Intrepid
KNOWLEDGE
INTERDISCIPLINARY & TRANSDISCIPLINARY RESEARCH AND COLLABORATION
Acknowledgements

This is a compendium of selected works carried out by the COST Action (TD1408) “Interdisciplinarity in research programming and funding cycles (INTREPID)”. We are grateful to the INTREPID Network, its Management Committee members and Working Group teams, Training School participants, STSM fellows, as well as invited speakers and international advisors, who have supported and inspired us over the years. The Action was made possible thanks to the COST Office and the financial support of Europe’s Horizon 2020 programme to its activities.

Recommended citation:
http://intrepid-cost.ics.ulisboa.pt

Through its activities, COST promotes multidisciplinary networking and inclusiveness across Europe. COST is able to connect high-level scientists, representatives of the private sector and high-level policy makers via open, science and technology networks called “Actions”.

Funded by the Horizon 2020 Framework Programme of the European Union
As we gathered in the ‘fish tank’, the glass walled meeting room of the new Quelhas Building of the University of Lisbon’s School of Economics and Management (ISEG), we knew we were coming together for one last time as the INTREPID COST Action network. It was end of March, and we were holding our final Management Committee meeting as well as a three-day conference to celebrate our four-year journey. Inevitably, this moment and the many months building up towards its preparation have meant taking stock of that journey; and in very practical terms, it meant taking time to organise our webpage, which had been our North Star, our central meeting place, since we started in May 2015.

In doing so we came up with the idea of creating this compendium of some of the key moments, meetings, conferences, workshops and training schools, that we have shared between 2015 and 2019. This eBook therefore brings together the main reflections and knowledge creations of a four-year journey, building on the work of the INTREPID Network of Management Committee members and Working Group teams, as well as invited speakers that inspired us over the years. It organises part of the rich material available at our website: http://intrepid-cost.ics.ulisboa.pt

Nothing in this book or on our page, would have been possible without everyone’s efforts and in particular, without the leadership of our Working Groups: Henrik Von Wehrden, Roderick J. Lawrence, Helena Guimaraes (WG1) Carlo Sessa (WG2), Josefine Fokdal, Hans Thor Andersen, Liis Ojamae (WG3).

To all, we would like to say: THANK YOU!

Olivia Bina, Chair of the Action
Marta Varanda, Vice-Chair of the Action
Marite Guevara, Leader of Training and Dissemination
<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>INTRODUCTION</td>
<td>5</td>
</tr>
<tr>
<td>CHALLENGE: UNDERSTAND CHANGE</td>
<td>12</td>
</tr>
<tr>
<td>CHALLENGE: ENABLE CHANGE</td>
<td>20</td>
</tr>
<tr>
<td>CHALLENGE: CRITICAL MASS FOR CHANGE</td>
<td>29</td>
</tr>
<tr>
<td>INSPIRING &amp; EMPOWERING</td>
<td>45</td>
</tr>
<tr>
<td>INTREPID PERSONAL JOURNEYS</td>
<td>49</td>
</tr>
<tr>
<td>INTREPID KNOWLEDGE FINAL CONFERENCE</td>
<td>65</td>
</tr>
<tr>
<td>POSTSCRIPT: LOOKING TO THE FUTURE</td>
<td>73</td>
</tr>
</tbody>
</table>
Interdisciplinary research and collaboration are recognised as a pre-condition to solve the problems and Grand Societal Challenges confronting societies and the planet today. However, although interdisciplinarity is increasingly central to science and research agendas, and is recognised as a precondition for sustainability, its effective implementation in research projects remains an exception to the rule.

INTREPID is a 32 country network with the overall aim to better understand how to achieve more efficient and effective interdisciplinary research in Europe, in order to enhance our capacity to meet contemporary global (urban) challenges characterised by increasing complexity and uncertainty.

In order to better understand how to achieve more efficient and effective interdisciplinary research in Europe, three challenges and objectives are identified, combining theoretical and practical dimensions:

### Challenge: Understand Change
To reflect and learn about what needs changing in the programming and funding cycle.

### Challenge: Enable Change
To develop solutions that enable interdisciplinarity: beyond structural, institutional and cultural barriers with a particular focus on urban-related practice.

