

## Training Event 1 minutes of H2020-ITN THERACAT (765497)

### Abstract

This document provides the minutes for the Training Event 1 of the THERACAT ITN project, held at TU/e in Eindhoven on March 25<sup>th</sup>, 27<sup>th</sup> – 29<sup>th</sup> 2019.

*Note: All presentations noted in the minutes are uploaded in the project website (intranet) with the exception of those that could not be distributed by the speaker due to confidentiality issues.*

### Issued by

<b>Name</b>	Rosa Miralles	<b>Partner</b>	IBEC	<b>Date</b>	30/04/2019
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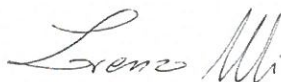
### Reviewed by

<b>Name</b>	Lorenzo Albertazzi	<b>Partner</b>	IBEC	<b>Date</b>	03/05/2019
<b>Name</b>	All Attendees	<b>Partner</b>	All	<b>Date</b>	17/05/2019

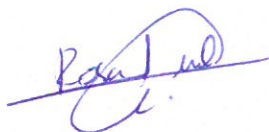
### Document Control

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## 1. Attendees

**IBEC:** Lorenzo Albertazzi\*, Rosa Miralles\*

**TUE:** Anja Palmans\*, Bert Meijer

**GRO:** Gerard Roelfes

**BAS:** Thomas Ward

**EDI:** Asier Unciti-Broceta

**TAU:** Ronit Satchi-Fainaro, Roey Amir

**TEVA:** Bianca Avramovitch

**TAG:** Marc Robillard

**BGX:** Laura Goldie

### ESR Fellows:

Michela Vargiu\* (GRO)

Shreyas Wagle\* (TAU)

Anjana Sathyan\* (TUE)

Stephen Croke\* (EDI)

Manos Arxontakis\* (TUE)

Alis Olea\* (IBEC)

Linlin Deng\* (TUE)

Africa Galvez\* (BGX)

Boris Lozhkin\* (BAS)

Melissa van de l'Isle\* (EDI)

Maria Vlastara\* (TAG)

Daniel Rodriguez\* (TAU)

*\* Have attended all week. The rest have come on Monday leaving on Tuesday.*

## 2. Agenda

<b>Monday 25th March 2019: General introduction</b>			
<b>Schedule</b>	<b>Activity</b>	<b>Responsible</b>	<b>Attendees</b>
11:00-14:30	Welcome and reception	Albertazzi	All
14:30-15:00	General introduction of the network and scientific goals	Albertazzi	All
15:00-15:30	Introduction of the training programme	Albertazzi	All
15:30-16:30	Talk: innovating in cancer therapy	Unciti-Broceta	All
18:30-21:00	<i>Network Dinner at ICMS -</i> <a href="http://www.cateringheesterakker.nl">http://www.cateringheesterakker.nl</a>	-	All

<b>Wednesday 27th March 2019: Skills to start a successful PhD</b>			
09:00-10:30	PhD management (4 scientists sharing their experience with managing PhD & open discussion with moderator – Vantomme, Feiner, van der Meel, Baker)	Palmans	ESRs
10:30-12:00	Diversity and inclusion workshop	Sovago (NWO)	ESRs
12:00-13:30	<i>Lunch at ICMS</i>	-	<i>ESRs</i>
14:00-15:30	Visit at TU/e facilities	Albertazzi	ESRs
15:30-16:30	Ethics (game with cards)	Palmans	ESRs
16:30-17:00	Personality test & grouping ESRs in teams	Bruining (TUE)	ESRs

<b>Thursday 28th March 2019: Scientific communication</b>			
09:00-09:30	Editorial process: an introduction	Öllers (TUE, Wiley editor)	ESRs
09:30-11:00	The editor tips and point of view	Graziano (Nat. Rev. Chem. Editor)	ESRs
11:00-12:00	Game: be the reviewer – Paper assignment and time to do it	Albertazzi	ESRs
12:00-14:30	<i>Lunch at ICMS + Extra time for review</i>	-	<i>ESRs</i>
14:30-15:30	Be the reviewer: reports	Graziano	ESRs
15:30-17:30	Open science	Öllers (TUE, Wiley editor)	ESRs

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**Friday 29th March 2019: ESRs Meeting**

