

## Session 2

# Jefferson in Europe

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<http://www.jefferson.edu/>  
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Private US **university** born out of the merger of Philadelphia University and Thomas Jefferson University. Ranked 5th most innovative university and among the best in value by *U.S. News & World Report*.

We have 10 colleges and 3 schools including **health, science and social sciences, architecture, business, design, engineering, fashion and textiles**, 160 undergraduate/graduate programs, 7,800 students, 1,070 medical student rotations, 1,300 residents and fellows, strong faculty expertise in population health, health data acquisition, urban planning, high performing buildings, design and ecology.

Fashion programs ranked 7th in the world and 3rd in the U.S. by *Fashionista*, and among the world's best by *CEOWORLD Magazine* and *Business of Fashion*.

In **Health**, we are nationally ranked by *U.S. News & World Report* in 10 specialties, including #2 in ophthalmology and #4 in orthopedics; #13 in rehabilitation medicine.

We count 14 hospitals, 2,867 licensed beds, 6,100 physicians and practitioners, 7,400 nurses, 40+ outpatient and urgent care locations and more than 3.8 million outpatient visits. We are home of the NCI-designated Sidney Kimmel Cancer Center and the Sidney Kimmel Medical College.

We have active **international collaborations** with Italian institutions as well as with entities in India, Israel, Japan.

In 2018 we received **EU funding** under Erasmus+ KA203 for a project on "Health Research-Based Innovative Open Educational Resources & Tools for Lighting Design Students & Professionals".

# Jefferson is looking for partners for **SC1-BHC-29-2020**



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Proposed study: **Interrelationship of Urbanization, Transportation, and Energy on Population Health in Pilot Cities**

We will work across 7 critical domains: Population Health, Data Acquisition and Processing, Architecture and the Build Environment, Transportation, Energy, Smart Systems and Devices, and Ecology. We will provide project-driven analytics on the impact of new technologies, urban planning, health indicators, demographic and socioeconomic aspects to develop new planning tools to optimize sustainability in terms of health, energy and transportation. We will develop new parametric tools to be tested in the pilot cities Braunschweig, Philadelphia, Milan and Jerusalem.

We will: analyze human behavior changes and the drivers for change through data-driven analysis, modeling and simulation, and visualization; evaluate the research outcome in new parametric models to plan and predict future changes in the domains health, energy and transportation on an urban scale; develop planning tools, policies and guidelines for smarter and healthier cities.

The aim is the creation of an extensible research framework to transform existing cities into more sustainable, healthy, and connected communities through a data-driven understanding of complex urban systems, health data, transportation systems and energy, directed by the attention of behavioral sciences, urban planning and ecology. We will create complex models that consider the macro- and micro- contextual relationships between factors that have not been considered with previous research methods and study designs.

Major benefits: Development of evidence-based effective policies and testing of new initiatives to improve urban health and environment in cities in Europe, USA and Middle East.

## International Consortium

- IGS Institute for Building Services and Energy Design, TU Braunschweig, GERMANY (**PROJECT COORDINATOR**)
- Institute for Smart & Healthy Cities, Jefferson, Philadelphia, PA, USA
- Politecnico di Milano, Department of Architecture and Urban Studies, Milan, ITALY
- Shenkar College of Engineering, Design and Art, Tel-Aviv, ISRAEL
- Sheba Medical Center, Tel-Aviv, ISRAEL
- Bezalel Academy of Art and Design, Jerusalem, ISRAEL
- City of Philadelphia, Philadelphia, PA, USA
- Oak Ridge National Laboratory, Urban Dynamics Institute, TN, USA

Lead Jefferson's investigator: Edgar STACH [Edgar.Stach@jefferson.edu](mailto:Edgar.Stach@jefferson.edu)

**SC1-BHC-29-2020: Innovative actions for improving urban health and wellbeing - addressing environment, climate and socioeconomic factors**

# Jefferson is looking for partners for **DT-TDS-05-2020**



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Proposed study: **Development of Artificial Intelligence Systems for detection and scoring of pathological fractures due to metastases of common malignancies**

Our computer-aided diagnosis system employs deep learning techniques originating from the field of artificial intelligence (AI) such that an automated detection, characterization and localization of the vertebral involvement caused by metastases will be provided based on regular CT or MRI-scan images and the severity of involvement will be determined according to the AOSpine SINS scoring system.

