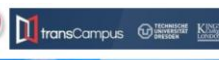


**1st Summer School
of the European Society
for Microcirculation (ESM)
and the European Vascular
Biology Organization (EVBO)**



Welcome

1st Summer School of the European Society for Microcirculation (ESM) and the European Vascular Biology Organization (EVBO) from July 1-5, 2018 in Dresden, Germany

Dear colleagues,

It is a great pleasure to invite you to the 1st Summer School of the European Society for Microcirculation (ESM) and the European Vascular Biology Organization (EVBO) from July 1-5, 2018 in Dresden, Germany!

Microcirculation and vascular biology play a central role in cardiovascular development, function and diseases. The ESM and the EVBO want to support young investigators by establishing a Joint Summer School in the years between the Joint European Congresses. The 1st Summer School was announced at the Joint Meeting of the ESM and the EVBO in Geneva and will take place in Dresden, Germany. The programme will be supported by the ESM, the EVBO and the TransCampus of TU Dresden and King's College London. The programme of the Summer School will include method courses, renowned experts in the field as invited speakers and poster presentations by young investigators selected from the submitted abstracts.

We want to attract mainly early researchers (PhD and MD students in the first three years of their research) plus a few more experienced researchers whose PhD was obtained within the last 2 years. Students from around Europe who are interested to participate can send us an abstract summarizing their project via e-mail to: Henning.Morawietz@tu-dresden.de (deadline: April 15, 2018). The 30 participants will be selected by peer-review.

In addition, the city of art, culture, and science Dresden offers a variety of cultural highlights like the Church of Our Lady (Frauenkirche), Royal Palace, Zwinger, Semper Opera House, Albertinum, Elbe castles, or the 'Blue Wonder' bridge. We plan an attractive social programme including a Get-together, an evening at the City Beach and an excursion to the national park Saxon Switzerland.

We will be very pleased to welcome you in Dresden in July 2018!

Best regards,

Henning Morawietz
TU Dresden

Richard Siow
King's College London

General Information

Event

1st Summer School
of the European Society for Microcirculation (ESM)
and the European Vascular Biology Organization (EVBO)

Venue

Medical-Theoretical Center - MTZ
Medical Faculty Carl Gustav Carus
TU Dresden
Building 91
Fiedlerstr. 42
01307 Dresden, Germany



Diagnostic-Internal-Neurological Center - DINZ

Medical Faculty Carl Gustav Carus
TU Dresden
Building 27
Fetscherstr. 74
01307 Dresden, Germany



Date

1–5 July, 2018

Organisers

European Society for Microcirculation
(ESM)
<http://www.esmicrocirculation.eu/>

European Vascular Biology Organization (EVBO)
<https://evbo.org/>

EUROPEAN SOCIETY FOR MICROCIRCULATION
Integrating
Vascular Biology & Medicine



EVBO
EUROPEAN
VASCULAR BIOLOGY
ORGANISATION



Conference Chairs

Henning Morawietz
TU Dresden
Chairman Strategy Committee
European Society for Microcirculation
Member European Vascular Biology Organization
Medical Faculty Carl Gustav Carus
Division of Vascular Endothelium and
Microcirculation

Richard Siow
King's College London
Chairman Strategy Committee
European Society for Microcirculation
Member European Vascular Biology Organization
Vice-Dean (International)
Faculty of Life Sciences & Medicine
King's College London