09:00-11:00	ESRs Meeting: <ul style="list-style-type: none"><li>• Election of the ESR representative for the SB</li><li>• Formation of the fellows committee (3 ESRs)</li><li>• Discussion on fellow-related initiatives</li></ul>	Miralles	ESRs
11:00-12:00	Teambuilding activity	Miralles	ESRs
12:00-12:30	Closing Remarks	Albertazzi	ESRs

## 3. Minutes

### 3.1 General Introduction

#### **GENERAL INTRODUCTION OF THE NETWORK AND ITS SCIENTIFIC GOALS**

- Performed by: Albertazzi (IBEC)
- IBEC presented the spirit of the project (overview of the research part including work packages) but putting also big emphasis on the relevance of the training part to be implemented within the network (refresh information to supervisors, introduce the information to ESR fellows).
- In particular the coordinator presented and discussed with the students their role in terms of research and training.
- The coordinator highlighted the research overlap between the research groups of the consortium, in light of collaborations and secondments.

#### **INTRODUCTION OF THE TRAINING PROGRAMME**

- Performed by: Albertazzi (IBEC).
- Presentation of the training objectives: Research Excellence, Industrial and Entrepreneurship training, Transferable skills acquisition.
- Revision of the THERACAT expertise within the consortium (interdisciplinary).
- Schedule of all training events.
- Dissemination and Communication activities: publications, conferences, partners' websites, cancer-related charities, social media, videos, etc.

#### **TALK: INNOVATING IN CANCER THERAPY**

- Performed by: Unciti-Broceta, Innovative Therapeutics Lab (EDI).
- The THERACAT project was inspired by the idea of performing non-natural metal catalysis in cells.
- Challenge: reactions mediated by non-biological transition metals in living systems.
- Requirement: elimination / control of the inherent toxicity of the metal.
- The idea of implanting an inactive device inside of a tumor that would convert an inactive prodrug into an active drug was extensively discussed with surgeons at UK who were very interested in that approach.
- EDI developed Pd devices and placed them into zebrafish as a PoC → non-toxic for zebrafish, and they produced local activation of a probe *in vivo*.
- Concepts and explanations about: How to design a biorthogonal prodrug / Prodrug safety and activation / Pd-activated prodrugs and *ex vivo* activation of chemotherapy / Essentials for the prodrug to work *in vivo*.
- Questions & doubts from both ESRs and PIs.

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## 3.2 Skills to start a successful PhD

### **PhD MANAGEMENT**

- Performed by: Vantomme (postdoc, TUE), Van der Meel (Assistant Professor, TUE), Baker (Assistant Professor, Maastricht University), Feiner (last year PhD student, IBEC/TUE). Moderator: Palmans (TUE).
- Motivational talks by:
  - Vantomme: day-to-day issues, from hypothesis to reality, importance of publications and asking for help to your colleagues.
  - Van der Meel: explained his professional trajectory (former MSCA IF Fellow and Veni granted), the importance of collaborating with other researchers during the PhD, the importance of using new findings of your own research for teaching, how to learn from grant applications, the importance of internships.
  - Baker: explained his professional trajectory (PhD in Florida, postdoc at TUE and Maastricht University), differences between US and NL in terms of research and culture, importance of having your own funding in the US to have more flexibility in terms of hours to work a week (normally requested to work around 50-60h/week).
  - Feiner: explained her PhD thesis experience, importance of time management (weekly plans and internal deadlines), being critical with the supervisor advices and understanding the reasons behind any decision taken.
- Open discussion:
  - Questions from ESRs to panel scientists: how to organise writing of the PhD thesis, main lessons learned from grant/fellowship applications, daily routines when doing a PhD at the US, how to deal with having different criteria than your PhD advisor for a given experiment/approach.
  - Question for each ESR: what are you most excited and most scared about starting a PhD?

