

18th STAFF/MALT

September 14-17, 2022

Hotel SEN****
Malostranská 344, 251 66
Senohraby
Czech Republic



<http://staff-malt-meetings.net>



**FACULTY
OF BIOMEDICAL
ENGINEERING
CTU IN PRAGUE**



Welcome to STAFF/MALT 2022

Welcome to our 18th international invitational research symposium focusing on ischemia and imaging in relation to the electrocardiogram. This year we will have participants from 14 countries including 18 young investigators. By meeting in smaller boutique hotels, such as the Hotel Sen, and sharing meals and a social program, we aim to encourage mentoring and collaboration as we have done in the past. For accompanying persons this year, Ksenia Sedova's sister has kindly agreed to be a tour guide for all who would like to visit Prague, on Friday, September 16. We look forward to your participation in the program!

Staff Warren, MD, FACC

I am pleased to welcome you to the Czech Republic at the 18th STAFF/MALT symposium. Being a regular Symposium participant since 2016, I am privileged to be part of the organizing committee this year. The concept behind the STAFF/MALT meetings is to have robust scientific discussion in a relaxed, friendly, and collaborative international atmosphere among biomedical engineers, physicians, physiologists, and industry researchers. We will do our best to facilitate your enjoyment of this Symposium in the Czech Republic.

Ksenia Sedova, PhD

Assistant Professor

Department of Biomedical Technology

Faculty of Biomedical Engineering

Czech Technical University in Prague

Venue

The SATFF/MALT 2022 symposium will be held in the scenic Hotel Sen (<https://www.hotelsen.cz/en/>), located about 32 km from Prague in the beautiful village of Senohraby. The chateau hotel with lovely surrounding countryside has a small cozy garden where you can exchange ideas or just relax.

Social event

On Thursday afternoon September 15, there will be a sightseeing tour and dinner. The tour includes visiting the 13th century castle "Konopiste" with guided tour of the castle and surrounding beautiful garden. Dinner includes a visit to Velke Popovice Brewery which produces Kozel beer and there will be a Kozlovna party with a traditional Czech meal and beer.

Presentations

All presentations will be 15 min for presenting and 15 min for Q&A.

Travel instructions

Airport: there is an international airport Václav Havel Airport Prague, which connects Prague directly with more than 120 destinations around the world. Prague airport provides several options for transportation from Airport, including car rental, taxi, and public transport: <https://www.prg.aero/en/transport-airport>

By car: the distance from Prague airport to the Hotel Sen is 54 km, by car taking about 40 minutes.

By public transport (Bus & Train):

Bus: Prague Airport is directly connected to Prague Main Railway Station (Praha hlavní nádraží) by Airport Express bus (AE bus, Terminal 1, platform G). A Bus leaves every 30-40 minutes; travel time is about 40 minutes. Tickets can be bought from the driver including paying by credit card. Price is 100 CZK (4 Euros) (luggage is included to this price).

Train: From Prague Main Railway Station there is a direct train to Senohraby, where the Hotel San is located. The train is scheduled every 30 min approximately. The price is about 65 CZK (3 Euros). Online purchase of the train tickets: <https://www.cd.cz/en/default.htm>

From Senohraby train station to the Hotel Sen there is a walk distance about 1.3 km (uphill road).

By Taxi:

Airport Taxi Service provided by partner companies FIX TAXI and Taxi Praha. This taxi can be ordered directly in Arrival Hall or booked online: <https://www.prg.aero/en/taxi> and journey to Hotel Sen will cost approximately 2 200 CZK (90 Euros).

From the Airport it is also possible to order Uber or Bolt taxi (mobile application), the price is quite variable, and could be 1000 – 2000 CZK (40-90 Euros).

The price of Uber or Bolt taxi from Main Railway Station to Hotel Sen will be 500 - 1200 CZK (20-50 Euros).

