The Cardiovascular Area consists of 11 Research Units, studying age-related disease mechanisms and determinants of cardiovascular thrombotic complications. Main research areas include:


2. Role of eicosanoids and their pharmacological modulation in vascular disease.

3. Platelet activation and inhibition in atherothrombosis.

4. The Cancer Area consists of 6 Research Units, that study molecular mechanisms controlling cell proliferation, migration, and cell death in cancer. Either field of research include: (a) the study of immunity to block the immune system against cancer; (b) genetic and regulatory mechanisms of tumor cell growth and metastatization; (c) transgenic, knock-out, knock-in, and knock-down mice models to study the role of different genes; - predictive markers, including genetic mutations, for personalized tumor therapy; (e) development of targeting antibodies as novel therapeutic agents. (f) New therapies strategies targeting biologically relevant signal molecules.

5. Major achievements: Approx 100 publications with Impact Factor ≥ 10; 8 Patents; 10 International Projects:

6. FFS-EUCIP (European Cancer Immunome Database) 2000-2003

7. FFS-FIHBIO (Functional Imaging of the Human Body) 2003-2005


9. NIH (Oxidative Damage, Platelet Activation, and Inflammation to Predict Morbidity Disability and Mortality) 2005-2008

10. FEF-ECOSANOX (Eicosanoids and Nitric Oxide: Mediators of Cardiovascular, Cerebral & Neoplastic Diseases) 2005-2009

11. FBP-BRAINSYNCH (Large Scale Interactions in Brain Network and their Breakdown in Brain Disease) 2008-2011

12. FFP-EUGAAD (European Consortium for Anticancer Antibody Development) 2008-2012

13. FFP-MEGMR1 (Hybrid MEG-MRI Imaging System) 2008-2012


15. NIH (Human Connectome Project) 2010-2015

The Neurodegenerative Disorders Area consists of 8 Research Units, studying normal and pathological conditions of the aging human brain. Basic studies include characterization of brain networks and of the human mirror system (Investigation on Neurodegenerative Disorders include in vitro and animal studies), as well as clinical studies on identification of predictive parameters based on genetic and clinical features. Other fields include neuroimaging, neuroinflammation, behavioral patterns in stroke, AD and other dementias.

16. Alzheimer’s & Parkinson’s Disease

Dr Francesca Santilli (University of Udine) under the supervision of Professor Carlo Patrano

Keywords

Aging

Atherothrombosis

Diabetes mellitus

Immunotherapy of cancer

Alzheimer’s & Parkinson’s Disease

Abstract - The Center of Excellence on Aging (CEA) was established in 2002 with the aim of focusing multidisciplinary research efforts at the University of Chiari on the aging process. Three main areas are being investigated at CEA: cardiovascular disease, cancer and neurodegenerative disorders. Each area is targeted with aging-related research projects, by integrating basic and clinical research in a 13.500 m² dedicated research facility. The 7th floor is 4.400 m² of basic research labs, while the 6th floor, multi-purpose from MURST to the University, has 4.400 m² of clinical research space including a General Clinical Research Center (GCRC) with 30 beds and 4.700 m² of centralized facilities and administrative offices. Ce.S.I. is endowed with €11 million worth of state-of-the-art instruments and special equipment, including core facilities [e.g proteomics, genomics]. Ce.S.I. is interfaced with the Institute of Advanced Biomedical Technology (ITAB) and with the University Hospital within the same premises, thereby enabling a unique and co-funded by the University and University clinical research on brain imaging. ITAB is endowed with €9 million high-end instrumentation for functional neuroimaging including core facilities such as EEG- fMRI, MEG, HDEEG, NIRS, EGG-TMS. Research space within Ce.S.I. has been allocated on a competitive basis to basic and clinical research groups working at the University of Chiari, with the aim of focusing multidisciplinary research efforts on the aging process. Research labs without dedicated research areas from different disciplines, and allows identification through space- and time-sharing of costly facilities. Co-localization of basic and clinical research in one dedicated building allows synergistic interactions between the two, with the ultimate goal of developing and testing research-based diagnostic and treatment paradigms for the elderly.

Major achievements: Approx 100 publications with Impact Factor ≥ 10; 8 Patents; 10 International Projects:

- FFS-EUCIP (European Cancer Immunome Database) 2000-2003
- FFS-FIHBIO (Functional Imaging of the Human Body) 2003-2005
- FBF-IBSEN (Investigation in Brain Sciences and Educational Network) 2005-2007
- NIH (Oxidative Damage, Platelet Activation, and Inflammation to Predict Morbidity Disability and Mortality) 2005-2008
- FEF-ECOSANOX (Eicosanoids and Nitric Oxide: Mediators of Cardiovascular, Cerebral & Neoplastic Diseases) 2005-2009
- FBP-BRAINSYNCH (Large Scale Interactions in Brain Network and their Breakdown in Brain Disease) 2008-2011
- FFP-EUGAAD (European Consortium for Anticancer Antibody Development) 2008-2012
- FFP-MEGMR1 (Hybrid MEG-MRI Imaging System) 2008-2012
- NIH (Human Connectome Project) 2010-2015