<p>Fetscherstr. 74 01307 Dresden, Germany https://www.uniklinikum-dresden.de/medmiz</p>	<p>150 Stamford Street London SE1 9NH, UK https://kclpure.kcl.ac.uk/portal/richard.siow.html</p>
<p>Programme Committee Georg Breier (Dresden) Jaap van Buul (Amsterdam) Triantafyllos Chavakis (Dresden) Andreas Deussen (Dresden) Jozef Dulak (Kraków) Ali El-Armouche (Dresden) Lorenz Hofbauer (Dresden) Henning Morawietz (Dresden) Giovanni Mann (London) Thomas Noll (Dresden) Jeremy Pearson (London) Richard Siow (London)</p>	
<p>Abstract topics Aging Angiogenesis Apoptosis Arteriovenous differentiation Atherosclerosis Cell/vessel interaction Endothelial cell biology Epigenetics in vascular cells Hemodynamic forces Hemostasis and thrombosis Hypoxia-oxygen sensing Inflammation Ischemia/reperfusion Leukocyte biology Lymphatics</p>	<p>Microcirculation NO/ADMA Oxidative stress and redox signaling Oxygen transport to tissue Perivascular adipose tissue Platelets Progenitor cells Renal vasculature Stem cells in microcirculation Vascular biology Vascular calcification Vascular permeability Vascular remodeling Vascular regeneration Vascular smooth muscle cells Vascular tone</p>
<p>Conference organisation and abstract information Prof. Dr. Henning Morawietz TU Dresden, Medical Faculty Carl Gustav Carus Division of Vascular Endothelium and Microcirculation Fetscherstr. 74 01307 Dresden, Germany Phone: +49 (0) 351 458 66 25 Fax: +49 (0) 351 458 63 54 Henning.Morawietz@tu-dresden.de https://www.uniklinikum-dresden.de/medmiz</p> <p>Sponsorship Information Susann Reichel TU Dresden, Medical Faculty Carl Gustav Carus Referat Drittmittelmanagement Fetscherstraße 74 01307 Dresden, Germany Phone: +49 (0)351 458 50 44 Fax: +49 (0)351 458 57 06 Susann.Reichel@uniklinikum-dresden.de www.tu-dresden.de/med</p>	

1st ESM/EVBO Summer School, July 1-5, 2018, Dresden, Germany

Scientific programme:

	Sunday, July 1, 2018	Monday, July 2, 2018	Tuesday, July 3, 2018	Wednesday, July 4, 2018	Thursday, July 5, 2018
09:00		Reinier A. Boon	Katrin Schröder	Fiona Wilkinson	Henning Morawietz
09:30		Methods courses	Methods courses	Boy Houben	Ulrich Pohl
10:00		A) Application of shear stress to endothelial cells	A) Application of shear stress to endothelial cells	Henner Hanson	Coffee break
10:30		B) Vascular function ex vivo	B) Vascular function ex vivo	Methods courses	Tomasz Guzik
11:00		C) Vascular function in vivo	C) Vascular function in vivo	A) Application of shear stress to endothelial cells	Jeremy Pearson
11:30				B) Vascular function ex vivo	Closing remarks: Henning Morawietz, Richard Siow
12:00				C) Vascular function in vivo	
12:30		Lunch	Lunch		
13:00		Excursion to MPI-CBG	Excursion to CRTD	Lunch	
13:30					
14:00		Angela Shore	Graeme M. Birdsey	Excursion to Saxon	
14:30		Jaap van Buul	Józef Dulak	Switzerland	
15:00		Triantafyllos Chavakis	Ferdinand le Noble		
15:30		Coffee break	Coffee break		
16:00		Markus Sperandio	Esther Lutgens		
16:30		Richard Siow	Marta Cześnikiewicz-Guzik		
17:00	Registration	Poster session 1	Poster session 2		
17:30					
18:00	Welcome address and organizational remarks: Gerhard Rödel, Henning Morawietz, Richard Siow				
18:30	Charalambos Antoniades				
19:00	Get-together	Social activity (City beach)	Individual social activity		

Invited speakers

Charalambos Antoniades (Oxford)	Boy Houben (Maastricht)
Graeme M. Birdsey (London)	Esther Lutgens (Amsterdam)
Reinier A. Boon (Frankfurt/Amsterdam)	Ferdinand le Noble (Karlsruhe)
Jaap van Buul (Amsterdam)	Jeremy Pearson (London)
Triantafyllos Chavakis (Dresden)	Ulrich Pohl (Munich)
Marta Cześnikiewicz-Guzik (Glasgow/Kraków)	Katrin Schröder (Frankfurt)
Józef Dulak (Kraków)	Angela Shore (Exeter)
Tomasz Guzik (Glasgow/Kraków)	Markus Sperandio (Munich)
Henner Hanssen (Basel)	Fiona Wilkinson (Manchester)