Symposium Schedule

Wednesday, September 14, 2022

15:00 – 18:00	Arrival and check-in at the Hotel SEN
18:30	Welcome aperitif at the Hotel SEN
20:00	Dinner at the Hotel SEN

Thursday, September 15, 2022

7:30 – 8:15	Breakfast
8:30 – 8:45	Welcome: Staff Warren
8:45 – 10:45	Session 1: Ventricular tachyarrhythmia development
10:45 – 11:05	Coffee break
11:05 – 12:35	Session 2: ECG in structural heart disease
12:35 – 13:00	Lunch
13:00 – 22:00	Social event

Friday, September 16, 2022

7:30 – 8:15	Breakfast
8:30 – 10:00	Session 3: Ischemia detection
10:00 – 10:20	Coffee break
10:20 – 11:20	Session 4: Artificial intelligence
11:20 – 12:50	Session 5: Healed MI and heart failure
12:50 – 14:00	Lunch
14:00 – 15:30	Session 6: Conduction defects, cardiac pacing, and the ECG
15:30 – 15:50	Coffee break
15:50 - 17:20	Session 6 (Continuation)
17:20 – 18:00	Discussion and Future Directions
20:00	Gala dinner

Saturday, September 17, 2022

7:30 – 10:00	Breakfast
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Scientific Program

Thursday, September 15, 2022	
8:30 – 8:45	Welcome: Staff Warren
Session 1: Ventricular tachyarrhythmia development Chairperson: Marina Demidova	
8:45 – 9:15	ECG expression of ischemic and border zone changes related to phase 1A and phase 1B arrhythmias (in silico study) <i>Iliia Komarov (YI)</i> Tutor: Jan Azarov
9:15 – 9:45	Prolonged QT is associated with early ischemic VF and repolarization duration in the border zone <i>Olesya Bernikova (YI)</i> Tutor: Jan Azarov
9:45 – 10:15	Prognostic value of ventricular arrhythmias in STEMI (based on prespecified analysis of VALIDATE-SWEDEHEART trial) Marina Demidova
10:15 – 10:45	A prediction model for ventricular tachycardia events using 24 h ambulatory ECG <i>Johan Lundberg (YI)</i> Tutor: Linda Johnson
10:45 – 11:05	Coffee break
Session 2: ECG in structural heart diseases Chairperson: Ljuba Bacharova	
11:05 – 11:35	Transplant rejection prediction by VCG/ECG <i>Amr El-Bokl (YI)</i> Tutor: Pyotr Platonov
11:35 – 12:05	Predicting mortality/morbidity in Fontan patients by VCG <i>Ashley Wong (YI)</i> Tutor: Pyotr Platonov
12:05 – 12:35	ECG-LVH patterns in myocardial infarction Ljuba Bacharova
Friday, September 16, 2022	
Session 3: Ischemia detection Chairperson: Michael Ringborn	
8:30 – 9:00	High-accuracy detection of myocardial ischemia using high-frequency QRS intracardiac electrogram <i>Noam Omer (YI)</i> Tutor: Shimon Abboud
9:00 – 9:30	CineECG in ischemia detection and localization <i>Marjolein de Jongh (YI)</i> Tutors: Peter Van Dam, Ton Gorgels
9:30 - 10:00	Differentiating between etiologies presenting with ST-segment elevation using Advanced ECG <i>Amanda Hornell (YI)</i> Tutor: Maren Maanja
10:00 – 10:20	Coffee break
Session 4: Artificial intelligence Chairperson: Agnese Sbröllini	
10:20 – 10:50	Investigating the Long-Term Impact of COVID-19: Analysis of ECG Signals Using Neural Networks <i>Imke Bun (YI)</i> Tutor: Pyotr Platonov

