

IAP2022

Interfaces Against Pollution: Chemical and Biological Perspectives

18 – 21 September 2022

Conference venue:

Universiteit Antwerpen Stadscampus
Antwerpen, Belgium



Photo: Central courtyard of Hof van Liere, UAntwerpen Stadscampus

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Antwerpen: a Vibrant, Accessible City



Antwerpen is a thriving metropolis in the heart of Europe. The city center is compact, whilst the extensive docks area is the 2nd busiest container port in Europe. The city offers a vast array of cultural, historical and culinary experiences (beer, chocolate, gauffres, frietjes...), and is home to more than 170 nationalities.

Museums, shops, boutiques, start-up hubs, premium hotels, the historical home of Rubens and the world's biggest diamond trade center are all within strolling distance.

Antwerpen embraces heritage and innovation, business and leisure, global ambitions and a genuine concern for nurturing a highly enjoyable quality of life for residents and visitors. Information on selected highlights is given below.

Photo: Our Lady's Cathedral of Antwerpen in the central city

Diamond World Centre - Hand Crafted Excellence

The city of Antwerpen has had a distinct shine since 1447, when it first was awarded the title of Diamond Capital. In this, the oldest and largest diamond center in the world, the industry has pushed every boundary in diamond cutting, jewelry design and technology. It remains as lucrative today as it was in the 15th century. Over 5 centuries of tradition have made the city the unrivalled crown jewel of rough and cut diamond trading and manufacturing. Nearly 1700 companies ensure excellence, transparency and compliance in this unique industry. Within a single square mile, 84% of the global rough diamond trade and 50% of the cut gemstone trade is handled, adding up to a total of *ca.* 80 billion euros.

The Port - Connecting Europe and the World

The Antwerpen waterfront and port are a constant hub of activity. For many European companies, the Port of Antwerpen is the link with other continents, and for many businesses in the farthest corners of the world it is the gateway to Europe. The Port of Antwerpen is the 2nd largest container port in Europe and is the primary backbone of Europe's largest and most diverse chemicals clusters. All major chemistry and refinery companies worldwide are represented in

Antwerpen. Antwerpen offers specialist logistics services and private companies in the port area continue to invest in the most modern storage areas and machines to load and discharge goods quickly and efficiently.



Photo: Port House, headquarters of the Antwerpen Port Authority

The Creative Hub - from Peter Paul Rubens to the Antwerpen Six

There's much more to Antwerpen's cultural inventory than Rubens masterpieces, museums and architecture. The city is a melting pot of creativity, the fashion scene rivals that of Paris and New York, and as the world center of the diamond trade Antwerpen has created its own tradition of jewelry design.