Scientific programme

1st ESM/EVBO Summer School, July 1-5, 2018, Dresden, Germany

Proposed Schedule:

Sunday (July 1)

- 18:00 Welcome address and organizational remarks: Gerhard Rödel (Dresden), Henning Morawietz (Dresden), Richard Siow (London)
- 18:30 Charalambos Antoniades (Oxford): Crosstalk between adipose tissue and the cardiovascular system
- 19:00 Get-together

Monday (July 2)

- Introductory lecture to topic of methods seminar A
- 9:00 Reinier A. Boon (Frankfurt/Amsterdam): Regulation of lncRNAs and epigenetics in response to flow
- 9:30-12:30 Methods seminar A, B, C (10 students per group)
 - A) Application of shear stress to endothelial cells (ibidi)
 - B) Vascular function ex vivo: Mulvany myograph (DMT)
 - C) Vascular function in vivo: Retinal vessel analysis (Imedos)
- 12:30-14:00 Lunch, Excursion to Max Planck Institute of Molecular Cell Biology and Genetics
- Oral presentations
- 14:00 Angela Shore (Exeter): Impact of cardiovascular risk factors on microvascular function
- 14:30 Jaap van Buul (Amsterdam): Leukocyte - Endothelium interactions: A local affair
- 15:00 Triantafyllos Chavakis (Dresden): Del-1 and endothelial-leukocyte interaction
- 15:30-16:00 Coffee break

16:00-16:30 Markus Sperandio (Munich): Blood cell development during mouse fetal ontogeny in vivo
16:30-17:00 Richard Siow (London): Regulation of microRNAs by flow
17:00-18:00 Posters of PhD students Part 1 + Meet the experts
Social activity (City Beach)

Tuesday (July 3)

Introductory lecture to topic of methods seminar B
9:00 Katrin Schröder (Frankfurt): NADPH oxidases and vascular function
9:30-12:30 Methods seminar A, B, C (10 students per group)
A) Application of shear stress to endothelial cells (ibidi)
B) Vascular function ex vivo: Mulvany myograph (DMT)
C) Vascular function in vivo: Retinal vessel analysis (Imedos)
12:30-14:00 Lunch, Excursion to Center of Regenerative Therapies Dresden
14:00-15:30, coffee break, 16:00-17:00, Oral presentations:
14:00 Graeme M. Birdsey (London): Control of endothelial homeostasis
14:30 Józef Dulak (Kraków): Cardiovascular functions of heme oxygenase-1: more than cytoprotection
15:00 Ferdinand le Noble (Karlsruhe): Vascular development and differentiation
15:30-16:00 Coffee break
16:00 Esther Lutgens (Amsterdam/Munich): Atherosclerosis, lipids and immune cells
16:30 Marta Cześnikiewicz-Guzik (Glasgow/Kraków): Models of systemic inflammation in vascular biology
17:00-18:00 Posters of PhD students Part 2 + Meet the experts
Individual social activity

Wednesday (July 4)

Introductory lectures to topic of methods seminar C
9:00 Fiona Wilkinson (Manchester): Endothelial microparticles: Pathogenic or passive players in endothelial dysfunction?
9:30 Boy Houben (Maastricht): Microvascular function in (pre)diabetic patients - The Maastricht study
10:00 Henner Hanssen (Basel): Retinal vessel analysis: Biomarker of cardiovascular risk
10:30-13:30 Methods seminar A, B, C (10 students per group)
A) Application of shear stress to endothelial cells (ibidi)
B) Vascular function ex vivo: Mulvany myograph (DMT)
C) Vascular function in vivo: Retinal vessel analysis (Imedos)
13:30-14:00 Lunch
Social activity (Saxon Switzerland)

Thursday (July 5)

9:00 Henning Morawietz (Dresden): How to write your paper
9:30 Ulrich Pohl (Munich): Go public with your work. What? When? Where? "Editorial comments" from ESM's Journal of Vascular Research
10:00-10:30 Coffee break
10:30 Tomasz Guzik (Glasgow/Kraków): How to publish in Cardiovascular Research
11:00 Jeremy Pearson (London): How to get funding for your research
11:30-12:00 Closing Remarks Henning Morawietz (Dresden), Richard Siow (London)

