

Global Change Research Institute, CAS
GOCF-GOLD and START, USA
NASA Goddard Space Flight Center
University of Maryland, Baltimore County
Charles University, Prague, Faculty of Science



SCERIN-10 Workshop on Earth System Observations and 10th Anniversary

26th - 29th June 2023, Brno, Czech Republic

“Recent terrestrial ecosystems LCLU changes and driving forces - challenges for remote sensing and sustainable management”



in coordination with Trans-Atlantic Training (TAT) 27 June – 1 July 2023

Czech sponsors of SCERIN-10

TRL Space Systems, s.r.o.



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Stratosyst, s.r.o.



SCERIN-10 Workshop on Earth System Observations and 10th Anniversary

26th - 29th June 2023, Brno, Czech Republic

The SCERIN-10 workshop will focus on the recent terrestrial ecosystem and LCLU changes in SCERIN, with the goal to identify their driving forces and consider our ability via remote sensing to monitor their dynamics and address the challenges.

The objectives of SCERIN-10 are: 1) to inform about ongoing major scientific efforts and projects with possible contribution and follow-up activities of the SCERIN participants; 2) facilitate progress of the ongoing activities of the SCERIN focus groups; 3) review and advance further the network goals, structure (FGs - **see proposed change below) and long-term plans; and 4) foster new ideas for joint activities (**New interactive maps and applications) and papers by participants.

The program at a glance is outlined in the table below. SCERIN-10 is being held in coordination with a Trans-Atlantic Training (TAT), which will be held in Prague and in Brno.

SCERIN-10 Workshop – “Agenda at a Glance”

Day	Sun	Mon	Tue	Wed	Thu	Fri	Sat
Date	25-June	26-June	27-June	28-June	29-June	30-June	1-July
SCERIN-10	<i>Arrival</i>	day 1	day 2	day 3*	day 4	<i>Departure</i>	
TAT			Prague	Prague	TAT trip	Brno	Brno

* field trip

SCERIN Focus Groups (FG):

- FG1: Forest monitoring - disturbances, health and biomass [Leads: M. Nita/ J. Albrechtová/P. Campbell]
- FG2: Land cover changes – agricultural abandonment, urban expansion Leads: G. Taff/L. Kupková and P. Stych/ L. Genc]
- FG3: Validation/verification network * [Leads: A. Halabuk/I. Manakos and L. Filchev/S. Lewinsky]*
- FG4: Water management and LC impacts (river watersheds, catchments, dams) [Leads: V. Starodubtsev/ I. Pilas / V. Lagutov]

* Proposed new “Urban” Focus Group to replace FG3: Validation/verification networks, which while important can be viewed as an inherent part of all FGs.

Instructions for oral presentations: Your oral presentation should be designed to use only 70% of your allocated time. 30% of your time should be left for discussion and questions. (i.e., if your presentation is scheduled to last 10 mins, plan for it to take 7 min to allow for 3 minutes of questions and discussion – THANKS!).

Instructions for SCERIN Country/Project Inventory Panel on Day 2 – please generate one slide listing relevant activities/projects for your institution and summarize by country (5 min/country summary) and e-mail it to Jana and Petya:

Project/Program Title	Sponsor	Duration (years)	Support (funding level)
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During the panel you will tell us the objectives, and how they relate to SCERIN.

