

INSPIRE

Antwerp
Summer
University

Cardiovascular
Safety Pharmacology
and Cardio-Oncology

PROGRAMME



24-30 AUG 2023

Mutsaardstraat 31, 2000 Antwerp
Academy of the Arts Building
Room MU-K1.3

Contact: info.inspire@uantwerpen.be



University
of Antwerp



[www.uantwerpen.be/
inspire](http://www.uantwerpen.be/inspire)



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WELCOME!

We are pleased to welcome you to the 4th edition of the INSPIRE Summer School, organised as part of the 14th edition of Antwerp Summer & Winter University.

This new edition of the INSPIRE Summer School offers an intensive and interactive 5-day training in **Cardiovascular Safety Pharmacology and Cardio-Oncology**. Built as a multidisciplinary course, this summer school consists of theoretical lectures complemented by hands-on sessions in associated technologies. This course is a continuation of the EU-funded collaborative Training Network in Safety Pharmacology INSPIRE (www.inspire-safety-pharmacology.eu), which in the past three years has built a training program benefiting from the academic, industrial, and clinical perspectives by exploring the latest technological capabilities to address emerging cardiovascular and cardio-oncology safety concerns.

In this brochure, we provide you with practical and substantive information regarding this summer school. For any additional questions, you can contact us via email to INFO.INSPIRE@uantwerpen.be or by phone T. +32 3 265 27 07.

We wish you an inspiring couple of days and an unforgettable stay in Antwerp!

INSPIRE Coordinator Office

Prof. Pieter-Jan Guns, Scientific Coordinator of the INSPIRE Project

Paz Yanez-Murillo, Project Manager of the INSPIRE Project

Discover #INSPIRE! *Click to watch the video*



Programme INSPIRE Summer School 2023 (v.12.07.23)
Antwerp Summer & Winter University 2023



INSPIRE receives funding from the EU Horizon 2020 research and innovation programme under the Marie Skłodowska-Curie grant agreement No 858070

1. PROGRAMME STRUCTURE AND CONTENT

1.1. INTRODUCTION

The goal of the INSPIRE Summer School is to provide participants with insight in Cardiovascular Safety Pharmacology and Cardio-Oncology. The programme starts with a refresher on cardiovascular physiology and pathophysiology. Next, speakers from leading pharma companies will provide insight in the process of drug development and the importance of clinical safety. The regulatory landscape of drug development and safety evaluation will be elaborated, as well as a description of key methods implemented in Safety Pharmacology to identify adverse effects of drug candidates early on. A few case studies of failed drug candidates will be discussed as well. Further, clinical cases of drug-related cardiovascular complications presented by cardiologists will provide a wider perspective on the topic. More specifically, the discipline of cardio-oncology will be discussed in detail. With increasing survival rates of cancer patients, the long(er)-term effects of anticancer treatment (i.e. cardiac toxicity) are receiving more scrutiny. In this context, the programme will conclude by highlighting academic research to evaluate the detrimental effects of many anticancer drugs on endothelial cells. Endothelial cells are the inner lining of the vascular system and play a pivotal role in vascular physiology and pathophysiology. At the end of the programme, participants will have gained a comprehensive view of the topic of cardiovascular (patho)physiology and how these mechanisms should be taken into account and screened for during drug development.

1.2. COURSE SCHEDULE

DAY 1 - 24 AUGUST

MORNING (09:00 -12:30) Signal processing / data visualisation

Speaker: Pieter-Jan Guns, University of Antwerp

Learning outcome: Physiological signals analysis and interpretation | Displays , graphs and charts: how to choose the right ones | Data acquisition requirements depending on analysis objectives | Regulatory framework.

AFTERNOON (13:30 – 17:00) Lecture: Insight in the process of drug development and safety pharmacology (SP)

Speaker: Jean-Pierre Valentin, UCB Biopharma SRL

Learning outcome: Understand the process of drug development and the importance of clinical safety | Introduction to non-clinical safety testing | Principles and helicopter view on Safety Pharmacology and Toxicology.

DAY 2 - 25 AUGUST

MORNING (09:00 – 12:30) Regulatory landscape of drug development and safety evaluation and case studies

Speaker: Jean-Pierre Valentin, UCB Biopharma SRL - Industry perspective

Learning outcome: Requirements for nonclinical studies and their relation to the conduct of human clinical trials | Regulatory requirements for cardiovascular evaluation of drug candidates | Advantages and limitations of the methods currently used for cardiovascular safety assessment.