### **DIVERSITY AND INCLUSION WORKSHOP**

- Performed by: Maria Sovago (external trainee; physicist, Netherlands Organisation for Scientific Research - NWO)
- Overall, training encouraged ESR Fellows to interact among themselves and work out of the comfort zone, being extremely interactive and requiring both physical and cognitive activity. Exercises comprised working in small groups for discussions, presentations and individual reflections.
- ESRs realized of the diversity present in the group (all of them coming from different countries). ESRs reflected on the aspects they have in common and those that make each of them unique, realizing that they have much more in common than they may think before the exercise.
- Open discussion: What is diversity and inclusion?
  - Diversity:
    - Different backgrounds, cultures, treatment, gender, age, aids → we are altogether a mix → we are responsible to make the mix work, not only the institution.
    - Equal rights (equality: we treat everybody equally)
  - Inclusion: being part of the team; equity (observe the differences and give everybody the same opportunities, working for inclusion)
- Discussion in groups of 3-4 fellows: one fellow shares a recent past experience where s/he felt different and the rest give him/her their opinion. After the discussion, the main conclusion is that diversity is about color blind and inclusion about color awareness.

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## **VISIT AT TU/e FACILITIES**

- Performed by: Albertazzi (IBEC)
- Guided tour on TUE facilities and laboratories: ICMS laboratories and instrumentation (confocal microscopes, X-ray scattering, ellipsometer, AFM, super resolution microscope), TUE library, Innovation space for students (for education of students through practical means besides the formal courses), Chemistry Department building (macromolecular and organic laboratories including characterization and purification laboratories/equipment; chemical biology laboratories including instrumentation such as MS, GC, HPLC, glove box), Physics Department building (biophysics laboratories including cell culture and sample preparation facilities, microscope laboratory).

## **ETHICS**

- Performed by: Palmans (TUE)
- Interactive game based on “Dilemma Game: Professionalism and Integrity in Research” developed by the Erasmus Universiteit Rotterdam.
- General procedure: ESRs are divided into groups of 3-4 and they have to play between 5 and 8 dilemma cards (each dilemma takes about 10 minutes). Dilemma categories: (A) Researcher position; (B) Research strategy; (C) Research phase.
- Instructions: (1) first participant (“player”) reads first dilemma card; (2) each ESR chooses one of the four alternative courses of the action that best reflects his/her preference and places de card of the chosen option (A, B, C or D) face down on the table; (3) each ESR explains his/her preferred action; (4) in case of disagreement, ESRs defend the different options (max. 5 minutes); (5) all ESRs reconsider their choice, putting their option card face down again; (6) “player” reveals his/her final choice and the other ESRs decide if it is acceptable or not laying the appropriate voting card (“Ok” or “Not ok”) face down on the table; (7) one by one, each ESR reveals his/her vote and results are noted in the tracking list.
- Example of one dilemma card:  
*After years of hard work my paper is now at an advanced stage of the reviewing process with a leading journal. The referee has asked me to carry out a number of robustness checks. It turns out that my main results disappears in one of the robustness checks. This is also the check that I find relevant for the type of work I have performed. What do I do?*
- Examples of topics in dilemma cards: results to be included in a paper; science versus society; how to agree in topic of the PhD thesis with the supervisor; integrity in publications; authors’ order in a publication; analyzing research data; integrity when sharing new ideas for research with colleagues.
- Take-home message: in case of disagreement, communication is the key.

## **PERSONALITY TEST & GROUPING ESRs IN TEAMS**

- Performed by: Bruining (external trainee; Managing Director at ICMS, TUE)
- She described her professional trajectory (from industry –Johnson & Johnson– to academia –TUE).
- Open discussion with ESRs: how to make impact (communication, novelty, skills, etc. → impact = quality x acceptance).
- Personality: classification into 4 personalities based on extrovert vs introvert and task-oriented vs people-oriented: D (Dominance), I (Influence), C (Compliance), S (Steadiness). Description of each personality and grouping ESRs into each of the 4 personalities.



Afterwards, groups of 4 ESRs with different personalities were formed to perform the activity of the following day focused on reviewing papers.

- ESRs did the test to find out which group they belong to: <https://www.123test.com/disc-personality-test>

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## 3.3 Scientific communication

### **EDITORIAL PROCESS: AN INTRODUCTION**

- Performed by: Öllers (external trainee; research information specialist at TUE, former Wiley editor)
- Introduction to the editorial process, including concepts and explanations about: why publishing; how to know a journal is good; basic sequence of events when publishing a paper; the peer-review process (editorial workflow, editors and referees check, selection of referees); internal/external editorial office structure; paper accepted/rejected; the role of scientific journals; copyright and copyright transfer agreement; access to journals by universities; short history of publishing.