Time	6/26/2023 Monday - Location: Academy of Sciences of the Czech Republic, Čechyňská 19 Str.	
	SCERIN-10 Day 1	Presenter's name
8:30	<i>Registration & Logistics (F. Zemek and P. Campbell)</i>	
Plenary Session (Session Chairs: František Zemek and Jana Albrechtová, Records: Petya Campbell)		
9:00	Welcome Address and Host Remarks - F. Zemek; Prof. M. V. Marek - CzechGlobe Director	
9:20	The NASA LCLUC Program in Support of GOF-C-GOLD Program: An Update	<i>Garik Gutman, NASA/HQ, US</i>
9:50	SCERIN Status, SCERIN-10 Goals and Agenda	<i>SCERIN coordinators Petya Campbell, Jana Albrechtová and Lucie Kupková</i>
10:10	Remote sensing activities at CzechGlobe	<i>Lucie Homolová, CG</i>
10:30	<i>Coffee Break (15 min)</i>	
Plenary Session – continuing (Session Chair: F. Zemek and J. Albrechtová, Records: Petya Campbell)		
10:45	Small satellite – sea water monitoring	<i>Petr Boháček, TRL, CZ</i>
11:00	Calibration and validation of hyperspectral imagery using a field phenotyping measurements	<i>Martin Trtílek, PSI, CZ</i>
11:15	Earth Observation from Stratosphere	<i>Otakar Kuchař, Stratosyst, CZ</i>
11:30	WQeMS: A Copernicus assisted water quality monitoring service in support of the water utilities for drinking water production	<i>Ioannis Manakos, CERTH, GR</i>
11:45	Effects of wildland fire on drinking water quality	<i>John Iames, EPA, USA</i>
12:00	In season crop type mapping in the SCERIN region	<i>Mutlu Ozdogan, UWisc.</i>
12:15	<i>Questions and Discussion</i>	
12:30	<i>SCERIN-10 Picture (10 min)</i>	
12:40	<i>Working Lunch (1hr, conference location, sponsor START)</i>	
Research Highlights Czech Republic (Session Chair: F. Zemek, O. Brovkina, Records: P. Campbell)		
13:30	Disentangling the runoff decline in the Thaya River basin using in situ and Earth observations	<i>Milan Fischer, CG</i>
13:45	Monitoring and predicting wildfires in Czechia	<i>Markéta Poděbradská, CG</i>
14:00	Agricultural monitoring	<i>Petr Lukeš, CG</i>
14:15	DendroNetwork – Real-time Biomonitoring of Forest Ecosystems	<i>Jan Krejza, CG</i>
14:30	Working with Social Sciences in Land Use Change – the case of the PLUS Change project.	<i>Julia Leventon, CG</i>
14:45	Dense time series of UAV multispectral and hyperspectral data for forest health and land cover change evaluation: case study Rašelinový potok Krkonoše Mts.	<i>Lucie Kupkova, CUNI</i>
14:55	Laboratory spectroscopy contributing to monitoring of tree physiological status in Czechia	<i>Zuzana Lhotakova, CUNI</i>
15:05	<i>Questions and Discussion</i>	
15:30	<i>Coffee Break (20 min)</i>	
15:50	SCERIN Research highlights - POSTERS 'flash talks'	3 min/each – table on next page
16:30	<i>Questions and Discussion</i>	
16:45	<i>Workshop icebreaker</i>	
17:30	<i>Adjourn</i>	

SCERIN Research Highlights - POSTERS ‘flash talks’ (3 min = 2 slides)

Flash-talks leads: FG1 Albrechtová/Campbell, FG2 Kupková, FG3 Filchev, FG4 I. Pilas

Please e-mail your flash talk (2 slides) petya@umbc.edu, and print and bring your posters

Research Topic / Title	Presenter(s)	
Evaluation of canopy function by combining field and space borne reflectance time series for a deciduous hardwood forest at SERC, MD, USA	<i>Petya</i>	<i>Campbell</i>
Forest inventory based on mobile laser scanning data – an initial case study from Slovakia	<i>Ivan</i>	<i>Sačkov</i>
Monitoring of municipal solid waste landfills using RS methods	<i>Olga</i>	<i>Brovkina</i>
Exploring Ecosystem Dynamics using SIF and Eddy Covariance: Pilot Data from Maize Field	<i>Peter</i>	<i>Fleischer</i>
Floodplain forests mapping using earth observations and artificial intelligence	<i>Ivan</i>	<i>Pilas</i>
Identification of green roofs from airborne RS data	<i>Miroslav</i>	<i>Pikl</i>
Water Reservoirs and the War in Ukraine: Environmental Consequences	<i>Volodymyr Starodubtsev</i>	<i>Maryna Ladyka</i>
Meet STELLA – an Instrument for S cience and T echnology E ducation for L and / L ife A ssessment https://landsat.gsfc.nasa.gov/stella/	<i>Petya</i>	<i>Campbell</i>

