

**H2020 Marie Skłodowska-Curie
Innovative Training Network
CORE www.coreitn.eu**

**Winter Workshop 2017 – Solid State
Properties**

Cluj-Napoca, Monday 6 – Friday 10 November 2017
TeraCrystal [[Google map](#)]



Contents

1	Welcome	3
	About the network	3
2	Overview of the training programme	4
	Research Work Packages	4
	ESR Projects	5
	Management Involvement.....	6
	Academic & Industrial Secondment.....	7
	The Winter Workshop 2017 – Solid State Properties	8
3	Programme.....	9
	Sunday 5 November 2017	9
	Monday 6 November 2017.....	9
	Tuesday 7 November 2017.....	9
	Wednesday 8 November 2017	10
	Thursday 9 November 2017.....	10
	Friday 10 November 2017	11
	Timetable	12
4	Abstracts.....	13
	Monday 6 November 2017.....	13
	Tuesday 7 November 2017	13
	Wednesday 8 November 2017	13
	Thursday 9 November 2017.....	15
	Friday 10 November 2017	15
	Appendices.....	16
	Appendix 1 – Introductory Event Participants	16
	Appendix 2 – Gantt Chart.....	17
	Appendix 3 – Practical Information	18
	Venues	19
	Using the wireless network as a visitor to TeraCrystal.....	19
	Transport	19
	Social Programme	20
	Cluj-Napoca.....	20
	Climate and weather	20
	Currency	20
	Electricity	20
	Emergency numbers	20
	Medical services.....	20
	Telephone	20
	Time Zone	21
	Tipping	21
	Some other useful information	21
	Tourist information	21
	Appendix 4 - Cluj Map	22
	Appendix 5 - Contact Details	23

1 Welcome

About the network

Industries are in need of highly skilled academically trained experts and powerful sets of tools enabling the design, control & prediction of optimized & efficient production process of future high-value products such as chiral pharmaceuticals. The CORE Network will in parallel train 15 ESRs and develop tools, approaches and methods within the area of Continuous Resolution (CORE), the process to obtain enantiopure molecules of chiral compounds.

CORE brings together 8 beneficiaries, 7 associate partners and 2 external experts across 7 European countries resulting in an unparalleled combination of chirality, synthesis and crystallization training and research covering the areas of Chemical Engineering, Chemistry and Applied Physics.

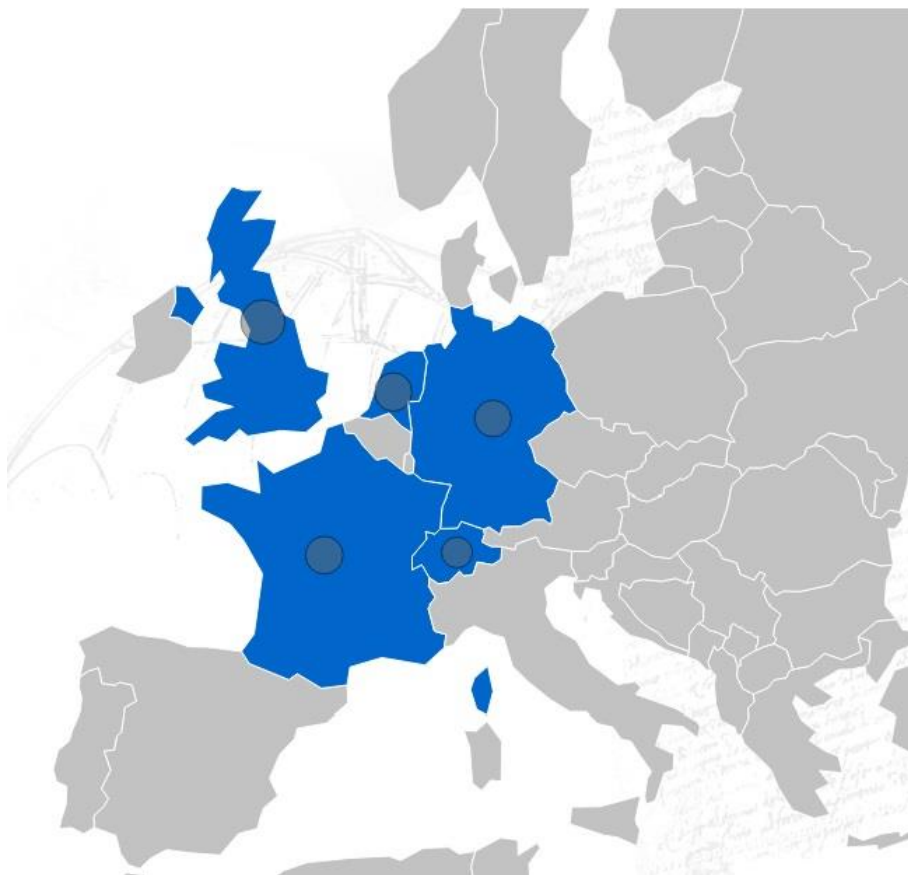


Figure 1: Beneficiary partner countries

This booklet will give you an overview of the CORE training network, and the first CORE workshop event being hosted by Associate Partner, TeraCrystal in Cluj-Napoca (Romania) and an overview on helpful practical information for the organisation of your stay in Cluj-Napoca.

2 Overview of the training programme

This event will be the third of nine network wide event, which are the main meeting events of our Innovative Training Network. Before getting into programme details it might be helpful to give you a brief reminder of the key elements of the training and research programme.

	Main Training Events & Conferences	EC	Lead	Month	Date	Confirmed
1	CORE Introduction period	2	USTRATH	4	30 Jan – 2 Feb 2017	complete
2	Summerschool Crystallization	2	RUN	8	3 – 7 July 2017	complete
3	Workshop Solid State Properties	2	TC	14	6 – 10 Nov 2017	Complete
4	Summerschool Process Analytical Tools	2	UM	19	16-20 April 2018	Dates TBC
5	Workshop Resolution Fundamentals	2	UR	23	3-6 Sept 2018	Y
6	Conference Chirality & Resolution		UR/USTRATH	23	5-7 Sept 2018	Y
7	Summerschool Continuous Resolution	2	OVGU/MPI	31	Apr-19	
8	Workshop Chiral Synthesis	2	SYNCOM	35	Aug-19	
9	Conference Chirality & Resolution		USTRATH	48	Sep-20	

The training objective of the CORE network is to deliver a CORE skills toolbox of knowledge, personal, organizational and impact skills to a core of multi-disciplinary scientists and engineers in the interdisciplinary and cross-sectional field of Continuous Resolution. Each ESR obtains dedicated training through their research project, network events, a webinar course, management involvement and an academic & industrial secondment.