AFTERNOON (13:30 – 17:00) Refresher on cardiovascular disease pathophysiology

Speaker: Vincent Segers, University of Antwerp

Learning outcome: Understand the physiology and pathophysiology of hypertension | Understand the pathophysiology of ischemic heart disease (including atherosclerosis) | Understand the patho-physiology of heart failure and cardiac remodeling.

DAY 3 - 28 AUGUST

MORNING (09:00 – 12:30) Clinical cardiology and cardio-oncology (and case reports)

Speaker: Constantijn Franssen, Antwerp University Hospital - Cardiologist perspective

Learning outcome: Introduction to cardiology | Understand the main cardiovascular pathologies and methods used for diagnosis and treatment | Introduction to cardio-oncology | Understand challenges and best practices in cardio-oncology.

AFTERNOON (13:30 – 17:00) Hands-on echocardiography / organ baths

Organisers: Physiopharmacology Research Group, University of Antwerp

Description: Follow the researchers of the laboratory during live experiments | Gain insights on methodologies to investigate cardiovascular function *in vivo* and *ex vivo* | Practical insight in data handling and analysis | Introduction in good laboratory practices.

DAY 4 - 29 AUGUST

MORNING (09:00 – 12:30) Endothelial cells (EC) in cardio-oncology

Speaker: Stefan Chłopicki, Jagiellonian University in Kraków - Academic perspective

Learning outcome: Introduction to the important role of EC in maintaining cardiovascular homeostasis | Overview of methods state-of-the-art to study endothelial phenotype *in vivo* and their application to understanding pathomechanisms of endothelial dysfunction in various cardiovascular and non-cardiovascular diseases | Detrimental effects of anti-cancer drugs on endothelial function | Towards endothelial profiling of anti-cancer drug.

AFTERNOON (13:30 – 17:00) hiPSC cells assays

Speaker: Brigitta Szabó, MSCA doctoral researcher, Ncardia

Learning outcome: Basic introduction to hiPSC, general principles of generation, differentiation, and applications in Safety Pharmacology | Advanced integrated hiPSC-based assays: validation and challenges | Large scale production and associated ethical aspects | Future perspectives of hiPSCs in drug development.

DAY 5 - 30 AUGUST

FULL-DAY WORKSHOP & CLOSING (09:00 – 15:00) Career development, strategic thinking, and proposal writing

Speaker: Pieter-Jan Guns, University of Antwerp

Learning outcome: Tools to develop a career development plan | Understanding which skills and strategies are useful to become a successful researcher | Tips and tricks for writing a research proposal | How can we measure the quality of scientific output? | What are the ingredients of a good scientific publication? | Tips and tricks for writing your first publication.

1.3. EVALUATION, ECTS AND CERTIFICATES

Successful completion of the INSPIRE Summer School by attending all the lectures and participation in the oral examination can be awarded with 3 credits according to the European Credit Transfer System (ECTS). Recognition of the ECTS credits in your home curriculum should be agreed upon with your home institution.

A certificate of attendance will be awarded at the end of the training. A certificate of completion will be awarded on the basis of 100% (active) participation during the course and a final oral examination led by the training coordinator consisting of a brief discussion on the learning outcome of the training and possible unsolved questions.

1.4. COURSE MATERIAL

Supporting material for participants will be shared via Blackboard, the digital learning environment of the University of Antwerp. Participants already in possession of a UAntwerp account (i.e. UAntwerp students and staff members) can access the course via their regular Blackboard environment (blackboard.uantwerpen.be) using their regular log-in credentials. Non-UAntwerp participants will receive log-in information by email close to the start of the summer school. Students can also use this platform to communicate informally with each other.

2. SOCIAL PROGRAMME

To keep the spirits high and give you an extra opportunity to get to know your classmates, the Antwerp Summer & Winter University organizes several **fun and inspiring social activities**. It is the perfect opportunity to get to know other participants and explore the city of Antwerp. The good news is that they are all **free of charge** and everyone can participate. To register for one or more activities, [please follow this link](#). Once you have registered, you will receive specific and practical information for the activities via e-mail near the start of the summer school.