### **THE EDITOR TIPS AND POINT OF VIEW**

- Performed by: Graziano (external trainee; senior editor Nature Review Chemistry)
- Explained her professional trajectory and gave an overview of all Nature journals.
- Explanations about: types of journals (primary research vs reviews); a review life cycle; which journal is the most appropriate in terms of scope?; tips to prepare a good abstract – the *Nature* formula (including real examples of good and bad abstracts); elements and structure of a paper; writing tips; how to make clear figures; cover letter preparation (real examples of good/bad cover letters); the peer review process and its benefits; referee reports (examples of useful and non-useful reports); decisions of the editors; how to appeal a rejection.
- Questions & answers:
  - Are editors in touch with editors from other journals? *They are in touch but cannot disclose any information about manuscripts due to confidentiality issues.*
  - How to deal with a multidisciplinary article which topic is clearly in-between two different journals (e.g. Nat. Rev. Chem and Nat. Chem. Phys.)? *Normally the author can discuss it with the editor to decide which is the most suitable journal.*
  - How much the referee suggestions/exclusions are followed? *Usually the editors make their own choice of referees and afterwards they may check author's suggestions; regarding exclusions, there should be an important reason behind excluding a given referee to ensure that s/he will not review the article. Otherwise they may send it to excluded reviewers.*
  - How an editor deals with strong disagreements between referees? *Actually, editors do not count reviewer votes, but assess arguments; they can also overrule a reviewer's opinion. They also assess the type of disagreement (is it about the approach? About the experiments?) and if needed they include an extra reviewer.*
  - How to become an editor? *You need to have good writing skills and once hired you will have some training.*

### **GAME: BE THE REVIEWER**

- Guided by: Graziano (external trainee; senior editor Nature Review Chemistry)
- ESRs are divided into the three groups formed the day before and each group is assigned a paper in the field of chemistry published on Chemical Communications (x1) and Macroletters (x2). They have to read it and review it (2.5 hours).
- Open discussion ESRs – Graziano after reviewing the papers:
  - ESRs wonder what to do when they do not have the background suitable to review the whole content of the paper (especially for multidisciplinary papers) –

- Graziano suggests letting the editor know which aspects they feel/do not feel comfortable on providing feedback.
- Time: Graziano highlights the importance of being selective when accepting manuscripts to be reviewed and be realistic with the time available to comply with deadlines.
  - Reasons for a referee to ask for extra experimental work: (1) evidence presented is not enough to support claims; (2) expand applications presented in the article.
  - Referee reports by ESRs:
    - Chemical Communications (Stephen, Boris, Alis, Melissa): they gave technical feedback on the content of the paper (goal and conclusions of calculations presented in the project are not clear at all; too general claim of the future applications based on the results); article fits the journal. Overall rating: needs extra experimental work.
    - Macroletters 1 (Daniel, Linlin, Manos, Africa): they gave technical feedback on the content of the paper (good and relevant results); novelty and final application are not clear, despite the article may fit in the given journal; English should be improved and make it difficult to understand the paper; they realized about the importance of choosing the right referees (having the proper background) to review the paper.
    - Macroletters 2 (Shreyas, Anjana, Michela, Maria): they gave technical feedback on the content of the paper (relevant results despite they suggest some extra experiments/analysis -e.g. molecular dynamic analysis); final goal/main advantages over existing polymers is not clear. Overall rating: needs further experiments.

## **OPEN SCIENCE**

- Performed by: Öllers (external trainee; research information specialist at TUE, former Wiley editor)
- Open science concepts and related issues: differences between traditional and open science; European Open Science Cloud; (near-)future research landscape for PhDs; open access publishing; most common open access types (green / hybrid / gold open access); plan S versus current funder requirements.
- Practical exercise in groups of 2 ESRs:
  - Each group is assigned two journals: Group 1 – Macromolecules and ACS Central Science; Group 2 – ChemBioChem and Science Advances; Group 3 – Nature Chemistry and Nature Communications; Group 4 – Journal of Biological Chemistry and PNAS; Group 5 – Chemical Science and Chemical Communications; Group 6 – Angewandte Chemie and Advances Science.
  - Instructions: in order to comply with H2020 policy requirements, check the questions below for each journal (15-20 minutes to do it)
    1. How the article can be published open access (green, hybrid and/or gold)
    2. Whether costs need to be paid and how much
    3. Whether an embargo time applies and if yes, how long is the embargo time
    4. Which open access route is compliant with the H2020 policy
  - Afterwards, Öllers gave the right answers to the exercise and results were discussed: advantages and disadvantages of open access; how to better reach general public and raise acceptance of scientific research; importance of impact factor.
- Data management and related issues: what are researchers required to do with respect to data management once funding has been awarded?; data management plan sections;