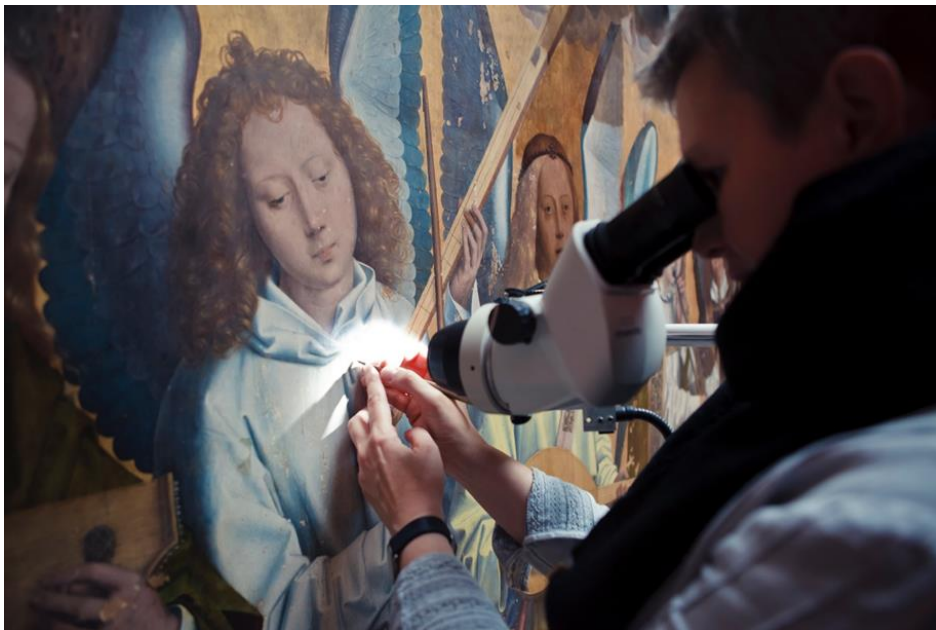


Photo: restoration of Rubens' painting

Transport Links

Flights: For arrival by air, the main international hub is Brussels Zaventem airport (www.brusselsairport.be), situated 45 km south of Antwerpen city center. There are flights to Zaventem from all major European cities as well as from a large number of overseas metropolises. From the train station within the airport, there are frequent trains (2 to 3 per hr) to Antwerpen Centraal station (30 to 50 min journey; 2nd class return fare in 2020 ca. €25; tickets can be purchased online in advance www.belgiantrain.be), from which many hotels and the stadscampus of UAntwerpen (the conference site) are within walking distance. There are also various bus services from Zaventem airport to Antwerpen, e.g. SN Brussels Airlines Express bus shuttle service. A small regional airport in Antwerpen, 5 km from the city center, serves a few international destinations.

Train: Antwerpen Centraal Station has excellent high speed train connections to Paris, London, Amsterdam (Schiphol) with Thalys, Eurostar or Deutsche Bahn. Antwerpen Centraal station is a tourist destination in its own right as illustrated in the photo below.

Car: Antwerpen has excellent highway connections, but traffic is notoriously heavy in the region. In the central city a “low emission zone” is in force, and policies are being developed to discourage car travel in the city center, e.g. limited parking.

The city center is compact, easily walkable, and served by an extensive tram and bus network.

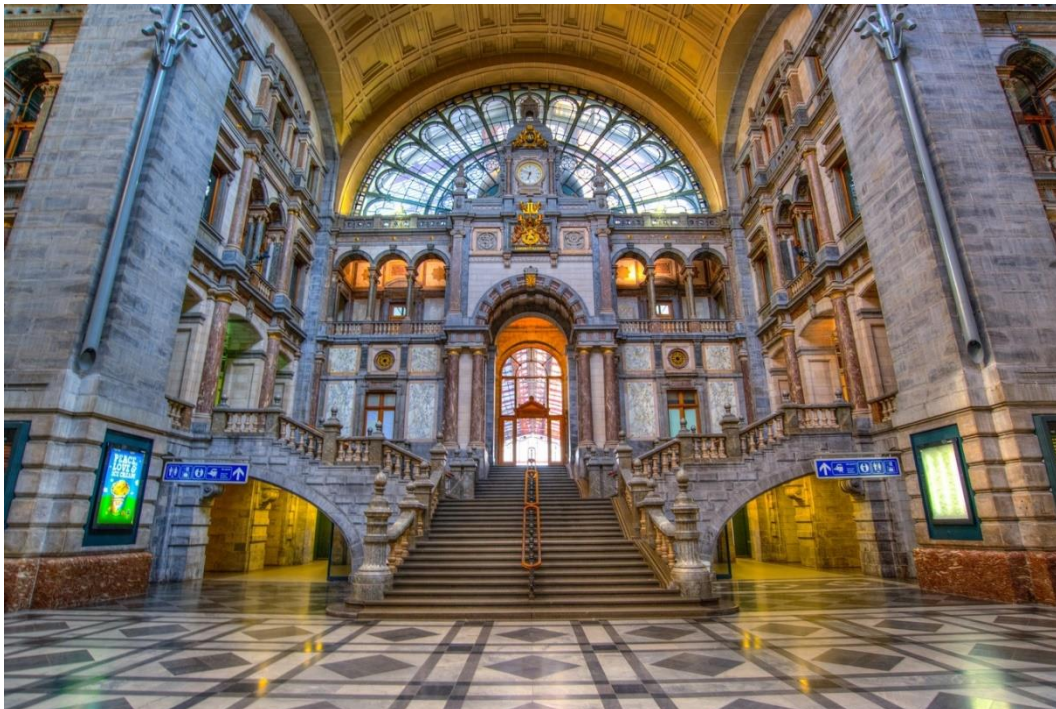


Photo: Entrance hall of Antwerpen Centraal Railway Station

Conference Host: Universiteit Antwerpen

A brief overview of UAntwerpen, www.uantwerpen.be and the Faculty of Science:

UAntwerpen: Snapshot Facts and Figures

- 20 492 students (19 % international)
- 1 798 PhD students
- 3 650 scientific publications per year
- 5 618 staff members (20 % international)
- 670 professors
- 337 assistants
- 3 071 researchers
- 1389 administrative and technical staff
- 60 000 alumni
- 15th in the Young Universities 2018
- 3rd in the Millennials 2017
- 17th QS Young Universities 2018



Cum laude: house beer of UAntwerpen

Faculty of Science

<https://www.uantwerpen.be/en/about-uantwerp/faculties/faculty-of-science/>

- 6 departments: Biology, Bioscience Engineering, Chemistry, Physics, Mathematics, Computer Science
- 30 research groups
- 8 key research domains: ecology and the environment, integrated omics, neurosciences and behavioural sciences, synthesis and characterisation of materials, nanosciences, elementary particle physics and quantum systems, modelling in computer science, fundamental mathematics
- 1100 bachelor and master students (10% international)
- 420 PhD students (40% international)
- 96 professors
- 25 teaching assistants
- 737 researchers
- 141 administrative and technical staff
- ca. 800 scientific publications per year

Conference Venue: UAntwerpen Stadscampus

IAP2022 will take place at UAntwerpen Stadscampus, <https://www.uantwerpen.be/en/about-uantwerp/campuses/stadscampus/>, situated at Prinsstraat 13 in Antwerpen city center, within walking distance (1.3 km, *ca.* 20 min) from Antwerpen Centraal Railway Station and a range of hotels. A map of the locations mentioned in the following sections is provided at the end of this document.

Plenary, Parallel, Poster Sessions, Coffee Breaks and Lunches: Building C

Several spacious modern auditoria are available for the plenary and parallel sessions, together with open foyer spaces for registration, poster displays, as well as coffee breaks and lunches. The auditoria are accessible for persons with disabilities, and an elevator is available. Good wifi access is available over the entire campus (via Eduroam or guest account on the UAntwerpen network).



Photo: Entrance to Building C, Stadscampus UAntwerpen

Plenary lectures will be held in a large auditorium with graduated seating on the ground floor with capacity of 237 persons. An additional two large auditoria with graduated seating are available: one adjacent to the plenary room with capacity of 129, and another directly above on the first floor with capacity of 158 persons. There are also several adjacent smaller rooms that can be used for *ad hoc* meetings throughout the duration of the conference. All auditoria are in close vicinity to each other, allowing participants to rapidly switch between sessions.



Photo: Auditorium in Building C, Stadscampus UAntwerpen

IAP Council Meeting: Hof van Liere Building, Prentenkabinet

At the heart of the Stadscampus lies the magnificent, historic Hof van Liere building (see cover photo). This beautiful 16th-century historic site was constructed by the Jesuits in the 17th century, and now houses a number of meeting rooms.

We propose that on Monday 19 September 2022, the IAP council convenes at lunch time to hear bids to host IAP2024. The on-site meeting room with audiovisual equipment is convenient for the council and bid presenters. Buffet lunch will be available in an adjacent room, which also serves as a comfortable waiting area for the bid presenters. In addition, a group dinner for the IAP council will be arranged in the city center on the Monday evening to give time to complete any ongoing discussion of the IAP2024 offers as well as any other business.