10:50 – 11:20	Deep learning for ECG classification: the role of heart-disease clinical prevalence <i>Selene Tomassini (YI)</i> Tutor: Agnese Sbrollini
11:20 – 11:50	Diagnosis of emerging heart failure in healed-MI patients by means of artificial intelligence technique <i>Marjolein de Jongh (YI)</i> Tutor: Kees Swenne
Session 5: Healed MI and heart failure Chairperson: Josef Kautzner	
11:50 – 12:20	Bioartificial cardiac tissues for regenerative treatment of healed myocardial infarction <i>Maxi Rosales (YI)</i> Tutors: Pablo Laguna, Esther Pueyo
12:20 – 12:50	Role of SK channels in modulating ventricular repolarization in heart failure patients <i>Alba Pérez (YI)</i> Tutors: Pablo Laguna, Esther Pueyo
12:50 – 14:00	Lunch
Session 6: Conduction defects, cardiac pacing, and the ECG Chairperson: Peter Van Dam	
14:00 – 14:30	Simulation of structural conduction defects in the heart and their reflection on the 12-lead ECG <i>Machteld Boonstra (YI)</i> Tutor: Peter Van Dam
14:30 – 15:00	Reassessment of incomplete and complete blockade of the right heart bundle branch in the era of big data <i>Juliana Senftinger (YI)</i> Tutor: Peter Clemmensen
15:00 – 15:30	Comparison of vector ECG methods (transient-spatial isochrones and moving equivalent dipoles) using the same set of data on conduction abnormalities and ischemia Vito Starc & Peter van Dam
15:30 – 15:50	Coffee break
15:50 – 16:20	Assessment and optimization of conduction system pacing for anti-bradycardia pacemaker therapy <i>Clara Sales (YI)</i> Tutors: Pablo Laguna, Esther Pueyo
16:20 – 16:50	Advanced ECG heart age in atrial fibrillation <i>Israel Palencia (YI)</i> Tutor: Staff Warren
16:50 – 17:20	The equivalent dipole trajectories assessed from the 12-lead ECG and its clinical utilization <i>Tadej Žlahtič (YI)</i> Tutor: Vito Starc
17:20 – 18:00	Discussion and Future Directions Moderated by Staff Warren

Participants

Abächerli Roger, *Lucerne, Switzerland*
Abboud Shimon, *Tel Aviv, Israel*
Azarov Jan, *Syktyvkar, Russia*
Bacharova Ljuba, *Bratislava, Slovak Republic*
Bernikova Olesya (YI), *Syktyvkar, Russia*
Boonstra Machteld (YI), *Utrecht, the Netherlands*
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Clemmensen Peter, *Hamburg, Germany*
de Jongh Marjolein (YI), *Leiden, the Netherlands*
Demidova Marina, *Lund, Sweden*
El-Bokl Amr (YI), *Minneapolis, USA*
Gorgels Ton, *Maastricht, the Netherlands*
Goshka Sergej, *Kohtla-Jarve, Estonia*
Hampton Dave, *Maastricht, the Netherlands*
Hornell Amanda (YI), *Stockholm, Sweden*
Johnson Linda, *Lund, Sweden*
Kautzner Josef, *Prague, Czech Republic*
Komarov Ilia (YI), *Syktyvkar, Russia*
Laguna Pablo, *Zaragoza, Spain*
Lundeberg Johan (YI), *Lund, Sweden*
Maanja Maren, *Solna, Sweden*
Omer Noam (YI), *Tel Aviv, Israel*
Pahlm Olle, *Lund, Sweden*
Palencia Israel (YI), *Hialeah, USA*
Pérez Alba (YI), *Zaragoza, Spain*
Platonov Pyotr, *Lund, Sweden*
Ringborn Michael, *Karlskrona, Sweden*
Rosales Maxi (YI), *Zaragoza, Spain*
Sales Clara (YI), *Zaragoza, Spain*
Sbrollini Agnese, *Ancona, Italy*
Sedova Ksenia, *Prague, Czech Republic*
Senftinger Juliana (YI), *Hamburg, Germany*
Starc Vito, *Ljubljana, Slovenia*
Svenne Cees, *Leiden, the Netherlands*
Tomassini Selene (YI), *Ancona, Italy*
van Dam Peter, *Utrecht, the Netherlands*
Warren Staff, *Annapolis, USA*
Wong Ashley (YI), *Sacramento, USA*
Žlahtič Tadej (YI), *Ljubljana, Slovenia*

Accompanying persons

Carneskog Pahlm Elisabet
Gorgels Janneke
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Sedova Anastasia
Starc Gabrijela
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