Poster sessions

Monday (July 2)

17:00-18:30 Posters of MD/PhD students Part 1 + Meet the experts
Uneven numbers (P1-P29) selected from submitted abstracts

Tuesday (July 3)

17:00-18:30 Posters of MD/PhD students Part 2 + Meet the experts
Even numbers (P2-P30) selected from submitted abstracts

Topics

Aging, Angiogenesis, Apoptosis, Arteriovenous differentiation, Atherosclerosis, Cell/vessel interaction, Endothelial cell biology, Epigenetics in vascular cells, Hemodynamic forces, Hemostasis and thrombosis, Hypoxia-oxygen sensing, Inflammation, Ischemia/reperfusion, Leukocyte biology, Lymphatics, Microcirculation, NO/ADMA, Oxidative stress and redox signaling, Oxygen transport to tissue, Perivascular adipose tissue, Platelets, Progenitor cells, Renal vasculature, Stem cells in microcirculation, Vascular biology, Vascular calcification, Vascular permeability, Vascular remodeling, Vascular regeneration, Vascular smooth muscle cells, Vascular tone.

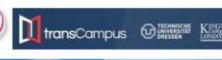
Abstracts

We invite you to submit your abstract for poster presentation. Conference language will be English.

Abstract Submission

Abstracts can be submitted via e-mail to Henning.Morawietz@tu-dresden.de until 15 April 2018.

1st Summer School
of the **European Society for Microcirculation (ESM)**
and the **European Vascular Biology Organization (EVBO)**



Instructions for abstract preparation

- Abstracts should be written in English.
 - Font: Arial 10 pt,
 - single-spaced.
 - Do not use more than one page for your abstract, please.
- Title: One initial capital letter followed by lower case letters.
Use bold letters.
Author: Start new line for authors.
The presenting author should be underlined.
Address: Start new line for the address.
Structure your abstract in: **Aims, Methods and results** and **Conclusions**.

Please provide the following information:

Presenting author:
Email:

Please send your abstracts to: Henning.Morawietz@tu-dresden.de.

An abstract example can be found here:

NADPH oxidase 4 protects against development of endothelial dysfunction and atherosclerosis in LDL receptor deficient mice

Heike Langbein^{1*}, Coy Brunssen^{1*}, Anja Hofmann¹, Peter Cimalla², Melanie Brux¹, Stefan R. Bornstein³, Andreas Deussen⁴, Edmund Koch², Henning Morawietz¹

¹Division of Vascular Endothelium and Microcirculation, Department of Medicine III, University Hospital Carl Gustav Carus Dresden, Technische Universität Dresden, Dresden, Germany;

²Department of Anesthesiology and Intensive Care Medicine and Clinical Sensing and Monitoring, University Hospital Carl Gustav Carus Dresden, Technische Universität Dresden, Dresden, Germany;

³Department of Medicine III, University Hospital Carl Gustav Carus Dresden, Technische Universität Dresden, Dresden, Germany;

⁴Institute of Physiology, Medical Faculty Carl Gustav Carus, Technische Universität Dresden, Germany

*Both first authors contributed equally to this study.

Aims: Endothelial dysfunction is an early step in the development of atherosclerosis. Increased formation of superoxide anions by NADPH oxidase Nox1, 2, and 5 reduces nitric oxide availability and can promote endothelial dysfunction. In contrast, recent evidence supports a vasoprotective role of H₂O₂ produced by main endothelial isoform Nox4. Therefore, we analysed the impact of genetic deletion of Nox4 on endothelial dysfunction and atherosclerosis in the low-density lipoprotein receptor (Ldlr) knockout model.

Methods and results: Ex vivo analysis of endothelial function by Mulvany myograph showed impaired endothelial function in thoracic aorta of Nox4^{-/-}/Ldlr^{-/-} mice. Further progression of endothelial dysfunction due to high-fat diet increased atherosclerotic plaque burden and galectin-3 staining in Nox4^{-/-}/Ldlr^{-/-} mice compared with Ldlr^{-/-} mice. Under physiological conditions, loss of Nox4 does not influence aortic vascular function. In this setting, loss of Nox4-derived H₂O₂ production could be partially compensated for by nNOS upregulation. Using an innovative optical coherence tomography approach, we were able to analyse endothelial function by flow-mediated vasodilation in the murine saphenous artery in vivo. This new approach revealed an altered flow-mediated dilation in Nox4^{-/-} mice, indicating a role for Nox4 under physiological conditions in peripheral arteries in vivo.