research life cycle and research data management; deposit data in a trusted repository; making your research data FAIR.

- Practical exercise: each ESR was given a set of 7 questions to be answered about (1) General aspects of open science; (2) Research data and open data; (3) Open access publishing. An open debate took place on societal impact of research, how to define the research agenda, open access pros and cons, how to manage research data, the role of publishers in the advancement of science, among others.

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## 3.4 ESRs Meeting

### **MEETING**

- Performed by: Miralles (IBEC)
- IBEC gave/reminded ESRs key relevant information about the project: title, acronym, duration, project ID, funding body, funding scheme, topic, useful websites and relevant documents.
- IBEC explained tasks of the Fellows Committee to the ESRs and asked for 3 volunteers to lead it for the next 12 months.
  - Final composition of the Fellows Committee: (1) Shreyas Wagle (ESR2); (2) Maria Vlastara (ESR12); (3) Stephen Croke (ESR5).
  - ESR Representative for the Supervisory Board: Shreyas Wagle (ESR2).
- IBEC refreshed the next meetings and events' calendar.
  - The guidelines for the Mid-Term Check Meeting with the Project Officer were carefully reviewed.
  - ESRs were informed about the individual presentation they will have to prepare.
  - ESRs discussed how to organize the restricted session fellows – Project Officer and decided to have one single meeting with all researchers together. IBEC informed about the main issues that will be discussed during the meeting (administration, supervision and integration, training) and about the short presentation they have to prepare summarizing ESRs' feedback.
- IBEC refreshed the THERACAT training programme: (1) Local scientific activities, (2) THERACAT Conference, (3) Secondments and (4) Network-wide scientific/complementary skills courses (Training Events), putting special emphasis on secondments. The new calendar of secondments was carefully reviewed with ESRs, paying special attention to those secondments that should start in the next 12 months.
- IBEC explained differences between dissemination (i.e. scientific publications, conferences, etc.) and communication (i.e. THERACAT webpage, social media, blogs, videos, general press articles, science festivals, etc.).
  - Concerning THERACAT webpage, IBEC reminded that access to Intranet section was already given to all ESRs and that they will have to provide some information to fill in section "Fellows" (background / profile / ITN topic).
  - Regarding Communication Activities, IBEC strongly encouraged ESRs to participate and/or propose new activities in collaboration with their institutions.
- IBEC summarised all actions required by each ESR ("to do" list).

### **TEAMBUILDING ACTIVITY**

- Moderated by: Miralles (IBEC)
- A teambuilding activity was performed that encouraged ESRs to interact among themselves and share experiences, composed of two different exercises:
  - THERACAT quiz: using the Kahoot! application for smartphones and webpage tool (<https://kahoot.com/>), all ESRs participated in a competition to complete the THERACAT quiz that was previously prepared by IBEC. The quiz contained 40 different questions about different issues: the THERACAT project, EC funding schemes and related issues (communication vs dissemination, open access, etc.), publications, general science questions, chemistry questions, science history, among others.

- Discussion: ESRs were required to think about achievements and failures from their entire life as well as, regarding the PhD, to define 3 goals for the next 12 months (non-scientific, e.g. attend a minimum number of seminars, get some training on a transferable skill, etc.) and 3 goals for the entire PhD.  
ESRs discussed those issues in groups of 4 fellows and were requested to keep the list of goals for the PhD to be revised in the next ESRs Meeting. With that activity, ESRs realized of the importance of learning from failures (key issue when doing the PhD) as well as of having 3 clear “non-scientific” goals to be pursued during the next 12 months (this will help them to make their best to reach the “non-scientific” goals in addition to the scientific work that they have already planned).