### Challenge: Critical Mass for Change
To strengthen our ability to address contemporary global challenges characterised by increasing complexity and uncertainty. From science policy & funding to the future universities.
In order to encompass the entire life cycle of research programming and funding, from the strategic and abstract dimension of policy framing, to the practical dimension of project selection and implementation, the INTREPID COST Action has drawn on examples and experience related to sustainable urban development & research. This broad area is characterised by multiple, interrelated, and interdependent challenges, which require a collaborative effort between diverse disciplines and actors. It is also emblematic and illustrative of the efforts entailed in implementing the SDGs.
THE PEOPLE

Our Network includes 90 Management Committee Members from 32 countries, and an additional 61 Working Group members. The governance structure of the Action has been as follows:

INTREPID’s Action Structure:

Chair Olivia Bina
Vice Chair Marta Varanda

Working Group 1:
Leader Henrik Von Wehrden (Germany)
Vice Leader Roderick J. Lawrence (Switzerland)
Vice Leader Helena Guimaraes (Portugal)

Working Group 2:
Leader Carlo Sessa (Italy)
Vice Leader Olivia Bina (Portugal)
Vice Leader Polyxeni Theodotou Schneider (Cyprus)
Vice Leader Doris Alexander (Ireland)
Vice Leader Katrien Maes (Belgium)
Contact for Cities Chantal Pacteau (France)
Contact for Academia Dominic Stead (Netherlands)
Contact for Funding Arjan Van Binsergen (Netherlands)

Working Group 3:
Leader Josefine Fokdal (Germany)
Vice Leader Hans Thor Andersen (Denmark)
Vice Leader Liis Ojamae (Estonia)

International Advisory Group:
Coordinator Josefine Fokdal (Germany)
Vice Coordinator Dorit Raines (Italy)

Short Term Scientific Missions Coordinator:
Coordinator Marta Varanda (Portugal)

Dissemination:
Coordinator Marite Guevara (Spain)
Vice Coordinator for Research Gate Helena Guimaraes (Portugal)

Training Team:
Coordinator Marite Guevara (Spain)
Vice Coordinator Katrin Paadam (Estonia)
Vice Coordinator Josefine Fokdal (Germany)

Early Career Investigators Group:
Coordinator Helena Guimaraes (Portugal)
Vice coordinator Anja Hegen (Norway)
Outputs and Resources

http://intrepid-cost.ics.ulisboa.pt/
2015

01: Interdisciplinarity: What are we talking about
   25-27 November 2015
   Universidade de Lisboa

02: Urban research: beyond disciplinarity?
   20-22 April 2016
   Delft University of Technology, Netherlands

2016

03: Enabling Interdisciplinarity in Urban Studies
   1-2 November 2016
   Tallinn University of Technology, Estonia

2017

04: Interdisciplinary Futures: *Open the Social Sciences
    * 20 Years Later,
    19-20 January 2017
    Calouste Gulbenkian Foundation
    Lisbon, Portugal

05: Barcelona Training School – on Inter and Transdisciplinary
    Urban Research
    February 13-16, 2017
    CCCB, Barcelona

06: Universities and Knowledge for Sustainable Urban Futures,
    as if inter and transdisciplinarity mattered
    24th March 2017
    Univ. of Westminster

07: Transformative Knowledge for an era of Planetary Urbanization?
    10th July 2017
    AESOP & ICS-ULisboa

08: The future of Academia and trans-disciplinary knowledge
    production in the urban field*
    20th-27 th July 2017
    Municipality of Gagliato, Calabria (Italy)

2017

09: Transdisciplinarity Conference 2017
    Transdisciplinary Research and Education – Intercultural Endeavours
    September 11-15, 2017,
    Leuphana University Lüneburg, Germany

10: Dubrovnik MC & WGs Meeting
    26th-27th October 2017
    Dubrovnik, Croatia
The added value of the COST-funded network is to inspire change and build leadership, at the level of policy for research funding, within universities/Higher Education Institutions (HEIs), and crucially among the youngest researchers who choose to promote interdisciplinary inquiries despite the many challenges that this entails.