Photo: Prentenkabinet, Hof van Liere, UAntwerpen Stadscampus: IAP council meeting 19/09/2022

Welcome Reception, Sunday 18 September: Antwerpen Stadhuis

The welcome reception in the early evening of Sunday 18 September is foreseen to be held at the Antwerpen stadhuis, <https://www.antwerpen.be/nl/overzicht/stadhuis-van-antwerpen>. The stadhuis was built between 1561 and 1564 in the Renaissance style, and is on the UNESCO world cultural heritage list as part of the Belforten group registration in Belgium and France. The building is currently undergoing extensive renovations and is scheduled to re-open in 2021. The capacity of the reception hall in the renovated building is not yet known, but is likely to be *ca.* 100 persons. Other options are available to us if this location will be too small.

We would appreciate feedback from previous IAP hosts as to the proportion of participants that attend the welcome reception.

If the stadhuis facilities have adequate capacity, “Visit Antwerpen” (the tourist board of the City of Antwerpen, www.visitantwerpen.be) will sponsor the reception, and a welcome speech will be given by an Alderman. Visit Antwerpen will also provide tourist leaflets for participants and contribute items for student prizes.



Photo: Stadhuis, Grote Markt 1, Antwerpen

Conference Excursion, Tuesday 20 September: Harbor Boat Trip

The conference excursion on the Tuesday afternoon will be a harbor boat trip of *ca.* 2 hr duration; depart from the dock at 16:30, return 18:30, followed by the conference dinner in a nearby restaurant (see below).

A guided commentary in English will be provided by Danny Deckers - a multilingual guide with extensive knowledge of the port of Antwerpen. Drinks and snacks will be served on board, and a complementary book on the port of Antwerpen will be given to all participants. Transport will be provided for the short journey from the conference site to the boat departure point (Het Pomphuis); from the disembarkment station (Londenbrug) it is a 10 min walk to the restaurant for the conference dinner (see map on last page of this document).

The boat, Flandria24, has a capacity of 250 persons and is comfortably furnished with several indoor and outdoor decks, a bar on each floor, toilet facilities, and is wheel chair friendly.



Photo: Flandria 24

Conference Dinner, Tuesday 20 September: Felix Pakhuis

The Felix Pakhuis is a protected monument, originally built in 1860 to serve as a warehouse. The building complex is now home to the Antwerpen city archives and includes a unique inner street, de Lichstraat. Address: Godefriduskaai 30, 2000 Antwerpen; <https://www.felixpakhuis.nu>



Photo: De Lichstraat

The aperitif will be held in the Lichstraat next to the Felix Pakhuis. This covered street connects the marina with the old town and during our event it will be closed to the general public for exclusive use by IAP2022.

The dinner will take place in the adjacent salon of the Felix Pakhuis (capacity 220 persons).

Conference Organisation and Program

Chair: prof. dr. Raewyn M. Town

Co-chair: prof. dr. Ronny Blust

Raewyn M. Town is guest professor and Ronny Blust is group leader in the research group Systemic Physiological and Ecotoxicological Research (SPHERE) in the Department of Biology at UAntwerpen (<https://www.uantwerpen.be/en/research-groups/sphere/>). Ronny Blust is also Vice Rector Research of UAntwerpen. SPHERE studies the effects of environmental pollutants and other stressors on the performance of aquatic and terrestrial organisms with an emphasis on mechanisms, effects thresholds, and ecological relevance. The group's work has a strong fundamental basis and the results find important applications in development of e.g. ecologically based environmental quality standards and tools for risk assessment. SPHERE leads UAntwerpen's EnviroStress Center of Excellence (www.envirostress.be) and the Enviromics consortium which provides targeted and customized answers to environmental issues through interaction with industry and societal actors (www.enviromics.be). The SPHERE group includes 4 permanent academic staff, 3 postdocs, 13 PhD students, and 6 technical support staff.

The scope of IAP conferences fits well within SPHERE's activities, and the group's high international profile and extensive network of collaborators in fundamental and applied environmental science is expected to attract participation in IAP2022.

Local Organising Committee

The local organising committee will comprise the chairs, as well as several postdocs and/or doctoral students who will assist with registration and other logistical issues throughout the conference.

Scientific Committee

The scientific committee will be assembled closer to the conference date, and will include academic staff from UAntwerpen and abroad, and IAP council representatives.