Time	6/27/2023 Tuesday – Location: Academy of Sciences of the Czech Republic, Čechyňská 19 Str.	
	SCERIN-10 Day 2	Presenter's name
Potential for a new SCERIN FG?		
9:00	Introducing a New Urban SCERIN focus group (TBD ? FG. 3)	F. Zemek, O. Brovkina
9:15	Challenges and Opportunities for Sustainable Urban Ecosystems: A Focus on Architecture and Urban Planning in the Face of Climate Change	Milica Vujovic
9:30	Urban greenery – an important component of citizens well-being	F. Zemek
9:45	Urban land cover mapping in coastal zone of Kaniv Reservoir	O. Brovkina
10:00	<i>Questions & Discussion</i>	
10:10	<i>Coffee Break and Posters (20 min)</i>	
10:30	The impact of war in Ukraine on LCLUC	Sergii Skakun
10:50	Water Reservoirs and the War in Ukraine: Environmental Consequences	V. Starodubtsev, M. Ladyka
11:10	Mapping Artillery and Rocket Craters with VHR satellite Imagery	Erik Duncan
11:30	Water emergent and floating aquatic vegetation mapping using Earth Observation data: An example at the Dniester Delta in Ukraine	Eleftherios Katsikis
11:50	<i>Questions & Discussion, Consider a statement of support for Ukraine*</i>	
12:00	<i>Lunch (1hr, conference location, sponsor START)</i>	
SCERIN Joint Activities – current SCERIN collaborations and future/proposed activities		
13:00	Water Scarcity in the Serbian Danube: Agricultural land use change and irrigation	Sean Woznicki
13:15	Floodplain forests mapping using earth observations and artificial intelligence	Ivan Pilas
13:30	From land to water: the role of renewable energies in the Black Sea region for a climate-neutral Europe	Rumiana Vatseva
13:45	Canopy height estimation from Sentinel-2 time series images using machine learning	Leonidas Alagialoglou / virtual
14:00	National forest disturbance type and severity monitoring in Bulgaria	Lachezar Filchev
14:15	Cloud-gap-filled global maps of essential biophysical variables processed from the TOA Sentinel-3 catalogue in Google Earth Engine	David Kovacs
14:30	Hubs of Excellence	Ioannis Manakos
14:40	<i>Discussion</i>	
15:00	<i>Coffee Break and Posters (20 min)</i>	
15:20	Countries and Programs Priorities (10 countries, 5 min./ country summary, Chair: Jana/Petya - please supply 1-2 slides)	
16:10	<i>Questions & Discussion</i>	
16:30	<i>Adjourn</i>	
19:00	SCERIN-10 Networking Dinner (Location: Mendlovo náměstí 1a, sponsors: TRL, CAS, PSI)	

6/28/2023 Wednesday

SCERIN-10 Day 3

Regional LCLUC - Field Trip (*Sponsored by CzechGlobe, PSI, Stratosyst, START*)

Scientific Field Trip: “Different solutions to water and landscape management”

Goals: learn about the typical regional drivers/examples of Land Cover Change and dynamics, and provide time for informal discussions, and foster further the SCERIN network collaborations.

8:30 First stop - gathering in front of hotel Amphone

8:50 Second stop - pick up at bus station opposite side of hotel Grand (see map below)

How to dress: sport gear, walking shoes, hats, sunscreen

9:00	<i>Departure from Brno</i>
10:00	Lanžhot – Floodplain Forest and nature reserve, Eddy covariance site
12:00	Departure from Lanžhot to Valtice
12:30	<i>Lunch [Restaurant Valtická Rychta]</i>
13:45	Departure from Valtice to Lednice
14:00	Visit of the Lednice–Valtice Cultural Landscape (World Cultural and Natural Heritage Site)
16:30	<i>Departure to Brno</i>
17:30	<i>Return to Brno</i>



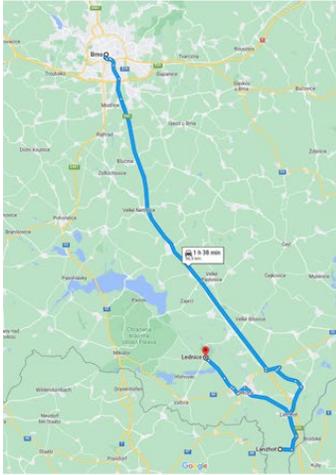
● Departure place – bus station hotel Grand

● SCERIN venue



SCERIN-10 Field Trip

Wednesday June 28th
 Departure 9:00
 Return 17:00



Morning program	Afternoon program
CzechGlobe ecosystem station Lanžhot & Natural reserve Ranšpurk - natural landscape	Lednice-Valtice Cultural Landscape – World Heritage site
 	 