Conclusions: Nox4 plays an important role in maintaining endothelial function under physiological and pathological conditions. Loss of Nox4-derived H₂O₂ could be partially compensated for by nNOS upregulation, but severe endothelial dysfunction is not reversible. This leads to increased atherosclerosis under atherosclerotic prone conditions.

Abstract review

The abstract selection committee will review the abstracts. 30 abstracts will be selected as poster presentations in the sessions of the meeting. Presenting authors will be notified on April 30, 2018, regarding the results of the abstract review.

Registration

The presenting author must be a registered participant. Please note that the presenting author is not automatically registered by submitting an abstract. Regular registration is obligatory and binding and implies payment of the registration fee.

Accommodation

The registration fee includes the accommodation. The participants of the Summer School will stay in the art'otel Dresden.



Pictures at: <https://www.artotels.com/dresden-hotel-de-d-01067/gerdrart/>

The hotel has been designed by artist A. R. Penck. He was born in Dresden. Penck's artwork was rejected in East Germany. In the eighties, Penck moved to Cologne. Since then, Penck has worked continuously as an artist in Dublin, Berlin, Düsseldorf, London and New York. Penck died on 2 May 2017 in Zürich. His paintings are on display in renowned galleries in Dresden, Frankfurt, Zürich, Hamburg, Amsterdam and New York City (MoMA).

The art'otel offers breakfast buffet and free high-speed Wi-Fi. The hotel is located in walking distance to the city center, the city beach, station Dresden-Mitte and different tram stops. Tram line no. 6 brings you in 17 minutes to the site of the Summer School at the University Clinics.

Registration fee

Summer School fee

Please until May 15, 2018

MD/PhD student*/Young postdoc

EUR 300

* Student status to be confirmed with copy of Student Card or a letter from the Head of Department. Please provide proof by e-mail to Henning.Morawietz@tu-dresden.de.

The registration fee includes accommodation in the art'otel Dresden. We have reserved a number of rooms at a special rate for the participants of our Summer School.

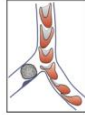
Please confirm your participation immediately after abstract acceptance. We should inform the hotel about the exact date/s of your arrival/departure until May 31, 2018.

Social programme (included)

Get-together (July 1, 2018)

City beach (July 2, 2018)

Excursion to Saxon Switzerland (July 4, 2018)



EUROPEAN SOCIETY FOR MICROCIRCULATION
Integrating
Vascular Biology & Medicine



1st ESM/EVBO Summer School Social Activities



Travel to Dresden

Dresden is centrally located in Europe and can be reached by plane, train or car.



The city has a well-developed public transport system. You can search for connections using the website of “Dresdner Verkehrsbetriebe” (DVB): <https://www.dvb.de/en-gb/>.

By plane:

From the airport “Dresden International“

- By taxi – stop in front of the airport terminal building. Go to “art’otel Dresden / Ostra-Allee 33” (hotel) or “Fiedlerstraße / Universitätsklinikum” (Summer School site) (approx. 25 €)
- By rail “S-Bahn” S2 – from the underground of the terminal building - till railway station “Dresden-Mitte” or “Dresden-Neustadt”. Alternatively, take Bus SEV to station “Dresden-Klotzsche” and change to S-Bahn” S2 or to “Dresden-Neustadt”. Here till railway station “Dresden-Mitte”. The shuttle goes every 20 minutes (at ticket vending machine single ticket “Einzelfahrschein” (2.30 €)).
- The hotel is in close walking distance to the railway station “Dresden-Mitte”. If you want to go from the hotel to the Summer School site take tram no. 6 (direction “Niedersedlitz”) to station “Augsburger Straße / Universitätsklinikum” (17 min).
- If you want to go directly to the Summer School site from the airport leave “S-Bahn” S2 (or currently Bus SEV) at railway station “Dresden-Neustadt” and take tram no. 6 (direction “Niedersedlitz”) to station “Augsburger Straße / Universitätsklinikum”.