Once registered, please be on time, preferably 15 minutes early and, if you're not able to attend an activity for which you have registered, please contact the Antwerp Summer & Winter University team at the latest **3 days before**. This way, we can give the spot to another participant. If you do not cancel on time for activities with a maximum number of attendees, you will be asked to pay a fee of 30 euros.

Stay tuned about the activities by following the socials of [@AntwerpSummerUniversity](#) and make sure to tag the Antwerp Summer & Winter University on your posts. For any questions, please send an email to summeruniversity@uantwerp.be.

2.1. ACTIVITIES PLANNED IN AUGUST

Board games night @ The Playground

When: Sunday 20 August | 19:00 – 21:00

Meeting point: The Playground, Hoofdkerkstraat 7, 2000 Antwerp

The Playground is the place to be if you want to play board games in Antwerp. It doesn't matter if you are a complete newbie or an experienced game geek, everyone is welcome! The hosts from the Playground will explain everything and guide you through the game. We have reserved a private playing room for the summer school students. Two free drinks are included.



Reception

When: Monday 21 August | 17:30 – 19:00

Location: Building K, Kleine Kauwenberg 14, 2000 Antwerp

Come and have a drink with your fellow students and the summer school organizers.



Sports: Rooftop Yoga

When: Wednesday 23 August | 18:30 – 20:00

Meeting point: the hall of MAS museum, Hanzestedenplaats 1, 2000 Antwerp
Enjoy a relaxing yoga session on the rooftop of the MAS museum. Sun salutation with a view! The class is beginner friendly, so no worries if you don't have any previous yoga experience. Yoga mats will be provided.



Street Art tour

When: Thursday 24 August / 19:00 -21:00

Meeting point: in front of the Rubens House, Wapper 9, 2000 Antwerp

Did you know that we have some beautiful street art in Antwerp? Every year more walls are painted with extravagant graffiti. During this tour you'll see the city center in a totally different way. Come and immerse yourself in the world of spray cans and urban culture.



Minigolf Beatrijs

When: Sunday 27 August / 15:00 – 17:00

Location: Beatrijslaan 19, 2050 Antwerp

At Minigolf Beatrijs all the lanes have been designed by visual artists. You can test your golfing skills, have a drink at the bar and enjoy the view of the river Scheldt and the Antwerp skyline.



Quiz night

When: Tuesday 29 August / 20:00 – 22:00

Location: bar TAKEOFF, Kleine Kauwenberg 19, 2000 Antwerp

Join us for a fun evening of international trivia at our pub quiz! The winner goes home with an amazing Antwerp Summer University bag full of goodies. Ready to quiz?



Guided Tour of the Port House

When: Thursday 31 August / 18:30 – 20:00

Location: Port House, Zaha Hadidplein 1, 2030 Antwerp

The Port House, designed by renowned architect Zaha Hadid, is undoubtedly one of the most amazing and high-profile eye-catchers of the Antwerp skyline. During the tour, an expert guide will take you to all the must-see places in both the old and new areas of the iconic building. You will also learn more about the history and the current role of the port of Antwerp, the second-most important in Europe.



City Walk

When: Sunday 3 September / 14:00 – 16:00

Meeting point: Nello and Patrasche monument (see photo), Handschoenmarkt, 2000 Antwerp

Immerse yourself in the rich history of Antwerp in and around the historic center. Our enthusiastic guide will show you around the city's historic heart: the cathedral, the Vlaeykensgang, the Handelsbeurs, and the Meir, ... As a final stop, you can admire the beauty of Antwerp's Central Station.



2.2. OTHER ACTIVITIES DURING YOUR STAY

Want to learn everything about the different areas in Antwerp? Fancy a stroll in one of the many parks? Looking for a good place to have drinks? Interested in shopping or visiting museums? Find out more on visitantwerp.be or pop into the **tourist office**:

Antwerp Tourist Office: Grote Markt 13, 2000 Antwerp | Email: info@visitantwerpen.be

Antwerp has many fascinating museums, such as:

- Museum Aan De Stroom (MAS): <https://mas.be/en>
- Museum Plantin-Moretus: <https://www.museumplantinmoretus.be/en>
- Red Star Line Museum: <https://www.redstarline.be/en>
- Royal Museum of Fine Arts: <https://kmska.be/en>

For years, the **Zomer van Antwerpen** (Summer of Antwerp) has offered a dazzling mix of theatre, music and circus in the craziest places in town. From expansive nature to intimate squares. From young talent to established names. [Check out the programme](#) to see what is happening during your stay.

