect neocortical development, especially in		
			humans. We aim to understand now plasticity contributes to		
			term research goal is to identify factors that boost the		
			resilience of neocortical development and thus help to		
			prevent neurodevelopmental disorders.		
Hans-Otto	Center of Neurology	Cognitive Neuroscience	The Division of Neuropsychology focuses on the investigation	The Division of Neuropsychology forms part of the Centre for	https://homepages.uni-
Karnath	01		of spatial cognition and object recognition in humans. By using	Neurology and of the Hertie Insitute for Brain Research at	tuebingen.de//karnath/
			techniques such as functional magnetic resonance imaging	Tuebingen University. They provide an excellent environment	
			(fMRI), transcranial magnetic stimulation (TMS), eye tracking,	that combines basic and clinical research in Neurology and	
			and the motion capture of hand and arm movements in both	Cognitive Neuroscience at an internationally competitive	
			patients with brain-damage and healthy subjects, the	level, offering a wide range of different methodological	
			mechanisms and processes of human spatial attention and	approaches. The facilities at the Division of Neuropsychology	
			exploration, action control and sensorimotor coordination,	consist of:	
			object identification, perception of body orientation, grasping	(i) a huge database of stroke cases admitted to the University	

			and pointing movements, and auditory localization in space are examined. The findings to our research questions not only allow us to have a better basic scientific understanding of these processes and their representation in the human brain but will also aid us to develop new strategies for the treatment of patients with brain damage who show deficits in these areas. Our current research in more detail: https://homepages.uni-tuebingen.de//karnath/	 Hospital (ii) a 3T Siemens Trio scanner, which constitutes the core facility of an interdisciplinary center for high field MR imaging at the Faculty of Medicine in Tuebingen. (iii) a fully equipped TMS laboratory providing two Magstim Super RapidÂ² stimulators, a stereotactic navigation system (LOCALITE TMS Navigator) and respective control and stimulus presentation PCs. (iv) a fully equipped eye movement laboratory (different systems) as well as motion capture laboratory (VICON system) (v) several laboratories equipped for behavioural recording in stroke patients and healthy subjects (vi) contact with other neurological and rehabilitation clinics. 	
Monika Rieger	Institute of Occupational and Social Medicine and Health Services Research	Work-related health services research	The research group "Health Care for People of Working Ages" (in German: "Gesundheitsversorgung für Menschen im Erwerbsalter") has vast experience in conducting multi- disciplinary research studies, including a current study on how to prevent mental health problems in small and medium enterprises using the example of Germany's primary care sector (sponsored by the Federal Ministry of Education and Research / BMBF). Another study has just begun: it evaluates symptom checker apps in primary care (symptom checker apps are tools that use computer algorithms to help patients with self-diagnosis and to advise on the need to see a doctor). Studies on how digitalisation processes at work influence employees professional self-image and work-related stress as well as research with a focus on maintaining the ability to work or employability complement the above-mentioned topics. Our research group has a methodological expertise in both quantitative and qualitative research methods.	The team of the research unit consists of several scientists with expertise in health services research and a methodological background in empirical social research as well as some experience in secondary data analysis including access to German data bases. With regard to statistical analyses, we work closely with the Institute of Clinical Epidemiology and Medical Biostatistics of the University Hospital of Tübingen. Within the institute, a close cooperation exists with scientists from the second research unit "work-related stress - work design" . On the level of the medical faculty, the institute's scientists cooperate e.g. with the Institute of General Practice and Interprofessional Care and the Centre for Public Health and Health Services Research Tübingen (Prof. Rieger being the vice-chairwoman of this research institution founded in October 2019). All software programs needed to perform qualitative research (e.g. MAXQDA) or quantitative analyses (e.g. SPSS) are available for researchers joining the institute as well as access to a broad selection of (inter)national printed or electronic scientific journals and books. On top, the Medical Faculty, the University Hospital and the University of Tübingen offer excellent opportunities for scientific and carrier development.	https://www.medizin.u ni- tuebingen.de/de/das- klinikum/einrichtungen /institute/arbeitsmedizi n-sozialmedizin-und- versorgungsforschung/f orschung