INTREPID has achieved this aim by targeting its three core challenges: Understand Change, Enable Change and Build a Critical Mass for Change and by contributing to inspire and empower the next generation of scholars and practitioners.
Challenge

UNDERSTAND CHANGE

To reflect and learn about what needs changing in the research programming and funding cycle
INTREPID started its journey exploring the concept of Interdisciplinarity

At this first stage the key ideas and contributions were explored in:

☑ **Interdisciplinarity: What are we talking about?**

☑ **INTREPID 2nd Action Workshop and WG meetings**, Delft April 2016
  Urban research: beyond disciplinarity?


☑ **Common Glossary**

☑ **1st INTREPID Training School** Training School – Inter and Transdisciplinary Urban Research, Barcelona (February 13-16, 2017).

☑ **INTREPID two WG1 Sessions at the International Transdisciplinary Conference 2017**, Transdisciplinary Research and Education, Leuphana University Lüneburg, Germany (September 11-15, 2017).
The added value of INTREPID’s network has been to inspire change and build leadership, at the level of policy for research funding, within universities/Higher Education Institutions (HEIs), and crucially among the youngest researchers who choose to promote interdisciplinary inquiries despite the many challenges (and oftentimes risks) that this entails.

Conceptually, INTREPID has made a significant contribution towards advancing the understanding of the complexity of defining interdisciplinarity and transdisciplinarity (and unpacking the confusion and misuse of each term) in scientific practice and in programming and funding through its Actions and Outputs (see Von Wehrden et al. 2018).

We opted to co-create a collective dictionary which serves mutual understanding. It became clear that more than having a definition of interdisciplinarity (and related concepts) the key question is to create mutual understanding among diverse researchers (and practitioners) and, diverse disciplines and knowledge domains allowing for collaborative research that strengthens the ability to address contemporary challenges.
We presented 10 recommendations to the next round of EU science funding (9th programme)

INTREPID contributes to science and higher education policies with reflections/discussions, reports and policy briefs that point to both progress, setbacks and persistent obstacles to inter and transdisciplinarity (ITD) in current science policy.

Our 1st INTREPID Policy Brief: Recommendations on Integrating Interdisciplinarity, the Social Sciences and the Humanities and Responsible Research and Innovation in EU Research was sent out in May 2017 to our stakeholder lists and to our network of contacts, making it widely available.

The aim has been to influence the final Work Programme of Horizon 2020 and the planning for FP9, promoting clarity in terms of why interdisciplinarity and transdisciplinarity matter to the future of science and knowledge production in Europe, as well as the difference between this and the integration of Social Sciences and Humanities (which we have shown to be commonly seen as representing ‘interdisciplinarity’ in general by DG Research).
“We cannot resolve any of the big challenges we face in the future with just people who have sat in silos coming together. We need young professionals who have come up in this way... to see the interconnections”


INTREPID emphasises the need to bridge the gap between funding and education policies, having shown the disconnect between, on the one hand, lofty promises and acknowledgements of how important, urgent and even essential ITD knowledge production is today, and on the other, the uncertain status of ITD research and related levels of motivation, training and career options.
Some INTREPID members have been focusing on the role of ID/TD facilitators, a theme discussed in the following activities:

- **Exploring Interdisciplinary Careers: An Interactive Discussion Workshop**: Lüneburg’s conference session (September 2017).
- **Beyond Rhetoric: Constructive Dialogue on Interdisciplinary Futures**: Lüneburg’s conference session (11-15 September 2017).
- **INTREPID 2nd Action Conference, INTREPID Knowledge** – A three-day programme: Focus on Inter & Trans-Disciplinary facilitation and implementation. Lisbon (27-29 March 2019).
Some INTREPID members have started SHAPE-ID, a new EU funded project on Shaping ID practices in Europe.

SHAPE-ID addresses the challenge of improving interdisciplinary cooperation between the Arts, Humanities and Social Sciences (AHSS) and STEM (Sciences, Technology, Engineering and Mathematics) and other disciplines. The project will examine the best and worst practices in AHSS integration through a survey, extensive literature review and a series of learning case workshops with stakeholders. SHAPE-ID will ultimately deliver a tool-kit and recommendations to guide European policy makers, funders, universities and researchers in achieving successful pathways to interdisciplinary integration between AHSS and other Sciences, as well as within AHSS disciplines. SHAPE-ID results will help the European Commission assess the potential of AHSS integration for responding to the significant challenges Europe faces in areas like health, food and agriculture, climate change, technological innovation and security, among others.
Projects linked to INTREPID: CLEAR & SCNAT TdLab

- **Closing the Loop Enhancing Interdisciplinarity in Research and Teaching (CLEAR)** seeks to analyse the role of non-academic experts (practitioners or stakeholders from the public sector, international organizations, non-governmental organizations, or the private sector) in funding and programming decisions for interdisciplinary research and teaching (ITRT) in the field of sustainable urban development.