Research Work Packages

The research objective of the CORE Network is to jointly construct a CORE Industrial Toolbox on Continuous Resolution that provides next generation tools, approaches and methods to industry for the development continuous resolution processes. The strongly involved industrial partners will ensure that the CORE Industrial Toolbox fulfils their requirements in the skills gap areas Towards Continuous, Hybrid Resolution and Enabling Resolution.

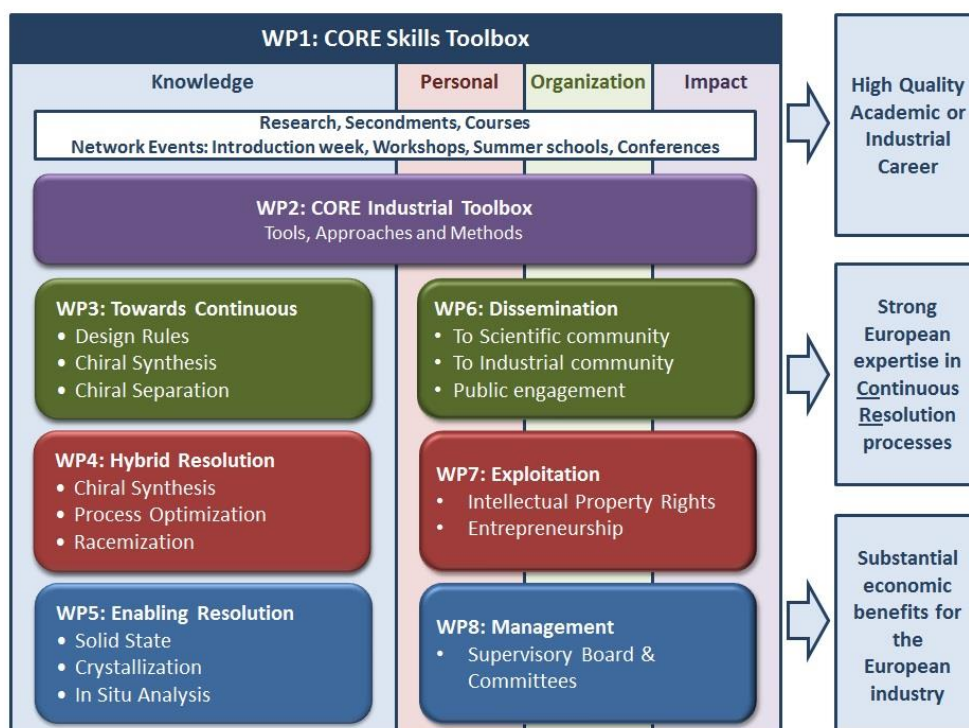


Figure 3: Each ESR will develop, validate and deliver a tool, approach or method within WP3-5 to be integrated in the CORE Industrial Toolbox (WP2), see [Figure 7](#) for the relation between WP and individual ESR projects. Through WP2 the ESRs will be trained to work in an international multidisciplinary team on

a joint target where the synergy between the ESRs will be responsible for an intensified training in both knowledge and transferable skills. Expertise areas that will be covered by the network are: Continuous Manufacturing, Chiral Resolution, Chiral Synthesis, Crystallization Fundamentals, Process Analytical Tools and Process Modelling & Design.