Ziad Hafed	CIN/Hertie	Systems Neuroscience	Neural mechanisms of active perception	State-of-the-art non-human primate facilities and human psychophysics setups. State-of-the-art computing resources.	http://hafedlab.org/
Benjamin Steinhilber	Institute of Occupational and Social Medicine and Health Services Research (Director: Prof. Dr. Monika A. Rieger)	Work physiology	The research group conducts basic research as well as application-oriented research in the field of work-related (physical and mental) exposures and their association with musculoskeletal disorders. Currently, the effectiveness of micro-breaks during minimal invasive surgery on surgeons' musculoskeletal health and the contribution of industrial exoskeletons for the prevention of musculoskeletal disorders in production workers are investigated. Other research projects focus on modeling musculoskeletal strains associated with standing work and physical exposures at the wrist joints. Generally, aspects of the demographic changes in western	The team of the research unit consists of three senior scientists, one postdoc, two PhD students, and one laboratory engineer. All of them are trained in physiological and biomechanical methods. With regard to statistical analyses, we work closely with the Institute of Clinical Epidemiology and Medical Biostatistics of the University Hospital of Tübingen. Within the institute, a close cooperation exists with scientists from the second research unit "Health Care for People of Working Age" as well as with physicians from the institute's occupational outpatient clinic. On the level of the medical faculty, the research unit closely collaborates with the Department of Gynaecology and the research group	https://www.medizin.u ni- tuebingen.de/de/das- klinikum/einrichtungen /institute/arbeitsmedizi n-sozialmedizin-und- versorgungsforschung/f orschung

			societies are implemented in our research projects in order to	"Multi-Level Modeling in Motor Control and Rehabilitation	
			contribute in developing gender and age-sensitive workplaces.	Robotics" from the Hertie-Institute for Clinical Brain	
				Besearch	
				The research unit includes an occupational physiology	
				laboratory with three air-conditioned experimental rooms for	
				conducting highly standardized studies. The equipment of the	
				laboratory includes four mobile multi-modular measuring	
				devices (PS11_PS12_THUMEDIA® Germany) which can be	
				configured as required for recording electrocardiography	
				surface electromyography body posture (gravimetric position	
				sensors) and movement (accelerometry) In addition the	
				equipment includes various force sensors and a force plate	
				which allow to measure manual forces and ground reaction	
				forces as well as postural control. Furthermore, the research	
				unit has a muscle and nerve stimulator that can be used to	
				moscure bioelectrical impedance or electrodermal activity. In	
				addition, there are two workbanches for the simulation of	
				different industrial workplaces	
				Current industrial workplaces.	
				Surrounding the laboratory there are nive onice rooms with	
				several PC workstations, which are equipped with analysis	
				software such as IVIATLAB, JIVIP, SPSS in addition to the	
				common office software packages. All equipment and	
				software for data analysis will be available for researchers	
				Joining the institute as well as access to a broad selection of	
				(inter)national printed or electronic scientific journals and	
				books. On top, the Medical Faculty, the University Hospital	
				and the University of TA%bingen (being one of the German	
				universities of excellence) offer excellent opportunities for	
				scientific and carrier development.	
Matthias Jucker	Cellular Neurology	Brain Aging, Alzheimer, Prion,	Our research focus is on the cellular and molecular mechanisms of	we are state-of-the-art equipped for our work	www.hih-
		Neuroinflammation	brain aging and age-related neurodegenerative diseases, with a		tuebingen.de/cn/
			other corobral protoonathios. Alzhoimer's disease is the most		
			frequently occurring age-related dementia, with more than 1		
			million neonle affected in Germany. As of 2010 our department is		
			also part of the German Center for Neurodegenerative Diseases		
			(DZNE). We are primarily a department of basic research with a		
			focus on preclinical investigations of disease mechanisms. To		
			foster the translation of our research to clinical applications, we		
			partnered with the Department of Psychiatry and established a		
			clinical research unit that closely collaborates with the outpatient		
			Memory Clinic. We also maintain a biobank for biofluids and brain		
			tissue of mouse models and this is done in close collaboration with		
			the corresponding local human biobanks. We also coordinate the		
			international Dominantly Inherited Alzheimer Network (DIAN)		
			study in Germany, which aims to understand the rare genetic		
			forms of Alzheimer's disease by longitudinal analysis of gene		
			mutation carriers and non-mutation carrier siblings.		
			onderstanding this type of Alzheimer's disease is expected to		
			provide important clues to the development of the more common		
			sporadic form of Alzneimer's disease.		