Every Friday, there is a free concert at the beautiful **open-air theater in the Rivierenhof** park in Deurne. Find out more [on the OLT website](#).

For more tips about restaurants, activities and fun neighborhood, check out [the Instagram page of the Antwerp Summer and Winter University!](#)

3. PRACTICAL INFORMATION

3.1. VENUE

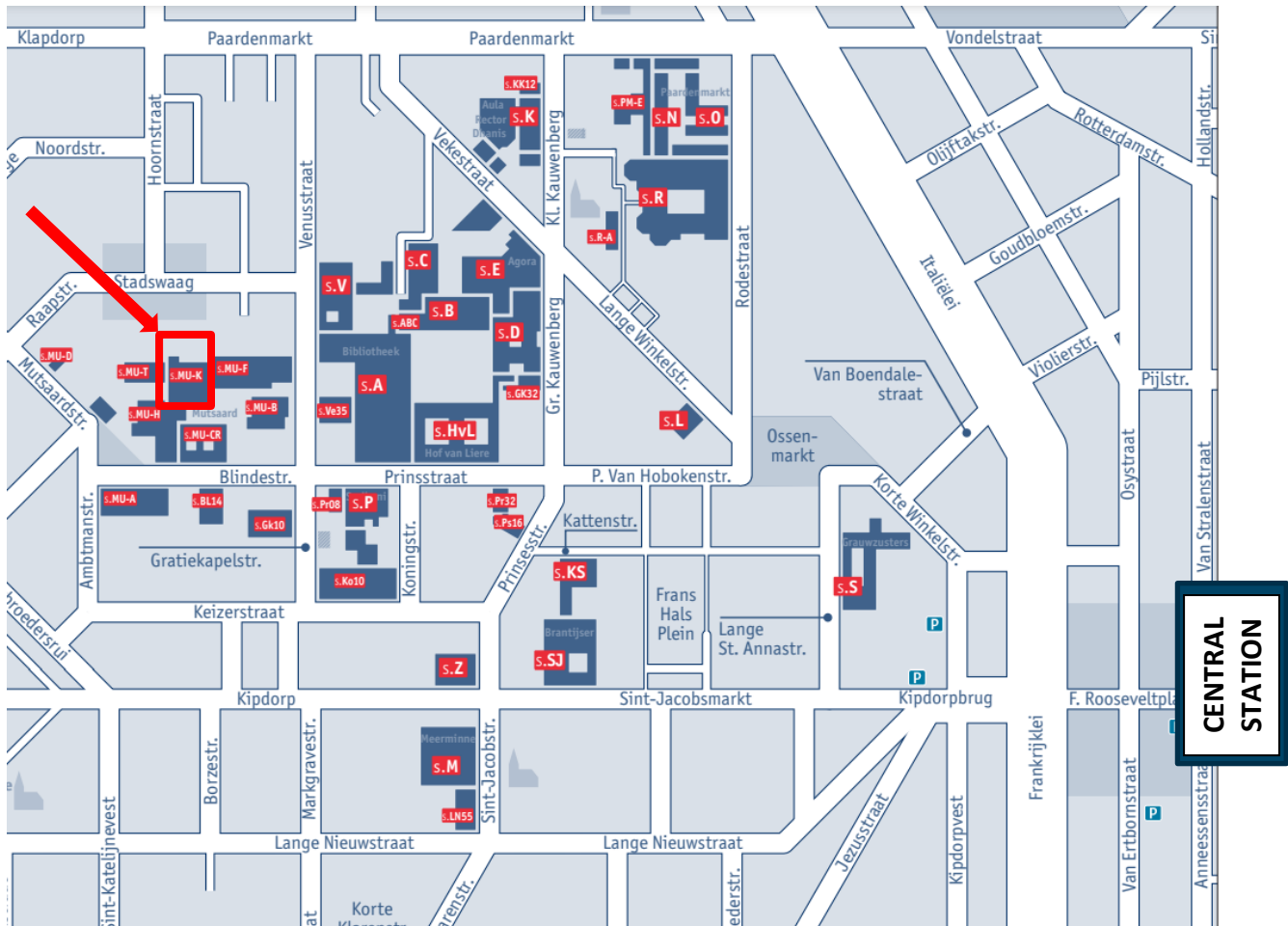
The summer school takes place in **Room MU-K1.3 of the Academy of the Arts Building** located at **Campus Mutsaard**, which annexed to the City Campus. It can easily be reached on foot from the Central station or the city center (within 20-minute walking distance).