ESR Projects

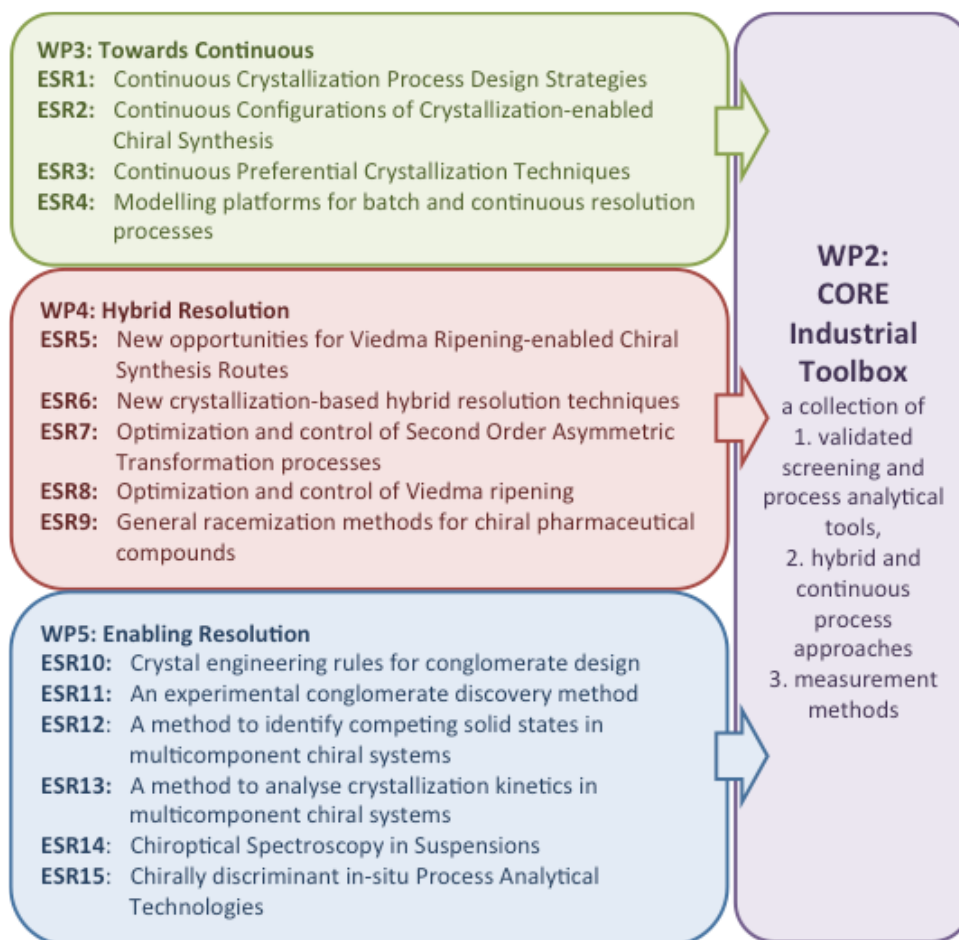


Figure 4: Relationship between WP and individual ESR projects

Management Involvement

Each ESR will be a member of the Training Committee, CORE Industrial Toolbox Committee, Dissemination Committee, Exploitation Committee or the Supervisory Board. In each of these committees 3 ESRs will be positioned. This will help the ESRs to develop management and organization skills while developing detailed strategies on e.g., dissemination.

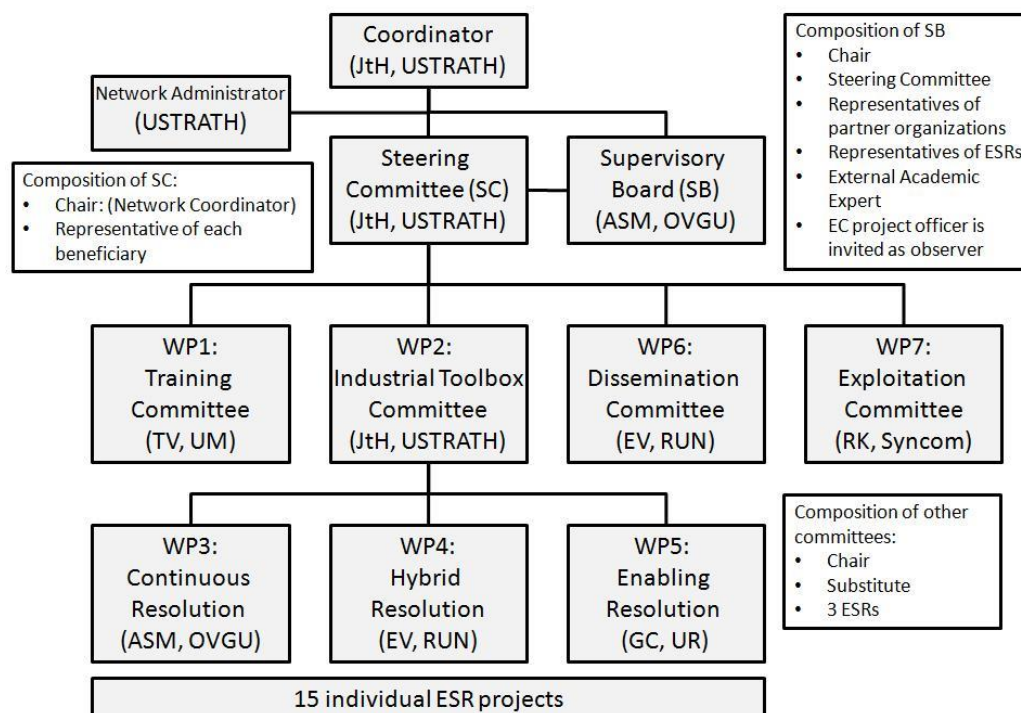


Figure 5: CORE management structure

ESR No	ESR Name	Host
Supervisory Board (Chair: Prof Andreas Andreas Seidel-Morgenstern)		
2	Johannes Hoffmann	USTRATH
8	Francesca Breveglieri	ETH
9	Carola Tortora	UEN
WP1: Training Committee (Chair: Thomas Vetter, Deputy Chair: Prof Joop ter Horst)		
3	Francesca Cascella	OVGU
12	Lina Harfouche	UR
15	Gufhran ur Rehman	UM
WP2: Industrial Toolbox (Chair: Prof Joop ter Horst, Deputy Chair: Prof Andreas Seidel-Morgenstern)		
1	Shashank Bhandari	OVGU
7	Ryusei Oketani	UR
10	Jan Joris Devogelaer	RU
WP6: Dissemination Committee (Chair: Prof Elias Vlieg, Deputy Chair: Prof Svetlana Tsogoeva)		
5	Giuseppe Belletti	RU
11	Aliou Mbodji	UR
13	Sudhansu Sekhar Jena	USTRATH
WP7: Exploitation Committee (Chair: Prof Richard Kellogg, Deputy Chair: Prof Joop ter Horst)		
4	Brigitta Bodak	ETH
6	Guilio Valenti	Syncom
14	Raghunath Venkatramanan	USTRATH

Figure 6: ESR allocation to CORE committees

Academic & Industrial Secondment

All ESRs visits/secondments are planned at the secondary supervisor institute, at an academic partner as well as at an industrial partner. Additional minor secondments at other academic or industrial partners may be arranged for ESRs to acquire additional specific skills to be added to the CORE Skills Toolbox.

ESR	ESR														
	WP3: Towards Continuous				WP4: Hybrid Resolution					WP5: Resolution Fundamentals					
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
H	OVGU	USTRATH	OVGU	ETH	RUN	SYNCOM	UR	ETH	FAU	RUN	UR	UR	USTRATH	USTRATH	UM
2	ETH	OVGU	UR	OVGU	USTRATH	USTRATH	ETH	UM	RUN	UR	RUN	USTRATH	FAU	UR	MPI
S1	USTRATH	RUN	ETH	MPI	FAU	UR	RUN	USTRATH	UM	MPI	UM	OVGU	UR	OVGU	ETH
S2	PCAS	SYNCOM	MERCK	CORBION	TC	ETH	MERCK	SYNCOM	CC	PCAS	TC	PSE	PSE	CORBION	CC

Figure 7: Planned secondments of the ESRs within the CORE Network.

H – Host institute; 2 – Second supervisor visit; S1 – Academic secondment; S2 – Industrial Secondment.