By train:

From major railway stations (“Dresden-Mitte“, “Dresden-Neustadt“, “Dresden-Hauptbahnhof“).

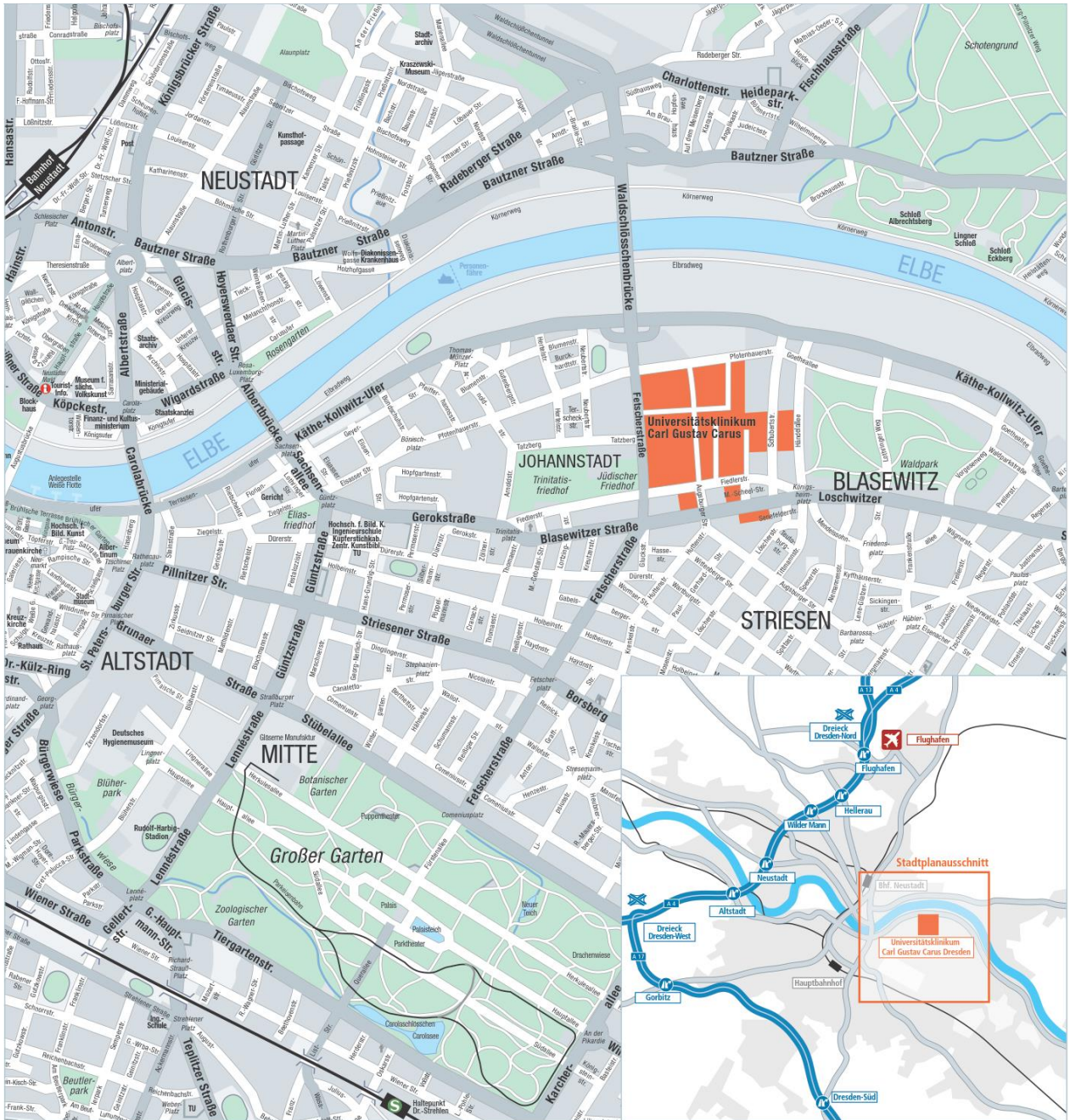
- If your train stops at “Dresden-Mitte” you can walk directly to the hotel.
- If you leave at “Dresden-Neustadt” take “S-Bahn” S2 or tram no. 6 – direction “Bf. Mitte-Löbtau-Wölfnitz” to “Dresden-Mitte”.
- If you leave at Dresden main station (Hauptbahnhof) please take “S-Bahn” S2 or tram no. 10 – direction “Messe Dresden” to “Dresden-Mitte” to the hotel.
- If you want to go to the Summer School site from the hotel take tram no. 6 (direction “Niedersedlitz”) to station “Augsburger Straße / Universitätsklinikum” (17 min).
- If you want to go directly to the Summer School site from the railway station leave at “Dresden-Neustadt” and take tram no. 6 (direction “Niedersedlitz”) to station “Augsburger Straße / Universitätsklinikum”. If you leave at Dresden main station (Hauptbahnhof) please take tram no. 3 (direction “Wilder Mann”), no. 7 (direction “Weixdorf”) or 8 (direction “Hellerau”) to “Pirnaischer Platz” and change to tram no. 12 (direction “Striesen”) till station “Augsburger Straße / Universitätsklinikum”. Alternatively, take from Dresden main station (Hauptbahnhof) tram no. 10 (direction “Striesen”) to “Fetscherplatz” and change to tram no. 12 (direction “Striesen”) till station “Augsburger Straße / Universitätsklinikum”.
- Single ticket “Einzelfahrschein” at ticket vending machine: 2.30 €.
- Alternatively, you might take a taxi from “Dresden-Neustadt“ or “Dresden-Hauptbahnhof“.