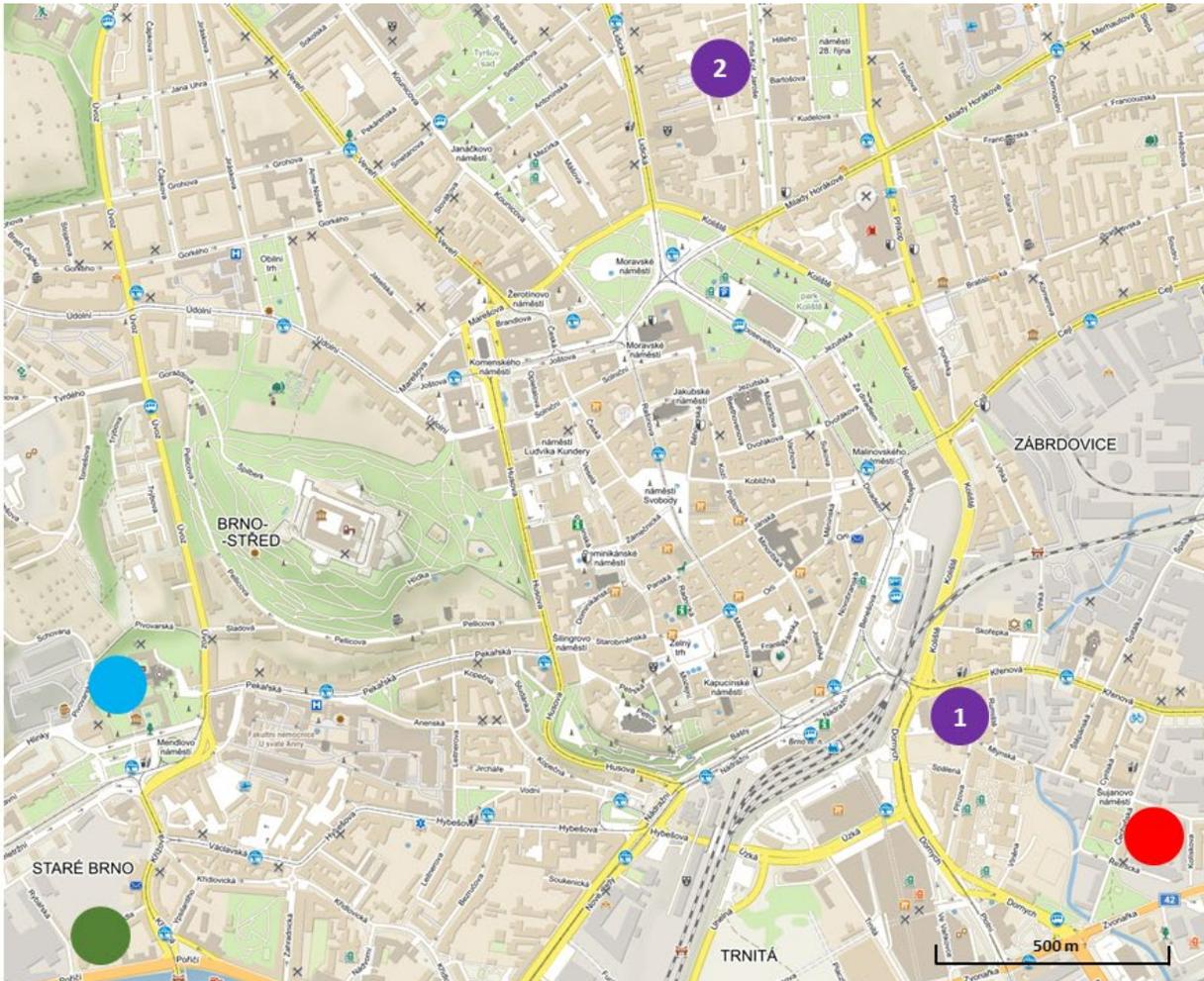
Locations to be visited during the LCLUC field trip.