The detection and scoring according to the SINS system can be faster and more reliable; oncologists and radiologists who are not familiar with pathology of the complex spinal column will be able to provide adequate care. Delay in treatment of these lesions can be prevented.

Major benefits: Accurate and reproducible detection and scoring of the vertebral involvement will enable adequate and timely patient care and prevention of neurologic deficits. It would make possible to build multicenter databases using a common algorithm to develop optimal strategies for treatment and improvement of the quality of life of this growing group of cancer patients.

#### International Consortium

- Dept of Biomedical Engineering & Physics, Amsterdam University Medical Center, NETHERLANDS (*PROJECT COORDINATOR*)
- Dept of Orthopedics, University Medical Center Utrecht, NETHERLANDS
- AOSpine Knowledge Forums Trauma and Tumors, AO Foundation, Davos, SWITZERLAND
- Rothman Institute at Jefferson, Philadelphia, PA, USA <https://www.rothmaninstitute.com/>

Lead Jefferson's investigator: Alex VACCARO [alex.vaccaro@rothmanortho.com](mailto:alex.vaccaro@rothmanortho.com)

**DT-TDS-05-2020 AI for Health Imaging**

# Jefferson is looking for partners/coordinator for SC1-DTH-13-

## 2020



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## Proposed study: **Implementing Decision Support and Navigation to Enhance Colorectal Cancer Screening in Health Systems and Populations**

We propose to enhance health system efforts to increase colorectal and lung cancer screening rates and reduce disparities by implementing an innovative decision support and navigation intervention (DSNI), a people-centered, scalable evidence-based strategy that uses a novel software application (Decision Counseling Program©) to guide individuals through decision making about screening and follow-up diagnostic evaluation. Health systems can use the DSNI to deliver mail, telephone, and digital communication contacts to:

- 1) Educate vulnerable populations about screening and diagnostic evaluation procedures
- 2) Help population members clarify personal preferences related to screening and diagnostic evaluation
- 3) Navigate population members through performance of screening and, when indicated, completion of diagnostic evaluation

Major benefits: Implementation of the DSNI can be tailored for use in different health systems to increase cancer screening and diagnostic follow-up rates among persons in diverse populations. Initially, we will adapt the intervention for implementation in participating health systems and populations, and then provide centralized training in and support for DSNI delivery to health system carers involved in screening. DSNI contacts will be delivered to several thousands of persons eligible for colorectal and lung cancer screening. We will use project administrative data and medical records data to evaluate health system changes and to analyze intervention effects among persons who receive the DSNI versus those who receive usual care. We will disseminate findings across the health systems. Scaling and sustaining DSNI implementation will maximize health system capacity to detect early disease, reduce morbidity and mortality, and eliminate disparities.

International

Consortium

- Dept of Medical Oncology, Division of Population Science, Jefferson, Philadelphia, PA, USA

**SC1-DTH-13-2020 Implementation research for scaling up & transfer of innovative solutions involving digital tools for people-centered care**

Lead Jefferson's investigator: Ronald E. MYERS, PhD [Ronald.Myers@jefferson.edu](mailto:Ronald.Myers@jefferson.edu)

# Jefferson is looking for partners/coordinator for SC1-BHC-29-2020



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Proposed study: **Improving the Health in Cities by Design**

Jefferson Health Design Lab would like to enter a consortium partnering also with a global design firm to create a policy agenda that aims to improve urban health by design.

Using the principles of Health Design Thinking, we seek to design healthier cities through the following:

- 1) convene design workshops in with researchers, technologists, designers, policy makers and citizens in multiple cities throughout the EU;
- 2) translate insights from workshops into actionable policy recommendations that address the relationship between urban health and the built environment;
- 3) develop digital tools that help to enable cities to implement the co-designed policy recommendations.

Major benefits: We will produce evidence for successful policy making affecting population health in EU urban areas.

International Consortium

- JeffDesign Lab, Jefferson, Philadelphia, PA, USA <http://design-health.com/>

**SC1-BHC-29-2020: Innovative actions for improving urban health and wellbeing - addressing environment, climate and socioeconomic factors**

Lead Jefferson's investigator: Bon KU [Bon.Ku@jefferson.edu](mailto:Bon.Ku@jefferson.edu)

# Contact details



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