The address is Mutsaardstraat 31. Please enter through the big white gate and then access the white building of the Academy. If you go straight ahead



up the stairs, the room is in the corridor on the first floor on the left hand side of the building.

Map of City Campus ([link](#))



3.2. ARRIVING IN ANTWERP

Antwerp is in the centre of Belgium and is easily accessible by plane, train, car and bus:

- **PLANE:** The international airport of Brussels (BRU) is the most frequently used gateway to Antwerp, but you might also want to consider the low-cost airport of Brussels South Charleroi (CRL) or the nearby airport of Antwerp (ANR) itself.
- **TRAIN:** International railway lines link Brussels and Antwerp to several other major European cities.
- **BUS:** Eurolines and FlixBus buses are other low-cost transport options.

For more information and details, please visit the [route description on the university website](#).

3.3. ACCOMMODATION

Are you still looking for accommodation during your stay at Antwerp Summer & Winter University? Antwerp has many different accommodation options ranging from student rooms and youth hostels to classic hotel rooms. Please check [this list of accommodation options in Antwerp](#).

For more information and bookings, contact our colleagues of International Student Housing (internationalstudenthousing@uantwerpen.be).

3.4. GETTING AROUND

Trams and buses

Antwerp has a dense public transportation network. Buses and trams are available to take you to different parts of the city. More detailed information can be found on www.delijn.be. A single ticket within the city is €2,5 and allows you to use public transportation (buses and trams) for one hour. You can consider buying a Lijn card (10 rides for €17), a day of unlimited travel (€7,50) or a 3-day ticket (€15). Tickets can be purchased in advance via de app, the [website](#) or at the [sales points in the city](#).

Cycling, walking, scooting and riding

Antwerp is a bike-friendly city. The distances are doable as it won't take you more than 20 minutes to get from one side of the city to the other and the bike lanes are flat and with the right gear.

Velo is Antwerp's metropolitan bike scheme. There are check-in and drop-off zones of the city bikes throughout the entire city. To ride Velo you have to register beforehand. You can buy a day pass for €5 or a week pass for €12. After purchasing a day or week pass, you can use the bikes for free for a maximum of 30 minutes per session. Find more information on www.velo-antwerpen.be/en.

Donkey Republic is a convenient bike rental service. It offers normal and electric bikes; short or long bike rentals and you pay as you go via the app. Find more information on www.donkey.bike/cities/bike-rental-antwerp/.

3.5. INTERNET ACCESS

You will have **access the UAntwerp Wi-fi** network during the entire summer school. Please log in to the network by selecting the UAntwerp wireless network on your device and logging in with the login and password **provided at the start of the summer school**. In case of problems, [check out our website](#).

3.6. LIBRARY

The main library building is located in the heart of the City Campus (building s.A on [the campus map](#)), and is accessible to people with physical disabilities. The opening hours are Monday to Friday 8.30 a.m. to 5 p.m. The library is closed on Saturdays and Sundays.

You can study or prepare your readings here, as well as work in groups. You can also use the computers, printing and scanning facilities in the library. You can consult books on-site but can't take them home. Please check www.uantwerpen.be/en/library/ for more information.

3.7. LUNCH

A lunch box for each participant will be delivered (free of charge) at the lunch breaks, taking into account the dietary preferences reported in your registration for the summer school through Mobility Online. If you still wish to enjoy additional food or drinks, find below good options on and off campus.

- **Agora Caffee | Grote Kauwenberg 2:** a good option for those who want to have a warm lunch. Great cafeteria in the University Building E serving daily sandwiches, soups, salads and pasta's.
- **Kori | Prinsstraat 6:** sandwiches with a Latin American twist. Especially known for its quinoa burgers and grilled chicken.
- **Kool & Zo | Prinsstraat 40:** take-out salad & soup bar, offering many vegan and vegetarian options.
- **Bagatel | Koningsstraat 1:** sandwich bar just in front of the main entrance of the university.
- **Cuperus Horsey Coffee | Paardenmarkt 28:** coffee bar, also offering cake and sandwiches.
- **Kalura | Prinsesstraat 38:** spice up your lunch with Kalura's authentic pizzas – also for take-out.