Time	6/29/2023 Thursday	
	SCERIN-10 Day 4	
9:00	On-going and Future Collaborative Activities	
9:00	Revisiting the structure of SCERIN – New URBAN focus group	<i>O. Brovkina, M. Píkl, F. Zemek</i>
9:10	Czech – Slovenian research cooperation	<i>Olga Brovkina</i>
9:20	New/proposed INTERACTION project (Jana, Lucie, Petr)	<i>Jana Albrechtová</i>
9:30	Commercial Satellite Data (CSD) Analysis for Characterizing Canopy Chlorophyll and Photosynthetic Productivity for Agricultural and Forest Monitoring	<i>Petya Campbell</i>
9:40	Summaries of proposed collaborative activities (by FG) SCERIN - next steps for going forward	<i>Summary day 2 – Petya Campbell</i>
<i>10:00</i>	<i>Questions & Discussion</i>	
<i>10:30</i>	<i>Coffee Break and Posters (30 min)</i>	
11:00	LCLUC and GOF-C-GOLD programmatic feedback (<i>G. Gutman</i>)	
<i>11:20</i>	<i>Questions & Discussion</i>	
11:30	SCERIN Future Venue(s) proposal (s) for SCERIN activities and joint venues with other networks, for 2024 and 2025 and beyond. Invitations by: Bulgaria (<i>R. Vatsava and L. Filchev</i>), Poland (<i>B. Zagajewski/virtual</i>), Turkey (<i>V. Starodubtsev</i>) and/or virtual	
<i>12:00</i>	<i>Questions & Discussion</i>	
<i>12:15</i>	<i>Working Lunch</i>	
13:15	SCERIN-10 Workshop outcomes, actions and deadlines, summary, and conclusions	
14:30	Meeting Closing, Host Concluding Remarks (<i>Coordinators: TBD, Hosts: TBD</i>)	
<i>15:00</i>	<i>SCERIN-10 Adjourn</i>	

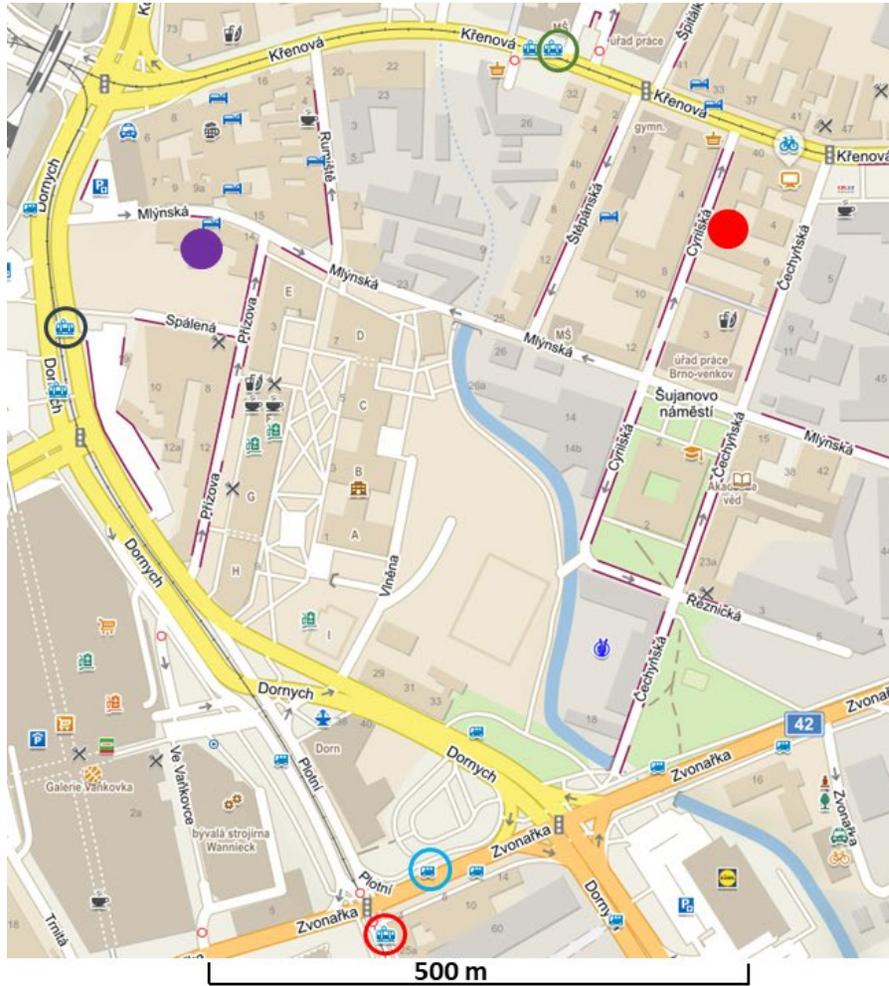
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FACULTY OF SCIENCE
Charles University



-  SCERIN venue
-  1 VV Hotel Brno
-  2 Hotel Amphone
-  CzechGlobe CAS
-  SCERIN Dinner (Mendel greenhouse)