The ESR will define a short research project in cooperation with the primary and secondary supervisor to perform during the secondary supervisor visit. The second supervisor will thus provide complementary expertise and, if beneficial, can also provide access to additional equipment, analysis techniques and transferable skills training.

The academic partners will host the **academic secondments**. The ESR in cooperation with the academic secondment supervisor and the primary supervisor will define the academic research project to be performed during the 3-5 month academic secondment. The secondment at the academic partner is targeting a specific skill needed to develop the tool, approach or method for the CORE Toolbox. The aim of the visit will be to come to a joint scientific paper on the defined project.

The industrial participants will host and supervise the **industrial secondments**. The ESR in cooperation with the industrial secondment supervisor and the primary supervisor will define the industrial project to be performed during the 3-5 month industrial secondment. The secondment at the industrial partner is targeting the viability of the developed tool, approach or method for the CORE Toolbox.

The Winter Workshop 2017 – Solid State Properties

This Winter workshop 2017 on Solid State Properties is the first of three CORE workshops which are for the CORE network participants only. These workshops will consist of a scientific component in which the ESRs will be trained on a specific knowledge skill, in this case Solid State Properties and how this industrial component of the workshop will cover how the workshop theme relates to industry. Furthermore, the workshop will include:

- a discussion sessions on developing the CORE Toolbox.
- a private ESR session to generally discuss successes, strengths and weaknesses of the Network to date.
- a transferrable skills component.
- a Career Development session where speakers from academia, industry or other professional organisations give talks on their careers.
- a lecture on Intellectual Property Rights (IPR).

All Early Stage Researchers (ESRs) and their supervisors, together with representatives of the associate partner organisations, external experts, and the project manager are invited to attend the workshops to discuss the CORE project.

Before the workshop ESRs will prepare a short report on their results relating to the industrial toolbox – this will be in the form of a PowerPoint Presentation which should be **approved by your supervisor** and sent to Claire Lynch by **31 October 2017** in **PDF format**. A template for the PowerPoint presentation has been provided, this should be no more than 10 slides (excluding the title slide) for your 10 minutes presentation. During the discussion session (Tuesday 7 November) each ESR will present their progress report in a conference style presentation using PowerPoint. At the end of the ESR presentations, the separate tools and the integrated toolbox will be discussed and actions will be defined which will be registered in workshop minutes. After the event a small report on the toolbox produced by the WP2 lead beneficiary [Prof Joop ter Horst] containing a toolbox summary, minutes and an action list. This report will serve as a guide for the next workshop.

In addition, there will be scientific and transferrable skills training in:

- X-Ray Diffraction
- Solid State NMR
- Phase Diagrams
- Career Development
- Intellectual Property
- Dissemination and Public Engagement, including Writing for Research

The full programme is outlined on the following pages.

3 Programme

CORE Workshop on Solid State Properties is being hosted by Associate Partner, TeraCrystal in Cluj-Napoca, 6 – 10 November 2017

Sunday 5 November 2017

ESR Participants arrive in Glasgow: recommended accommodation [Grand Hotel Napoca](#)

Monday 6 November 2017

Venue: [TeraCrystal](#) (Donat, 67-103, B2.04, 400293, Cluj-Napoca)

- | | |
|-------------|---|
| 09:30-09:45 | Welcome to TeraCrystal and Cluj
Dr Mihaela Pop, TeraCrystal (TC) |
| 09:45-10:00 | Introduction to the first CORE Workshop - Solid State Properties
Prof Joop ter Horst, University of Strathclyde |
| 10:00-10:15 | Ice breaker activity |
| 10:15-10:30 | Coffee break |
| 10:30-12:30 | X-Ray Diffraction Lecture - TeraCrystal |
| 12:30-13:45 | Lunch |
| 13:45-15:45 | Solid State NMR Lecture – TeraCrystal |
| 15:45-16:00 | Coffee break |
| 16:00-16:45 | Meeting with Industrial Toolbox ESRs (Jan-Joris, Shashank, Ryusei)
Prof Joop ter Horst and Prof Andreas Seidel-Morgenstern |
| 16:45-17:30 | Meeting with Model Compounds (Supervisory Board) ESRs (Carola, Francesca, Johannes)
Prof Joop ter Horst and Prof Andreas Seidel-Morgenstern |

Tuesday 7 November 2017

Venue: [TeraCrystal](#) (Donat, 67-103, B2.04, 400293, Cluj-Napoca)

- | | |
|-------------|--|
| 09:00-11:00 | CORE Toolbox presentations by each ESR (1-8 presentations of 15 mins) |
| 11:00-11:15 | Coffee break |
| 11:15-12:45 | CORE Toolbox presentations by each ESR (9-15 presentations of 15 mins) |
| 12:45-13:00 | Coffee break |
| 13:00-14:00 | Core Toolbox Development Discussion and Summary (lead: Prof Joop ter Horst) |
| 14:00-14:45 | Bus to Turdu Salina (lunch on the bus) - 45 mins |
| 14:45-16:45 | Social event - Trip to Salina Turdu http://salinaturda.eu/?lang=en |
| 16:45-17:30 | Bus to back to Cluj - 45 mins |
| 18:15 | Panoramic Cetatuie , Adress: Strada Șerpuitoare 1, Cluj-Napoca 400168 |

Wednesday 8 November 2017

Venue: [Grand Hotel Napoca](#) (Octavian Goga nr.1, Cluj-Napoca)

09:00-09:30 **Industrial Partner Lecture**
Dr Olivier Lambert, [PCAS](#)

09:30-10:00 **Networking - ESRs and secondment hosts S1 and S2**

ESR	ESR														
	WP3: Towards Continuous				WP4: Hybrid Resolution					WP5: Resolution Fundamentals					
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
H	OVGU	USTRATH	OVGU	ETH	RUN	SYNCOM	UR	ETH	FAU	RUN	UR	UR	USTRATH	USTRATH	UM
2	ETH	OVGU	UR	OVGU	USTRATH	USTRATH	ETH	UM	RUN	UR	RUN	USTRATH	FAU	UR	MPI
S1	USTRATH	RUN	ETH	MPI	FAU	UR	RUN	USTRATH	UM	MPI	UM	OVGU	UR	OVGU	ETH
S2	PCAS	SYNCOM	MERCK	CORBION	TC	ETH	MERCK	SYNCOM	CC	PCAS	TC	PSE	PSE	CORBION	CC