  CLEAR suggests that addressing the COST Action challenge or promoting interdisciplinarity can benefit from closing two types of loops: one joining scientists and practitioners and other joining research and teaching. The project’s main hypothesis is that the status and application of interdisciplinarity in research and teaching (and, ultimately, sustainable urban development) varies with the role and modalities of non-academic expert involvement during all phases of the funding and programming cycle.

- **SCNAT TdLab** is about exploring stakeholders’ perspectives to improve transdisciplinary projects in urban development. Using two on-going transdisciplinary urban development projects in Sweden and in Switzerland as case studies, they:
  1) Identify and analyse stakeholders’ interests, values and goals to participate in transdisciplinary urban development projects
  2) Jointly develop criteria for successful transdisciplinary urban development projects with representatives of the different stakeholder groups
  3) Jointly review and improve the current design principles for transdisciplinary processes with a focus on stakeholder perspectives.
Challenge

ENABLE CHANGE

To develop solutions that enable interdisciplinarity and transdisciplinarity: beyond structural, institutional and cultural barriers with a particular focus on urban-related practice.
INTREPID started its journey (first phase 2015-2016) exploring barriers for Inter- and Transdisciplinarity in urban research.

At this first stage case studies were brought in by INTREPID members and jointly analysed with the aim of identifying barriers in order to discuss enabling conditions and create strategies to overcome them by defining and developing methods and tools:

- **Urban research: beyond disciplinarity?**
  INTREPID 2nd Action Workshop and WG meetings, Delft (20-22 April 2016).

- **Enabling Interdisciplinarity in Urban Studies – Methods and Tools.** Experiences from Case Studies, INTREPID symposium, Tallin (1-2 November 2016).

- **1st INTREPID Training School, here the toolkit was first tested** (13-16 February 2017).
Transformative Knowledge for an era of Planetary Urbanisation? Questioning the Role of Social Sciences and Humanities from an Interdisciplinary Perspective

INTREPID’s 5th Action workshop brought together a group of mainly early and mid-career scholars to discuss the kinds of transformative knowledge, pedagogy and practice required to contribute to sustainable development in an era of planetary urbanization. The event opened with the keynote lecture by Heather Campbell titled “The operation was successful but the patient died”. The tale of social science research. The fate of planning research?

The keynote, rooted in a long-term experience of research and thinking about knowledge and co-production (Campbell, 2012; Campbell and Vanderhoven, 2016), addressed the role of social science research in producing knowledge capable of fostering change. Citing Siemiatycki (2016), Campbell noted that our research is getting ‘narrower and more specialised’, but not necessarily more relevant; contributing through ‘interpretation, description and explanation’, but often falling short of providing recommendations.

It reminds us that problems in the world do not frame themselves in neat disciplinary contours, thus debates around the need or otherwise of interdisciplinarity are, primarily, an academic issue and problem. She concluded by advocating five steps towards rethinking the knowledge project:

1. Expanding the knowledge ecosystem.
2. Moving to more (genuinely) interactive and active forms of knowledge generation, including more meaningful questions and more partnerships rather than projects.
3. Developing different ways of knowing that go beyond empirical investigation, description and analysis (the ‘what’ and ‘why’), towards synthesis and the normative and ethical questions (the ‘how’ and ‘should’);
4. Getting beyond methods and assessment of desk-based narratives, beyond methodological rigour, to engage with ethical value;
5. Embracing flexibility and reflective learning, not just blueprints and techno-rational approaches that often don’t work.

Organised by INTREPID COST Action, Pre-Association of European Schools of Planning (AESOP) and the ICS-ULisboa
1st INTREPID Training School was the first event that took place outside the academia. We had the opportunity to include it within the activities programmed by the CCCB.