● SCERIN venue, Čechyňská 19

● VV Hotel Brno, Mlýnská 8a



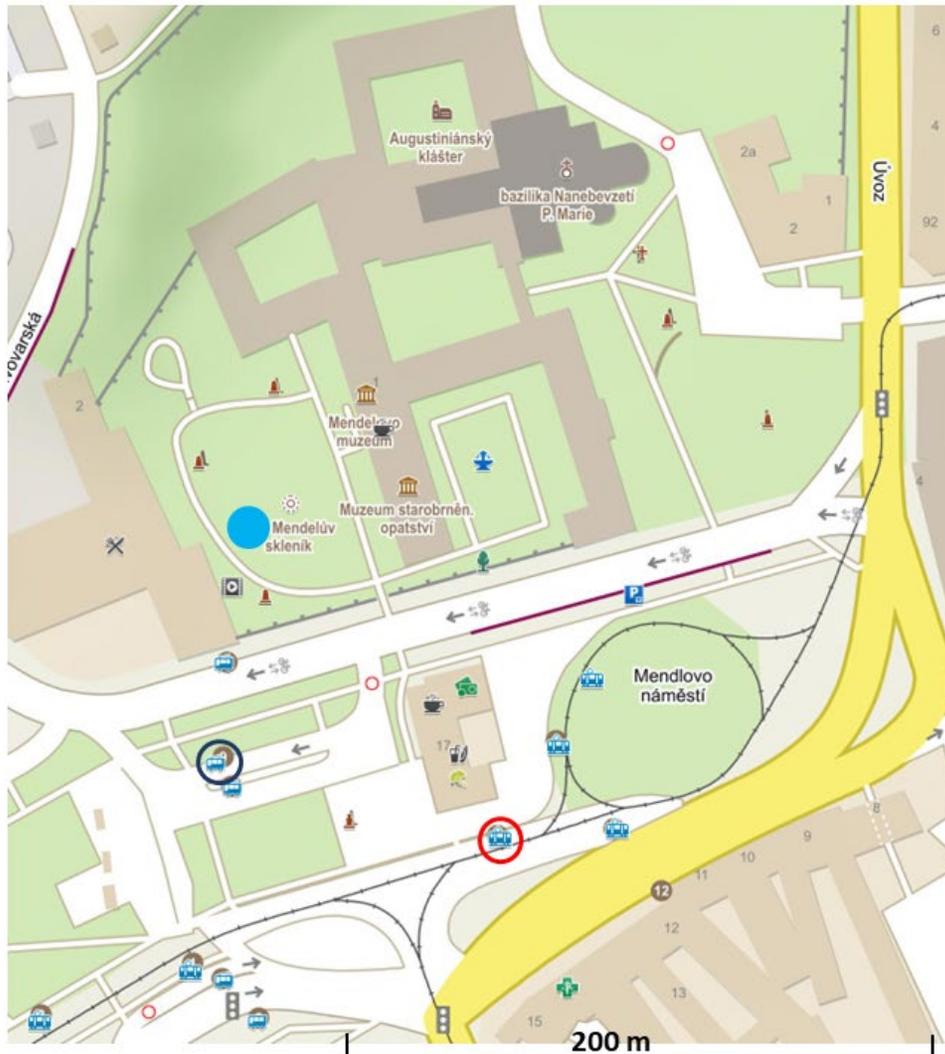
- Tram stop "Autobusové nádraží"
Tram 12
- Tram stop "Masná"
Tram 8, 9, 10
- Tram stop "Úzká"
Tram 12
- Bus stop "Autobusové nádraží"
Bus 84



Hotel Amphone, třída Kpt. Jaroše 29



- Tram stop "Moravské náměstí"
Tram 3, 5, 9
- Tram stop "Moravské náměstí"
Tram 1, 2, 6
- Tram stop "Česká"
Tram 12



● SCERIN Dinner, Mendel greenhouse

○ Tram stop "Mendlovo náměstí"
Tram 2, 5, 6

○ Bus stop "Mendlovo náměstí"
Bus 84

SCERIN-10 ORGANIZERS AND SCIENTIFIC COMMITTEE

Scientific and Organization Committee

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SCERIN-10 Sponsors:

➤ Czech Host Partners

- Global Change Research Institute, Czech Academy of Sciences
- Charles University
- TRL Space Systems, s.r.o.
- PSI – Photon System Instruments, s.r.o.
- Stratosyst, s.r.o.

➤ International Sponsors

- GOF-C-GOLD Program, FAO
- LCLUC Program, NASA
- START Organization

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