UAntwerpen Support Staff

The smooth organisation of IAP2022 will be underpinned by UAntwerpen support staff, notably the dedicated conference coordinator, Valérie Gillis, who has been instrumental in securing the venues and offers detailed in this bid book, and who will assist with: creating a conference website and registration module; preparing e-invitations; putting together a social programme and a range of activities for accompanying partners; selecting suitable merchandise; setting up the online booking tool for hotel accommodation; liaising with service providers such as Visit Antwerpen and Antwerp Convention Bureau, etc.

The SPHERE group's secretariaat will assist with establishing and managing the financial accounts for the conference.

Registration Fees

Use of the UAntwerpen auditoria and catering at in-house prices enables us to maintain the registration fees at a level similar to previous IAP conferences. We are beginning the process of seeking sponsorship to offer further support to students and low income participants, to provide poster prizes, items for the goodie bags, etc.

The envisaged registration fees are:

	Early bird (until 15 June 2022)	Regular (from 16 June 2022)
Students ^(a) and low income countries ^(a,b)	€350	€400
Academic ^(a)	€450	€525
Industry ^(a)	€700	€700
Accompanying person ^(c)	€75	€75

- (a) The fee includes the arrival reception on Sunday 18 September, participation in all conference sessions, coffee breaks and lunches on 19, 20, and 21 September, and the excursion on 20 September. To ensure confirmed numbers for the conference dinner, participants will be asked to sign-up at registration for a nominal additional charge of €15 for students and participants from low income countries, and €25 for all others.
- (b) The low income country rate applies to participants resident in countries defined as such by the world bank: <http://datatopics.worldbank.org/world-development-indicators/the-world-by-income-and-region.html>
- (c) The accompanying person fee includes the arrival reception on Sunday evening and the excursion on 20 September. An additional nominal fee of €25 will be charged for the conference dinner.

Scientific Scope

The scope of IAP2022 follows the established tradition of the IAP conference series in providing a forum for researchers working on developing a mechanistic understanding of the behaviour and fate of pollutants in environmental and engineered systems. Pollutants of interest encompass metal species, organic compounds, as well as engineered nanoparticles including nanoplastics. The focus is on interfacial processes and the importance of (bio)colloids and (bio)interfaces, both from fundamental and solution-oriented perspectives. The scope encompasses work at the nano-, meso- and macro-scopic scales, from transient processes to equilibrium. Applied research relevant for e.g. environmental protection and remediation of polluted sites, is welcome. The eventual session topics will be responsive to the content of the submitted abstracts. Abstracts are expected to address at least one of the following topics from an experimental and/or modelling perspective:

- Fundamental studies on (bio)colloids and (bio)interfaces, including the nature of colloidal interactions and the stability of dispersions.
- Fundamental research on the equilibrium and dynamic features of pollutant interactions with natural and engineered (bio)colloids and (bio)interfaces.

- Establishing mechanistic understanding of the nature and timescale of processes governing the relationships between the chemical and biological reactivity of pollutants.
- New insights into established techniques and development of novel methods for characterisation of (bio)interfaces and analysis of (bio)interfacial processes that influence pollutant fate and behaviour in exposure media and/or biota.
- Field studies on natural and agricultural systems that provide new knowledge and/or exploit the reactivity of pollutants and nutrients with (bio)interfaces and (bio)colloids.
- Solution-oriented research that exploits the reactivity of (bio)interfaces and (bio)colloids to design innovative strategies for soil and sediment (bio)remediation and wastewater treatment.
- Strategies for incorporating fundamental knowledge on the reactivity of (bio)colloids and (bio)interfaces in environmental risk assessment.

Outline Program

The oral presentations will include:

- plenary lectures: 30 min talk + 5 min discussion,
- keynote lectures: 20 min talk + 5 min discussion, and
- regular lectures: 15 min talk + 5 min discussion.

As drafted below, the program comprises a total of either:

- (i) 3 plenary, 8 keynote, and 56 regular lectures (two parallel sessions), or
- (ii) 3 plenary, 12 keynote, and 84 regular lectures (three parallel sessions).

The choice of 2 or 3 parallel sessions will take into account the number and quality of abstracts submitted for oral presentations, and in consultation with the IAP council.