The 1st INTREPID Training School provided methodological foundations and experience in designing and implementing inter/ transdisciplinary urban research, (13-16 February, 2017 Barcelona)

The programme was organised around a common framework of sustainable urban research and problem solving based on the interplay of the following five key competences: System thinking competence, anticipatory competence, normative competence, strategic competence and interpersonal competence (see Wiek Arnim et al. 2011).

The training school was linked to the Contemporary Culture Centre of Barcelona (CCCB) events focusing on Climate Change. Thus, the training school also addressed questions as:

- How do academic institutions translate the need for behavioural change regarding to Climate Change to the citizens? -communication/educational challenge.
- How is scientific research influenced by social values and preferences and how is it able to integrate citizens knowledge? -knowledge creation challenge.
- How could cultural institutions contribute to the process of involving citizens, artists and scientists, as well as practitioners and politicians, in co-creation processes related to both knowledge and political action? -political challenge.

Experts from the academia and from the public and business sectors shared case studies that in many cases merged participatory processes, research activities and artistic practices.
Participants’ feedback

The four days of the INTREPID Training School were intense, playful, thought provoking, reflective, challenging, full of bonhomie, rapid coffee drinking, sparks of humour, sanguine reflections on the atomising effects of everyday life, and the self-evident need to embed the importance of reclaiming the option spaces for all of us to be able to perform as good citizens, underpinned by mutual benefits, self actualisation and the chance for everyone to define for themselves the life they would wish to lead for themselves, their families and for future generations.

Mary Geary

The INTREPID School was a very challenging experience by providing high level training. It also gathered a great group of people, both trainers and trainees, concerned with the delicate management of knowledge borders. As interdisciplinarity and transdisciplinarity stood at the heart of our discussions, we came up with a sense of urgency about better understanding how our research can effectively approach borders and, therefore, diversity....

Roberto Falanga

This training course definitely changed my perception about academic researchers in general and the methods to conduct urban/sustainability researches. It also reshaped the way I wanted to design my own case study. I learnt to look at research projects as ongoing dynamic processes, rather than predefined projects to be evaluated. The notions of social inclusiveness and diversity are essential to meaningful researches on sustainable urban future.

Jieling Liu
In science we need to dare to speak our mind as citizens and disobey the dictatorship of the established disciplines. Science itself is not democratically organised. Do we sufficiently envision alternative futures for science – science which is more transdisciplinary – not just preaching and teaching TD but being TD!? Or do we play the game, follow the rules and find our secure niche in academia from where it is safe to throw stones of critique, once in a while.

The complex nature of cities means that they are partially unplannable. This feature requires urban planners to step back and let things happen, and provide the space and rights for the public to do something in/with public spaces. Here, additional physical space has been provided, however the institutional space (rights) have remained the same. The result is that the public places are not accepted by all.
In the second phase (2017-2019), WG3 focuses on what kind of skills and competencies are needed to enable inter- and transdisciplinarity in urban research and what kind of spaces are needed for the future of universities.

- **Gagliato Workshop: 5th Action Workshop:** “The future of Academia and trans-disciplinary knowledge production in the urban field” (July 2017).

- **7th INTREPID Report** “Gagliato: A framework for future growth”. The following report is a result of the summer 2017 design workshop hosted by the Comune di Gagliato and run by the non-profit organisation, NUATI1, as well as a follow-up visit to the town in November (January 2018).

- **Ljubljana workshop: 9th INTREPID Report** “INTREPID Future Initiatives Re-imagine urban curricula (a needs assessment)”. Led to a draft Manifesto for Urban Knowledge (December 2018).

- **NewCastle workshop:** “Univer(c)ity – the future space and place of knowledge” (January 2019).

- **INTREPID 2nd Action Conference, INTREPID Knowledge – A three-day programme - Focus on Inter & Trans-Disciplinary urban research enablers & changes in curricula. Lisbon (27-29 March 2019).”

Having developed framework for enabling conditions for inter- and transdisciplinary urban research we decided to disseminate it in an edited volume to be published at the end of 2019*. In order to facilitate a co-produced edited volume, three meetings ("writeshops") took place for all authors and editors. It will summarise the contribution to this challenge for urban research: a self-reflexive about the messiness, complexity and draw backs, and of the benefits and significance of such research practice, including the power of humility.

