

UNIVERSITY OF APPLIED SCIENCES

# OP Innovation Center and Intensive Care Unit Research with companies

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HEALTH SCIENCES

NURSING SCIENCE

ENGINEERING



# Austria's first research operating room

The operating room and intensive care unit is at the heart of any hospital – and one of the most expensive functional units to establish and run. Intra-operative imaging, minimally invasive surgery, innovative clean room technology to reduce the risk of infection and increase energy efficiency, smart lighting, virtual communication, patient safety and effective teamwork are all key issues. What will a modern operating room need to do

in future? What equipment and workflows will it need to maximise economic efficiency? What can be improved in terms of planning? In this regard, the OP Innovation Center at FH Campus Wien is a unique centre of excellence. In conducting interdisciplinary research in a state-of-the-art operating room, it has the potential to establish Vienna as a leading location for innovative operations.



## ! Facts and Figures

- › Operating area 57 m<sup>2</sup>
- › All networks: AV, SV, ZSV
- › Medical gases: O<sub>2</sub>, N<sub>2</sub>O, CO<sub>2</sub>, DL, VAC, NGA
- › Radiation protection: 3 mm lead equivalent
- › Max. supply air 12,000 m<sup>3</sup>/h  
Max. ambient air 3,000 m<sup>3</sup>/h
- › Medical IT infrastructure

## Benefits for your company

- › First chance to practise medical engineering under full test conditions in a realistic operation environment before, during and after market entry
- › Testing new equipment and systems in a hospital IT environment
- › Hold training for customers and employees under real-world conditions
- › Benefit from university-level expertise in engineering, nursing and health sciences
- › Utilise platform for exchange with other building equipment and medical engineering companies



## Strong partnerships

At the OP Innovation Center, research is carried out by experts from Austria's largest university of applied sciences. They represent technical programs, and especially Clinical Engineering and nursing/health sciences courses such as healthcare and nursing and radiology technology. Leading building equipment and medical engineering companies are involved: the ventilation and filter specialist MANN+HUMMEL Vokes Air, the full supplier of operating room technology TRILUX

Medical and gsm – Gesellschaft für Sicherheit in der Medizintechnik GmbH, a planning business active in the DACH region. Ostbayerische Technische Hochschule Amberg-Weiden (OTH-AW) has contributed its extensive experience in operating a research operating room from the outset, while the Vienna Hospital Association (KAV) – the biggest healthcare supplier in central Europe – has also been involved from day one.



# Ideal networking

Since the research infrastructure of the operating room and attached intensive care unit are linked to existing ultrasound and radiological diagnostic facilities, it is possible to oversee clinical patient pathways from diagnostics and operation to intensive and post-operative care. Workflows can also be optimised. Up-to-the-minute research issues and corporate know-how, interdisci-

plinary university expertise and exchanges with teaching circles, direct practical feedback from the Vienna Hospital Association and peer reviews of scientific results and recommendations by the OTH-AW make the OP Innovation Center a thriving teaching and research institute open to further cooperation.

## ! Join Us

The OP Innovation Center is open to various forms of cooperation. If you are interested in a partnership or wish to use the operating room, please contact us.

- > **Scientific studies and research partnerships**
- > **Project partnerships with industry and universities**

- > **Corporate participation through sponsoring**
- > **Further education and training**
- > **Internships**

# Research activity

## Interdisciplinary

How do lighting, ventilation and electro-medical devices influence each other in the operational environment? Which can be utilised and which are permissible in terms of safety?

## Modularity

From technical, medical and economic viewpoints, what kind of modularity serves to ensure flexible and long-term operation?

## Simulations

How can models and simulations be devel-

oped to optimise workflows and incorporated into future planning?

## UI concepts

How can innovative UI concepts help to improve usability and hygiene while enhancing patient safety?

## Energy efficiency

What measures can be taken to improve energy efficiency in the operating room – one of the biggest energy consumers in a hospital – and its environment?



# Cooperation partners



## MANN+HUMMEL Vokes Air GmbH

As a specialist in TAV air-supply ceilings with unilateral air flow, MANN+HUMMEL Vokes Air has been active in reducing post-operative infections and air contamination in operating rooms for more than 40 years. Every day, its products enhance the safety of patients during difficult operations. Continual development of TAV ceilings, knowledge sharing with national and international standardisation bodies and more than 5,000 references world-wide ensure high product quality and reliability for our clients.



- a Mizuho Group Company -

## TRILUX Medical GmbH & Co. KG

TRILUX Medical, a Mizuho Group company, is a global provider for high-performance OR lights, flexible supply systems and digital OR integration systems. With triathlon@.The Specialty OR, the Mizuho Group is bundling its expertise and offering the world's first modular overall OR solution for new constructions and conversion projects in hospitals. The collaboration of medical technology professionals ensures steady development of efficient and reliable medical devices.



## gsm – Gesellschaft für Sicherheit in der Medizintechnik GmbH, accredited testing and inspection body

gsm is a co-initiator and consortium partner to the research project, providing planning assistance and advice on the challenges of construction and conversion projects in relation to operating rooms. With more than 25 years' experience in the health sector, its service portfolio spans medical engineering, technical planning, business organisation planning (including simulation), medical technology inspection and electrical systems.



## Ostbayerische Technische Hochschule Amberg-Weiden

OTH Amberg-Weiden is an innovative University of Applied Sciences. Its Institute of Medical Engineering (IfMZ) combines interdisciplinary research and education in the field of Medical Engineering and cooperates with regional, and international partners. The professors, scientists and engineers have comprehensive expertise in medicine, molecular biology, mechatronics and medical engineering. Research focuses on infection control, clean room technology, medical physics and imaging. A major research topic in the research and training Operating Theatre facility is the "Operating room of the future".

Funded by the city of Vienna through the Vienna Business Agency



Ein Fonds der Stadt Wien



# FH Campus Wien

## Multi-disciplinary, interdisciplinary

- › Austria's biggest university of applied sciences with more than 6,000 students on 60 programs and courses in the disciplines of Applied Life Sciences, Building and Design, Health Sciences, Nursing Science, Public Sector, Social and Engineering
- › Interdisciplinary programs and R&D projects
- › Future-oriented fields such as Ambient Assisted Living, Smart Technologies, Security and Safety and Sustainability

## Practical

- › Excellent infrastructure: superbly equipped function rooms and laboratories
- › Good links with science, business and industry as well as the social, health and public sectors

- › Campus network with employment/career/recruitment fairs and mentoring and funding programs

## Innovative

- › Teaching Support Center, Language Center and Center for Scientific Writing
- › Offers include joint degrees and 'Internationalisation at Home - I@H'
- › Advanced in the field of gender/diversity-relevant teaching for higher education

## Awards

- › Recognised certification and awards include 'Recognised for Excellence - 5 Star' (EFQM) and first prize in the non-profit category in the 2015 Staatspreis für Unternehmensqualität



## Contact

FH Campus Wien  
OP Innovation Center and Intensive Care Unit  
Favoritenstraße 226, 1100 Vienna  
**U1** Altes Landgut  
T: +43 1 606 68 77-2400  
opic@fh-campuswien.ac.at  
www.fh-campuswien.ac.at/opic



Directions  
Google Maps

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