Posters will remain on display for the entire duration; there are no restrictions on the number of posters that can be accommodated. Coffee breaks and lunches will take place in the poster area.

Sunday 18 September 2022

17:00 – 19:00, welcome reception, Antwerpen Stadhuis

Monday 19 September 2022

08:00 – 09:00 Registration desk open, set up posters

09:00 – 09:15 Welcome and opening of the conference

09:15 – 09:50 Plenary lecture

09:50 – 10:20 Coffee break

10:20 – 12:25 Parallel sessions: each 1 keynote and 5 regular lectures

12:25 – 14:00 Lunch [IAP council lunch meeting]

14:00 – 15:45 Parallel sessions, each 1 keynote and 4 regular lectures

15:45 – 17:30 Poster session with coffee/drinks/snacks

[19:00 - ... IAP council dinner meeting in city center]

Tuesday 20 September 2022

- 08:30 – 9:05 Plenary lecture
- 09:10 – 10:35 Parallel sessions: each 1 keynote and 3 regular lectures
- 10:35 – 11:00 Coffee break
- 11:00 – 12:40 Parallel sessions, each 5 regular lectures
- 12:40 – 14:00 Lunch
- 14:00 – 15:30 Poster session

Conference excursion:

- 16:00 Transport departs from Stadscampus to docks embarkation point
- 16:30 Boat departs for guided harbor trip (drinks and snacks on board)
- 18:30 Boat returns to dock, short walk to restaurant
- 19:00 – 23:00 Conference dinner, Felix Pakhuis city center

Wednesday 21 September 2022

- 08:30 – 9:05 Plenary lecture
- 09:10 – 10:35 Parallel sessions: each 1 keynote and 3 regular lectures
- 10:35 – 11:00 Coffee break
- 11:00 – 12:40 Parallel sessions, each 5 regular lectures
- 12:40 – 13:45 Lunch
- 13:45 – 14:45 Parallel sessions, each 3 regular lectures
- 14:45 – 15:15 Closing ceremony
- 15:15 – 15:45 Coffee and departure

Accompanying Person Program



Photo: MAS Museum aan de Stroom

The city of Antwerpen is a major tourist attraction in itself, with a range of free activities available, e.g. walking tour of the central city, access to the roof terrace of the MAS museum with panoramic views over the city, as well as many inexpensive activities, e.g. guided tours of chocolate world, Seef beer brewery, and the diamond center. The IAP2022 website will provide information on suggested social activities for accompanying persons.

Accommodation

Antwerpen has a very large hotel room capacity, covering a wide price range. UAntwerpen works together with the Antwerp Convention Bureau (<https://antwerpconventionbureau.be>) to offer a special rate on a selection of hotel rooms that can be reserved by IAP2022 participants via an online booking tool. Typically the negotiated prices are 10% below the otherwise best available rate. Participants will be responsible for making their own accommodation arrangements.

Representative examples¹ of hotels in different price categories, all within walking distance of the conference venue (prices for various room types can be viewed at the pertaining websites):