**Book Aims.** This edited volume aims at:

1. Enabling new knowledge for sustainable futures in order to enhance the quality of life in cities by demonstrating the use and value of crossing borders between disciplines and beyond academia;

2. Reflecting on different research and practice cultures – a mirroring of what is going on in inter- and transdisciplinary urban research.

3. Presenting a comprehensive framework of possible enabling conditions for inter- and transdisciplinary urban research and practices, to inspire others to strive for innovative solutions to overcome the many barriers encountered when conducting urban research.

**Unique Selling Point.** This book occupies an inconvenient, uncomfortable, inarticulate space – but a space almost universally acclaimed as necessary to solve difficult processes and urban challenges of today. It describes the intellectual work done in a different way and addresses challenges by introducing a diversity of case studies in different countries where new processes of working on inter- and transdisciplinary urban issues have enabled new knowledge and ways of knowing (interdisciplinary and transdisciplinary ways of working).

*The contract for this volume as open access was signed in March 2019 with Routledge*
Challenge

CRITICAL MASS FOR CHANGE

To strengthen our ability to address contemporary global challenges characterised by increasing complexity and uncertainty.
INTREPID Futures Initiative focuses on the Action’s challenge of building momentum for change in universities, academia and knowledge. The MC approved a series of actions to develop this theme (year-2), realising that our focus on funding cycles raised deep questions about the responsibility (and potential solutions therein) of universities: their culture, practices and ethos when it comes to what knowledge is legitimised and promoted.

**Workshops** were designed to target the growing gap in preparedness between lofty science policy objectives promoting inter and transdisciplinarity and the actual capacity of universities to promote and deliver on this. Examples of how we sought to impact and shape the debate include:

**High profile speakers.**

- **SCHOLARS ON SCIENCE POLICY** - by Felicity Callard (Durham University) and Immanuel Wallerstein (Yale University), at our 1st Action Conference, Calouste Gulbenkian Foundation, Lisbon.
- **EU HIGHER EDUCATION INSTITUTIONS** - by K. Maes (of the League of European Research Universities - LERU) in Lisbon.
- **EU RESEARCH FOUNDATIONS** - by Igor Campillo (the Director of Euskampus Foundation) at our 3rd INTREPID Training School - Donostia.
- **GLOBAL SCIENCE NETWORKS** - by Garry Jacobs (the Chief Executive of the World Academy of Art and Science) and Timothy O’Riordan (University of East Anglia) at our Final Conference in Lisbon.
- **URBAN STAKEHOLDERS** - by Mirjana Milanovic (City of Amsterdam) at our 4th INTREPID Workshop in Delft.
- **CIVIC UNIVERSITY CONCEPT** - by John Goddard (Newcastle University) at our Workshop on Space and Place of knowledge.
INTREPID has organised events aimed at exploring the “Future of Universities (FoU) as if inter and transdisciplinarity mattered”

- **Gathering Views and Perspectives**: Lüneburg’s conference session: Thinking about the Future of Universities (September 2017).
- **Applying Theory U to the Question of Academic Futures**: Barcelona’s training school: The future of university as if sustainability mattered: A co-creation experience through Theory U journey. (April 2018).
- **Exploring Tentative Pathways**: San Sebastian’s training school: Shaping the future of universities. (September 2018).
- **‘Universities: Can We Re-Imagine Ourselves’**: addressed at the Mistra Urban Futures Annual International Conference, Cape Town (7 November 2018).
- **Exploring Spaces and Places of Future Universities**: Newcastle’s workshop: Uni-City: the future space and place of knowledge. (January 2019)
How can universities be a positive force for transformation and change towards a more sustainable future?

The 2nd INTREPID Training School named: The future of university as if sustainability mattered: A co-creation experience through Theory U journey, took place in Barcelona, 9-13 April 2018.

The programme invited participants to explore the specific challenges of inter and transdisciplinary knowledge and co-creation, and reflect on the skills and dispositions required by researchers.

This experience of this exploration was the starting point for a process of envisioning the future university as a civic learning institution capable of enabling education, research and learning in permanent support of sustainable development.

The co-creation activities combined dialogues on case studies, brought by participants, focusing on one or more SDG, and include group activities aimed at crystallising and prototyping the future of university. Approaches such as Theory U, Three Horizons and Design Thinking methods were used for group facilitation.