By car:

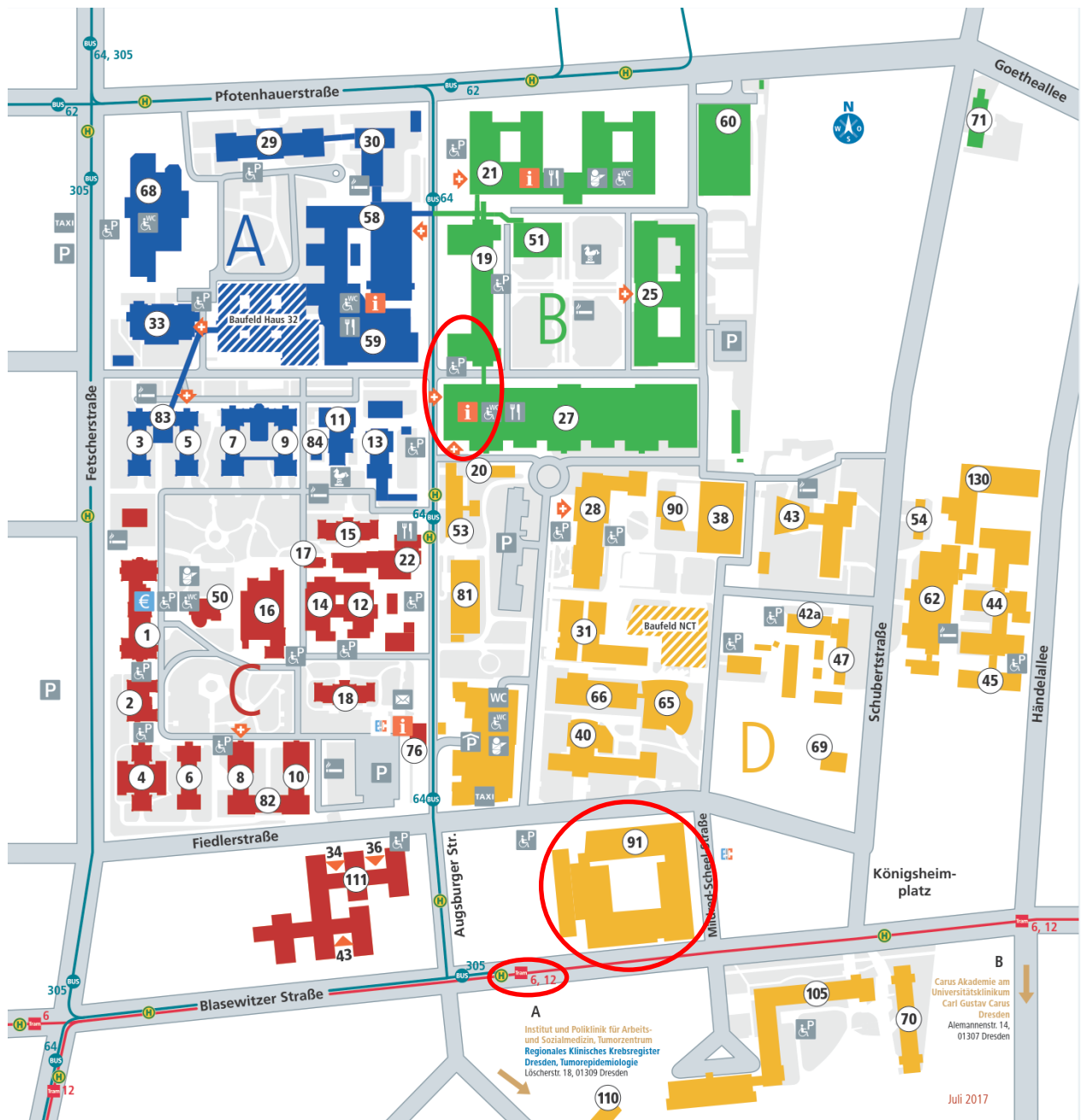
You can reach Dresden by car taking highways (“Autobahn”) A4 (Frankfurt - Görlitz), A13 (Berlin) or A17 (Prague). The University Clinics and the hotel are centrally located and can be reached by all individual exits.