10:00-10:15 Coffee break

10:15-12:15 In parallel:
Supervisory Board meeting
ESR filming for Project Videos

12:15-13:00 In parallel
Sub Committee meetings [45 mins]
1. Training WP1,
2. Toolbox WP2,
3. Dissemination WP7/Exploitation WP8

13:00-14:15 Lunch

14:15-15:15 **Guest Lecture - Purification by Crystallization**
Professor Heike Lorenz, Max Planck Institute Magdeburg

15:15-15:30 Break

15:30-16:30 **Career Development Session for ESRs**
Dr Thomas Vetter, University of Manchester and Dr Mihaela Pop, TeraCrystal

16:30-17:30 In Parallel:
Steering Committee (beneficiary partners)
ESRs to meet to discuss which Model Compounds they will use

Thursday 9 November 2017

Venue: [TeraCrystal](#) (Donat, 67-103, B2.04, 400293, Cluj-Napoca)

09:00-09:50 **Intellectual Property lecture**
Prof Richard Kellogg, SYNCOM

09:50-10:45 **ESRs CORE Toolbox/Model Compounds discussion**
Prof Joop ter Horst, University of Strathclyde

10:45-11:00 Coffee break

11:00-12:45 **Phase Diagrams**
Prof Gerard Coquerel, University of Rouen

12:45-14:15 Lunch

14:15-16:45 In parallel running twice (1 hour 15 mins):

- **Solid State NMR Applied Lab Training**
- **X-Ray Diffraction Applied Lab Training**

16:45-17:30 Evaluation Session for ESRs with Claire Lynch

Friday 10 November 2017

Venue: [TeraCrystal](#) (Donat, 67-103, B2.04, 400293, Cluj-Napoca)

09:00-11:00 **Dissemination and Public Engagement Session (including a Writing Session with Prof Joop ter Horst)**
Claire Lynch, University of Strathclyde and Prof Elias Vlieg

11:00-11:30 Coffee break and finish

Page | 12

4 Abstracts

Monday 6 November 2017

Training on X-ray diffraction and Solid State NMR

TeraCrystal will provide the training in partnership with the National Institute of Research and Development of Isotopic and Molecular Technologies (INCDTIM), Cluj-Napoca, Romania. TeraCrystal is a privately held R&D company founded as a *Spin-Off* from INCDTIM, offering a comprehensive range of research expertise, spanning many aspects of drug development in solid state and crystal engineering area.

Dr. Mihaela Pop, *Chief Scientific Officer* of TeraCrystal, will give training in X-ray diffraction and Dr. Claudiu Filip, *Scientific Director* of INCDTIM will be in charge of the Solid State NMR training.

The lectures will introduce essential aspects of the X-ray diffraction and Nuclear Magnetic Resonance phenomena and will describe several case studies involving characterization of solid materials with these powerful methods and with other relevant techniques, such as thermal analysis, IR and Raman spectroscopy.

The presentations will also give insight into the solid-form screening and characterization workflow of TeraCrystal with emphasis on industrial applications.

During the lab training, ESRs will have the chance to familiarize with the X-ray diffraction measurements on powders and single crystals. Also, the solid-state NMR measurement technique will be described, with examples highlighting its complementarity to X-ray diffraction.

Tuesday 7 November 2017

Toolbox Development Session

Before the workshop, ESRs will submit a short report on results relating to the industrial toolbox (see [WP2 extract](#)) – this will be in the form of a PowerPoint Presentation which should be approved by your supervisor [deadline: 31 October 2017]. During a discussion session in these events each ESR will report their progress in conference style presentations of 10 minutes with 5 minutes for questions. The separate tools and the integrated toolbox will be discussed and actions will be defined which will be registered in workshop minutes. In addition, opportunities for securing Intellectual Property and valorizing this through entrepreneurship will be discussed. After the events, a small report on the toolbox will be produced by the WP2 lead beneficiary containing a toolbox summary, minutes and an action list. This report will serve as a guide for the next workshop.

Wednesday 8 November 2017

Associate Partner – PCAS presentation

Dr Olivier Lambert, PCAS will give a talk about Associate Partner PCAS <http://www.pcas.com/>

PCAS is a technology-oriented fine chemical group serving globally industrial customers since 1962. Our core expertise: Development of processes and production of complex molecules for Life Sciences and Specialty Chemicals Markets.

PCAS ensures Safety and Reliability with respect to regulations (sustainable development, ISO, GMP), and guarantees total confidentiality. Its strengths lie in high reactivity, its sub-contracting flexibility and its customer-oriented service, guiding customers into new markets at the forefront of Technology.

Networking - ESRs and secondment hosts S1 and S2

A networking session has been arranged for ESRs to meet with secondment (academic and Industrial) hosts to discuss potential projects while on secondment.

ESR	ESR														
	WP3: Towards Continuous				WP4: Hybrid Resolution					WP5: Resolution Fundamentals					
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
H	OVGU	USTRATH	OVGU	ETH	RUN	SYNCOM	UR	ETH	FAU	RUN	UR	UR	USTRATH	USTRATH	UM
2	ETH	OVGU	UR	OVGU	USTRATH	USTRATH	ETH	UM	RUN	UR	RUN	USTRATH	FAU	UR	MPI
S1	USTRATH	RUN	ETH	MPI	FAU	UR	RUN	USTRATH	UM	MPI	UM	OVGU	UR	OVGU	ETH
S2	PCAS	SYNCOM	MERCK	CORBION	TC	ETH	MERCK	SYNCOM	CC	PCAS	TC	PSE	PSE	CORBION	CC