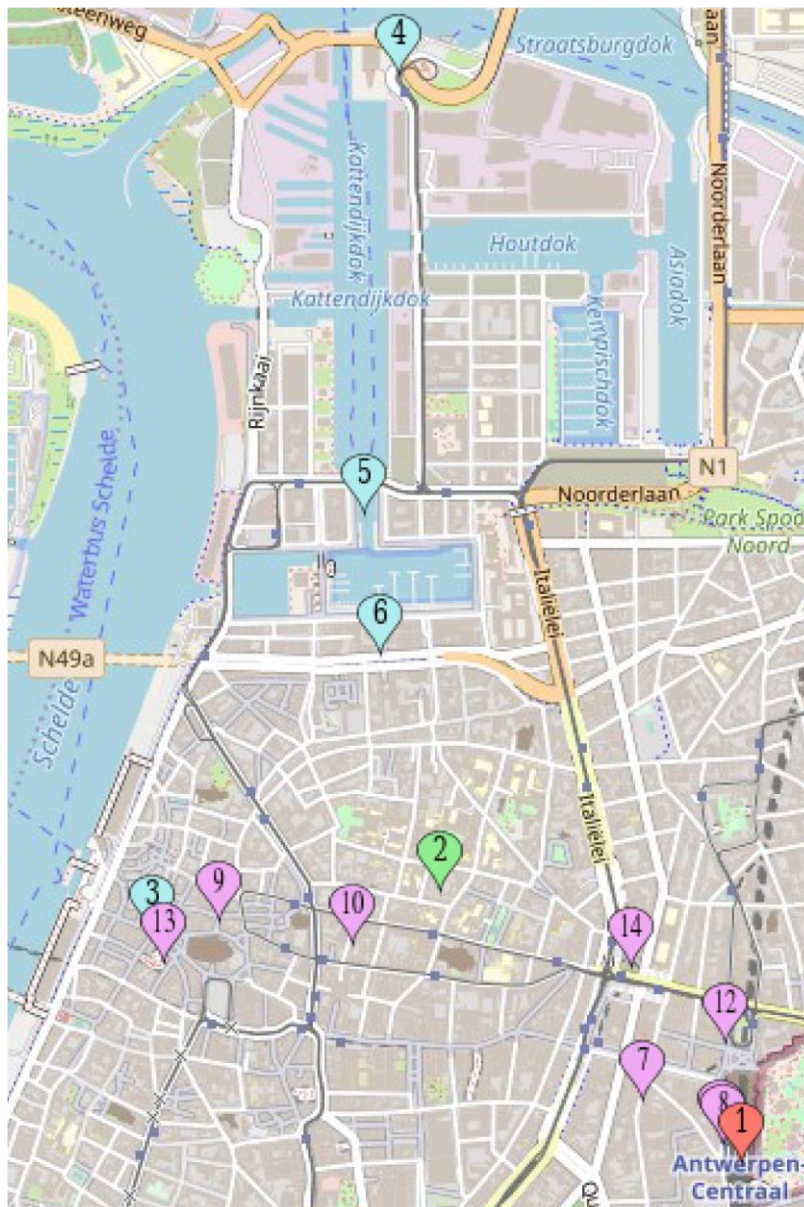
- 4 star hotels:
 - Hyllit – De Keyserlei 28-30, 2018 Antwerpen - www.hyllithotel.be
 - NH Hotel – Pelikaanstraat 84, Antwerpen – www.nh-collection.com
 - Hotel Rubens – Oude Beurs 29, Antwerpen - www.hotelrubensantwerp.be
 - Hotel Franq – Kipdorp 10/12, Antwerpen - www.hotelfranq.com
- 3 star hotels:
 - Hampton by Hilton Antwerp Central Station – Pelikaanstraat 10-16, 2018 Antwerpen – www.hiltonhotels.com/nl_NL/belgie/hampton-by-hilton-antwerp-central-station
 - Hotel Indigo Antwerpen – Koningin Astridplein 43, 2018 Antwerpen – www.ihg.com/hotels/nl/nl/antwerp/anraw/hoteldetail
 - Hotel O Kathedral – Handschoenmarkt 3, 2000 Antwerpen – <https://hotelokathedral.com>
- Youth Hostel:
 - The Ash – Italiëlei 237, 2000 Antwerpen – www.ash-antwerp.com/

¹ By 2021, a new 5 star Marriott Hotel will be open within walking distance of the conference venue.

Overview of Locations

An online zoomable version of the map below, showing the locations mentioned in this document, is available at <https://www.mapcustomizer.com/map/IAP2022AntwerpenLocations>

The distance between (1) centraal railway station and (2) conference venue is 1.3 km.



Legend

1. Centraal railway station

Conference activities:

2. Conference venue, Stadscampus

3. Stadhuis, arrival reception

4. Boat trip departure

5. Boat trip return

6. Felix Pakhuis, conference dinner

Hotels:

7. Hyllit hotel, 4*

8. NH hotel, 4*

9. Hotel Rubens, 4*

10. Hotel Franq, 4*

11. Hilton, 3* (next to NH hotel)

12. Hotel Indigo, 3*

13. Hotel O Kathedral, 3*

14. Youth hostel