4. COMMUNICATION

4.1. SOCIAL MEDIA

To be informed about INSPIRE and all our happenings, do not forget to follow the social media channels of the INSPIRE Network on Instagram ([@inspire_itn](https://www.instagram.com/inspire_itn)), [LinkedIn](#), Twitter ([@ItnInspire](https://twitter.com/ItnInspire)) and Facebook ([@ITN Inspire - European Training Network in Safety Pharmacology](https://www.facebook.com/ITNInspire-EuropeanTrainingNetworkinSafetyPharmacology))!



Furthermore, this year, the Antwerp Summer and Winter University makes available a **WhatsApp community!** Please feel free to connect with other participants by joining through [this link](#) or this QR code. You can also **join the community** at [@AntwerpSummerUniversity](https://www.instagram.com/AntwerpSummerUniversity) on Instagram and [LinkedIn](#). You can discover behind-the-scenes pictures, tips for hidden gems in Antwerp, great food spots, interesting quotes from speakers and so much more. The team of the Antwerp Summer and Winter University will be happy to repost pictures and videos. Please tag them by typing [#antwerpsummeruniversity](#) or [#study_aswu](#).

4.2. SHARE YOUR EXPERIENCE

This year, the team of the Antwerp Summer and Winter University Team would like to share the participant's experience! That's why they will be recording **testimonials** about the Antwerp Summer &

Winter University for the website and socials. Would you be willing to help them out? Then, please contact summeruniversity@uantwerpen.be and they will be in touch.

4.3. USEFUL DUTCH PHRASES



In preparation to your visit, you might want to learn some Dutch and we are happy to help! Antwerp is in the Dutch-speaking part of Belgium and during your stay, you will hear Dutch everywhere in the streets. Even though most people will understand you perfectly in English, you might want to use some phrases to impress the locals. We want to encourage you to give it your best shot ;-)

Greetings

Hello	Hallo	['halo]
Good morning	Goedemorgen	[xudə'mɔrxə(n)]
Goodbye	Tot ziens	[tɔt] [zins]
Welcome	Welkom	['wɛlkɔm]
Have a nice day	Prettige dag	['prɛtəxə] [dax]

Asking questions

How are you?	Hoe gaat het?	[hu] [xat] [het/ət]
I'm fine, thanks, and you?	Alles goed, dank je, en met jou?	['aləs] [xut] [dɑŋk] [jə] en met jau]
Can you help me, please?	Kunt u me helpen alstublieft?	['kʏnt y mə 'hɛlpə(n) alsty'blyft]
The bill please	De rekening alstublieft	[də 'rɛkənɪŋ alsty'blyft]

General responses

Yes	Ja	[ja]
No	Nee	[ne]
Please	Alstublieft	[alsty'blyft]
Thank you	Dank u	[dɑŋk] [y]
You're welcome	Graag gedaan	[xrax] [xə'dan]
Sorry	Sorry	['sɔri]
No problem	Geen probleem	[xen] [pro'blem]

5. ABOUT...

5.1. ...UNIVERSITY OF ANTWERP

The University of Antwerp was founded in 2003 and has about 21,428 students, 146 programmes and 9 faculties. The University of Antwerp is characterised by its high standards in education, internationally competitive research and its entrepreneurial approach. The University of Antwerp has nine faculties, as well as 17 institutes and centres such as the Antwerp School of Education and the Institute of Development Policy. Up to 17,5% of our students are international, coming from all corners of the world: from the A of Argentina to the Z of Zambia.



Do you want to expand your horizons and obtain a degree at the University of Antwerp? Or are you interested in an exchange opportunity from 2 months to a full year? Or do you want to discover our research domains and the Antwerp Doctoral School? All information is available on www.uantwerpen.be/en/study

5.2. ...ANTWERP SUMMER & WINTER UNIVERSITY

Since 2010, Antwerp Summer & Winter University offers intensive, short-term courses within the areas of excellence of the University of Antwerp and its partners. Next to several interdisciplinary summer and winter schools, topics range from Law and Design Sciences to Health. Target groups are different for each programme and may consist of students, researchers and/or working professionals.