ESRs Attending Workshop				Hosts Attending Workshop	
ESR1	Shashank	Bhandari	OvGU	USTRATH/ PCAS	
ESR2	Johannes	Hoffmann	Strathclyde University	RUN/ SYNCOM	
ESR3	Francesca	Casella	OvGU	MERCK	
ESR4	Brigitta	Bodak	ETH Zürich	MPI/CORBION	
ESR5	Giuseppe	Belletti	Radboud University Nijmegen	TC	
ESR6	Giulio	Valenti	Syncom BV	UR	
ESR7	Ryusei	Oketani	University of Rouen Normandy	RUN/MERCK	
ESR8	Francesca	Breveglieri	ETH Zürich	USTRATH/SYNCOM	
ESR9	Carola	Tortora	FAU	UM	
ESR10	Jan-Joris	Devogelaer	Radboud University	MPI/PCAS	
ESR11	Aliou	Mbodji	University of Rouen	UM/TC	
ESR12	Lina	Harfouche	University of Rouen	OVGU	

Filming

An interview session will take place on Wednesday 8th between 10:15-12:15, in parallel with the Supervisory Board meeting. All ESRs will be interviewed, recorded and eventually posted on our social media channels such as YouTube, Facebook etc. This in order to let people know about your individual projects.

Each interview will be around 2-3 minutes and you can find a list of the questions below. The format of the interview will be follow: the first 3 points are meant to be asked to all of the interviewees, while the others are questions which can be asked in addition. The complete interview will consist of the first 3 + 2 questions of your choice among the last ones. The idea is to differentiate a bit the interviews from each other indeed by using different questions among the last 5.

To all of the interviewees:

- 1- Brief Introduction of the interviewee (Name, surname, Country of birth and current University)
- 2- What and where did you study?
- 3- What is your research about?

Additional (to choose 2 for each interviewee):

- 4- What are the benefits working in a Marie-Curie ITN?
- 5- How does your project contribute to society?
- 6- How do you see yourself after this experience in a ITN?
- 7- Would you recommend working in a Marie-Curie ITN to other people (i.e. students who are about to complete their degree)? Why?
- 8- How do you think this ITN project could be useful for you and for your personal growth?

Career Development session

Dr Thomas Vetter (University of Manchester) and Dr Mihaela Pop (TeraCrystal) will talks about their respective careers. Followed by a question and answer session.

Thursday 9 November 2017

Intellectual Property session

Prof Richard Kellogg (Syncom) will present a case study based on a company that he and some colleagues previously setup. The talk will focus on motivation, positions, the legal aspects, finance and some of the problems they encountered.

Phase Diagrams

Prof Gerard Coquerel (University of Rouen) will continue the lecture on Phase Diagrams from Summer School

Guest Lecture - Purification by Crystallization

apl. Prof. Dr. Heike Lorenz (Max Planck Institute for Dynamics of Complex Technical Systems, Magdeburg/Germany)

Crystallization can be considered as a process to separate a target compound from a complex matrix of starting materials or from a reaction (synthesis) mixture containing co- or by-products. It principally facilitates high purities since the crystal lattice of the target compound is very selective with regard to the molecules to be incorporated. On the other hand, the purification effect can be degraded by limited solubility of the impurity molecules in the crystal lattice of the target and by kinetic effects during crystallization. In this connection, the talk is focused on fundamentals of purification by crystallization in general. It will refer to 1), the mechanisms of incorporation of impurities in a crystalline product, 2), the evaluation of the purity attainable using the distribution coefficient and, in the main part 3), strategies to minimize impurity incorporation by modifying the crystallization conditions and the impact of downstream processes on final product purity.

Evaluation session for ESRs

The ESRs will have their own private session to generally discuss successes, strengths and weaknesses of the Network to date. The outcome of these evaluation sessions will be reported to the CORE Steering Committee, who will act on the reported issues.

Friday 10 November 2017

Dissemination and public Engagement

Claire Lynch will provide an overview of Communication, Public Outreach/Engagement activities, this session will include the development of a personal communication and outreach plan for the next 12 months.

Prof Joop ter Horst will provide an overview of Writing for Science and your PhD. This will include tips on Style and the Format.