- The address of the art’otel (<https://www.artotels.com/dresden-hotel-de-d-01067/gerdrart>) is “Ostra-Allee 33, 01067 Dresden”. Parking fee is not included in the reservation but can be individually arranged in closely located parking garages and areas.
- The address of the University Clinics is “Fetscherstr. 74, 01307 Dresden”. You could use the parking deck at the main entrance.

City map indicating the location of the University Clinics



Map of University Clinics with Summer Schools sites and tram stop (red circles)



Summer School Site



Sponsorship and Exhibition

The 1st Summer School of the European Society for Microcirculation (ESM) and the European Vascular Biology Organization (EVBO) is accompanied by a specialized industrial exhibition.

For questions regarding exhibit and sponsor information, please contact:

Susann Reichel
TU Dresden, Medical Faculty Carl Gustav Carus
Referat Drittmittelmanagement
Fetscherstraße 74
01307 Dresden, Germany
Phone: +49 (0)351 458 50 44
Fax: +49 (0)351 458 57 06
Susann.Reichel@uniklinikum-dresden.de
www.tu-dresden.de/med

We thank the following sponsors for their kind support!

Gold Sponsor



Sponsors



Contact

Summer School chairs

Henning Morawietz (TU Dresden)

Richard Siow (King's College London)

Conference organisation and abstract information

Prof. Dr. Henning Morawietz

TU Dresden, Medical Faculty Carl Gustav Carus

Division of Vascular Endothelium and Microcirculation

Fetscherstr. 74

01307 Dresden, Germany

Phone: +49 (0) 351 458 66 25

Fax: +49 (0) 351 458 63 54

Henning.Morawietz@tu-dresden.de

<https://www.uniklinikum-dresden.de/medmiz>

Sponsorship and exhibition

Susann Reichel

TU Dresden, Medical Faculty Carl Gustav Carus

Referat Drittmittelmanagement

Fetscherstraße 74

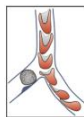
01307 Dresden, Germany

Phone: +49 (0)351 458 50 44

Fax: +49 (0)351 458 57 06

Susann.Reichel@uniklinikum-dresden.de

www.tu-dresden.de/med



1st ESM/EVBO Summer School July 1-5, 2018

EUROPEAN SOCIETY FOR MICROCIRCULATION
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See you in Dresden!