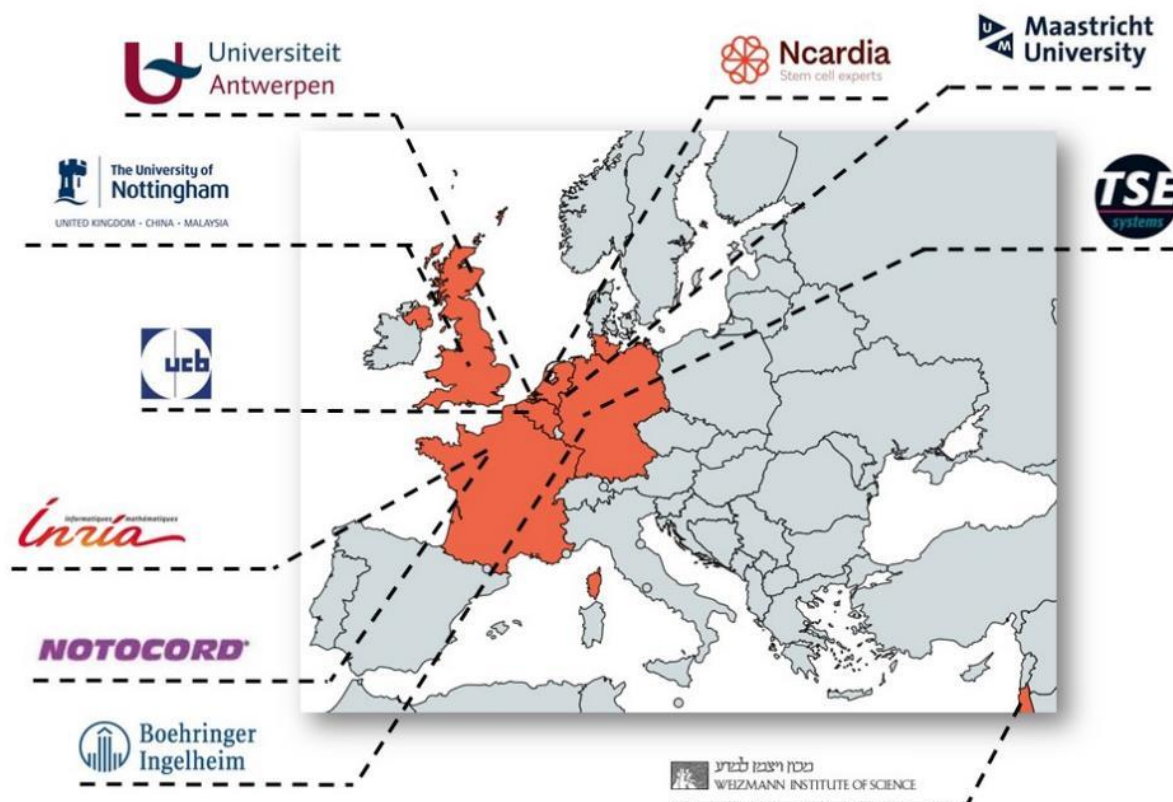


Summer and winter schools consist of intensive full-time programmes in which a wide variety of teaching methods are used. Sessions are taught by international speakers and experts from both within and outside the academic world. An intensive learning experience with maximum impact is guaranteed thanks to the international composition of the classroom, the interactive set-up of the courses and the approachability of the lecturers.

5.3. ...INSPIRE TRAINING NETWORK

INSPIRE is the European Training Network in Safety Pharmacology (www.inspire-safety-pharmacology.eu), which is coordinated by the University of Antwerp. Overall, it constitutes a multidisciplinary and intersectoral training programme with a balanced combination of hands-on research training, intersectoral secondments, local courses and network-wide events on scientific and transferable skills, enabling future R&I collaborations. Hence, INSPIRE equips the future generation of Safety pharmacology scientists with a wide range of scientific knowledge and the ability to adapt to a dynamic industry.

INSPIRE Training Network: an international collaboration



5.4. ...ORGANISING COMMITTEE



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5.5. EMERGENCY SERVICES

- European emergency services: 112
- Fire services: 100/112
- Police department: 101
- Pharmacy directory: find a local pharmacy online through <https://www.pharmacie.be/>
- Red Cross ambulance service: 105

WE WISH YOU AN INSPIRING AND PLEASANT SUMMER SCHOOL!