Appendices

Appendix 1 – Introductory Event Participants

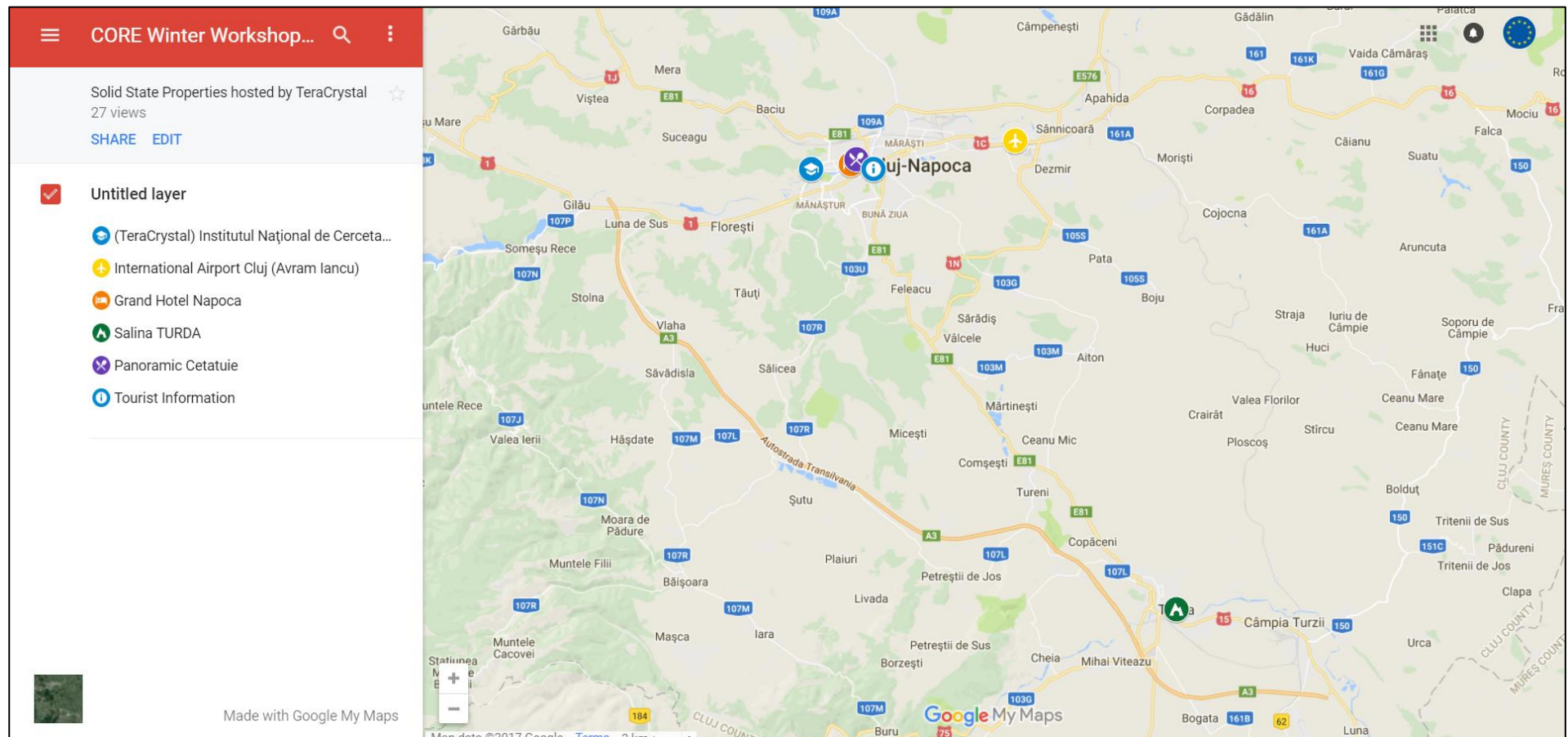
Category:	First Name:	Family Name:	Organisation:
ESR	Giuseppe	Belletti	Radboud University Nijmegen
ESR	Shashank	Bhandari	OvGU
ESR	Brigitta	Bodak	ETH Zürich
ESR	Francesca	Breveglieri	ETH Zürich
ESR	Francesca	Casella	OvGU
FP	Gerard	Coquerel	University of Rouen
ESR	Jan-Joris	Devogelaer	Radboud University
EXT	Claudia	Filip	INCDTIM
AP	Neil	George	Syngenta
AP	Gerard	Guillemot	PCAS
ESR	Lina	Harfouche	University of Rouen
ESR	Johannes	Hoffmann	Strathclyde University
ESR	Sudhansu Sekhar	Jena	University of Strathclyde
AP	Alex	Kalbasenka	Corbion
FP	Richard	Kellogg	Syncom BV
AP	Olivier	Lambert	PCAS
AP	Heike	Lorenz	Max Planck Institute for Dynamics of Complex Technical Systems, Magdeburg
FP	Claire	Lynch	University of Strathclyde
ESR	Aliou	Mbodji	University of Rouen
AP	Claud-Peter	Niesert	Merck KGaA
ESR	Ryusei	Oketani	University of Rouen Normandy
AP	Mihaela	Pop	TeraCrystal
ESR	Ghufran ur	Rehman	University of Manchester
FP	Andreas	Seidel-Morgenstern	Max-Planck Institute Magdeburg
FP	Joop	ter Horst	University of Strathclyde
ESR	Carola	Tortora	FAU
ESR	Giulio	Valenti	Syncom BV
ESR	Raghunath	Venkatramanan	University of Strathclyde
FP	Thomas	Vetter	University of Manchester
FP	Elias	Vlieg	Radboud University

Figure 8: Planned secondments of the ESRs within the CORE Network.

AP – Associate Partner, ESR – Early Stage Researcher, EXT – External, FP – Full Partner (Beneficiary)

[illegible]

Appendix 3 – Practical Information



[\[view Google map\]](#)

Venues

This CORE Introductory event will take place in two venues:

- Monday 6, Tuesday 7, Thursday 9 and Friday 10 November - [TeraCrystal Offices](#) (Donat, 67-103, B2.04, 400293, Cluj-Napoca)
- Wednesday 8 November – [Grand Hotel Napoca](#) (Octavian Goga nr.1, Cluj-Napoca)

Using the wireless network as a visitor to TeraCrystal

WiFi Guest

SSID: Core2017

PASSKEY: W0rksh0p

Transport

You can use the route planner to plan your journey by public transport in Cluj <http://ctpcj.ro/index.php/en>

Arrival Transport - Getting from the Airport to Grand Hotel Napoca

Cluj is served by an international airport http://airportcluj.ro/?id_limba=2

The airport is located 6 miles east of the city centre.

Taxis are the quickest way to get from the airport to Cluj downtown.

(approximate fare: the equivalent of \$8.00)

BUS from the Airport to the City centre

Duration of the trip: Airport → Cluj-Napoca - City centre: approx. 30 minutes.

Public transportation **line no. 8.**

Public transportation **line no. 5**

More details about the route changes you can consult the CTP

webpage: <http://ctpcj.ro/index.php/en/timetables/urban-lines/linia-5d>.

Monday-Friday → 5:10 a.m. - 10:38 p.m., waiting time approx. 10 minutes.

Saturday → 5:48 a.m. to 8:57 p.m., waiting time approx. 20 minutes.

Sunday → 6:22 a.m. - 08:57 p.m., waiting time approx. 20 minutes.

TAXI from the Airport to the City

A taxi station can be found outside the Passenger Terminal Arrivals. Only use taxis equipped with charge meters and which have prices displayed in sight.

Estimated cost: 0.50 €/km (2.25 RON/km - at day, 3.00 RON/km - at night).

Getting from Central Train station to Premier Inn Hotel

Getting around Cluj

The public transportation system runs between 05:00 and 23:15. A two-ride ticket costs about 3,50 lei. Tickets must be purchased beforehand and validated in the ticket-stamping machine upon boarding. There are 4 forms of public transport in the city; buses, trolleybus, tram and minibus.

You can find the timetables online <http://ctpcj.ro/index.php/en/timetables/urban-lines>

To get from the Grand Hotel Napoca to TeraCrystal Offices you can either take a taxi (approx. 5 minutes), the bus or you can walk 2 km, 26 minutes.

Social Programme

A trip to the Turda Salt Mines (Salina Turda <http://travelguideromania.com/turda-salt-mine-things-see-transylvania/>) has been arranged for Tuesday 7 November in the afternoon followed by dinner in Cluj. Turda Salina is 23 miles southeast of Cluj Napoca.

Dinner will take place in - [Panoramic Cetatuie](#), Adress: Strada Șerpuitoare 1, Cluj-Napoca 400168

Cluj-Napoca

Cluj-Napoca, commonly known as Cluj, is the second most populous city in Romania, after the national capital Bucharest, and the seat of Cluj County in the northwestern part of the country. Geographically, it is roughly equidistant from Bucharest (324 kilometres (201 miles)), Budapest (351 km (218 mi)) and Belgrade (322 km (200 mi)). Located in the Someșul Mic River valley, the city is considered the unofficial capital to the historical province of Transylvania. From 1790 to 1848 and from 1861 to 1867, it was the official capital of the Grand Principality of Transylvania.

As of 2011, 324,576 inhabitants live within the city limits. The city spreads out from St. Michael's Church in Unirii Square, built in the 14th century and named after the Archangel Michael, the patron saint of Cluj-Napoca. The boundaries of the municipality contain an area of 179.52 square kilometres (69.31 sq mi).

Today, the city is one of the most important academic, cultural, industrial and business centres in Romania. Among other institutions, it hosts the country's largest university, Babeș-Bolyai University, with its famous botanical garden.

See <http://romaniatourism.com/cluj-napoca.html> for more information.

Climate and weather

(24/10 check, accuweather.com) Temperatures vary between 7 and 10°C during the daytime and may decrease to -5°C at night. The weather alternates between cloudy and sunny.

Currency

The Romanian Leu is the currency of Romania. The currency code for Lei is RON, and the currency symbol is lei. Banknote denominations: 1, 5, 10, 50, 100 and 500 lei; Coins: 1, 5, 10 and 50 bani pieces. (pronunciation: bahnee) and 1 leu = 100 bani.

Electricity

Romania's electrical current is 230 V -- 50 cycles; sockets take the standard continental European dual round-pronged plugs. A plug adaptor is required for non-European appliances.

Emergency numbers

112 –is the single emergency number in Romania for the Ambulance Service, Police, Fire Service.

Medical services

Citizens of the EU receive free or reduced-cost state-provided health care cover with the European Health Insurance Card (EHIC) for medical treatment that becomes necessary while in UK: <http://ec.europa.eu/social/main.jsp?catId=559>

Telephone

The international access code for Romania is +40.

Time Zone

Romania is in the Eastern European Time Zone which is 2 hours ahead of Coordinated Universal Time (+2 UTC) and 1 hour ahead of Central European Time (+1 CET).

Tipping

Prices shown in bars and restaurants always include tax. However, if you have appreciated the service, you may wish to leave a tip. This is usually around 5-10%.

Some other useful information

<http://romaniatourism.com/practical-information.html>

Tourist information

Cluj Tourist Information Centre
(Centrul de Informare Turistica)

Address: Blvd. Eroilor 6 - 8

Telephone: 0264 452.244

E-mail: office@visitcluj.ro

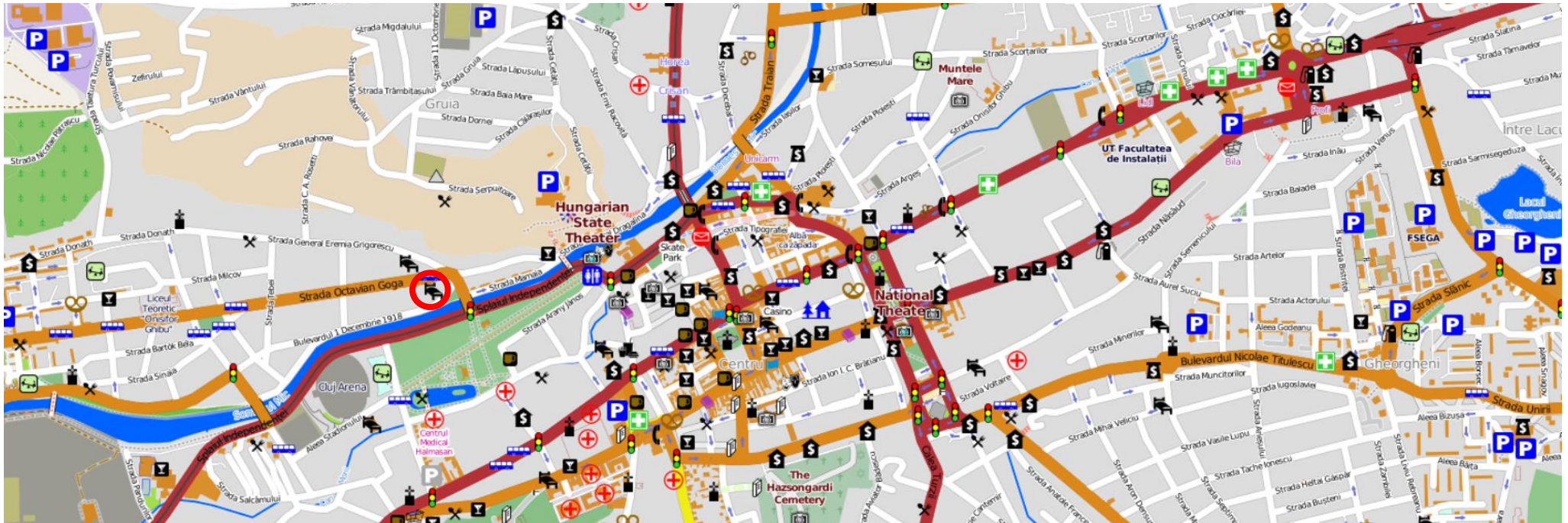
www.visitcluj.ro

www.visitclujnapoca.ro

The Tourist Information Centre provides maps, brochures and information on accommodations, restaurants and transportation.

Appendix 4 - Cluj Map

You can download this version of the map: <http://www.mappedplanet.com/karten/351/1.png>



Appendix 5 - Contact Details

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CORE Social Platforms



We wish you a pleasant stay in Cluj-Napoca!

www.coreitn.eu