Through interactive presentations, reflective exercises, peer coaching, and embodiment practices, participants learnt and applied the capacities of deep leadership that help change-makers transcend old behaviour patterns, realise new possibilities, and facilitate innovation and transformation.

Barcelona 2nd Training School had 32 participants coming from Portugal, Italy, Austria, Germany, UK, Netherlands, France, Romania, Croatia, UK, Montenegro, Slovenia, Egypt, Colombia, Guatemala and Spain. It took place at Barcelona Tech- Campus Diagonal- Besòs.
**How should universities be?** Should they have clear and noble goals? Should they be accountable? Should they talk about individual purposes and draw out more of our human potential? Are promotions and grades the best incentives?

What should universities look like? Hierarchical pyramids feels outdated, what other structure could replace it? Are Universities a role model for the future organisations?

Do all students have the same learning style? What about engaging students with more active & personalised, but also collaborative learning approaches?

How should universities be designed? What about offering the possibility of more responsive & interactive spaces? These were some of the questions that were discussed to help envision the future of the university.

*Source: Didac Ferrer Balas, Innovation & Community, UPC Barcelona-Tech*
<table>
<thead>
<tr>
<th>Horizon 1: Continuing as usual</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Fixed curricula</td>
</tr>
<tr>
<td>- Silos of faculties and disciplines</td>
</tr>
<tr>
<td>- The outcome is all about getting diplomas</td>
</tr>
<tr>
<td>- One direction of teaching</td>
</tr>
<tr>
<td>- Uniform approach</td>
</tr>
<tr>
<td>- Evaluation and promotion system, e.g. focus on academic journals</td>
</tr>
<tr>
<td>- Narrow learning modes: theory but little practice in context</td>
</tr>
<tr>
<td>- Almost no creativity</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Horizon 2: Shifting to a new paradigm</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Immersive space</td>
</tr>
<tr>
<td>- Education for sustainable and social development</td>
</tr>
<tr>
<td>- Learning creative and hands on skills</td>
</tr>
<tr>
<td>- Personal development</td>
</tr>
<tr>
<td>- No degrees: credits for life long learning</td>
</tr>
<tr>
<td>- New methods: Theory U, embodied learning</td>
</tr>
<tr>
<td>- Choice of space and place of learning, e.g. more in nature</td>
</tr>
<tr>
<td>- Re-learn the human and nature connection</td>
</tr>
<tr>
<td>- Networked learning: getting to know each other and understand ones needs (empower us to know the other ourselves)</td>
</tr>
<tr>
<td>- More options e.g. summer schools, Erasmus, etc</td>
</tr>
<tr>
<td>- E-learning models and co-learning, co-creating</td>
</tr>
<tr>
<td>- Reverse classroom: online to learn theory, content, and classroom is for embodied learning</td>
</tr>
</tbody>
</table>

Learn more about 3 Horizons methodology (H3Uni) ...
Participants’ feedback

Mennatulla Hendawy:
I love being here! I’m very grateful for being here, and what I really liked the most is that it stood out of expectations and I liked it, and it’s fantastic.

Marcel Leppée:
Different experience for me. I’m very very old and never in my life I attend to a so beautiful, excellent, amazing meeting.

Marcela Arreaga:
What I liked the most: the connection between people, and the community that we formed. I think that it’s a really nice achievement from the organization, because we are a very diverse group from a lot of nationalities, a lot of cultures together and we somehow bonded in a different and very deep level. And I think that’s what I loved about the week. Of course we learned a lot and it was really interesting.

An Krumberger:
An amazing experience and what I really didn’t expect was that apart from the professional development that we are doing and the building of prototypes and so on, really what I felt was also a personal development it was a part of this process and I’m very grateful for all the organizers and the participants for creating such an amazing opportunity. It’s one of a kind so if you have a chance, try it out!
Reflection on 2nd Training School

Olivia Bina

INTREPID action Chair
Principal Researcher at the Institute of Social Sciences (University of Lisbon) and Adjunct Assistant Professor at the Department of Geography and Resource Management (Chinese University of Hong Kong).

When was the last time you sat with two strangers and told them the story of your life, in three minutes?

Mine was eight weeks ago. It is harder than you think. And not just because of the embarrassment factor, but because one too rarely thinks of one’s whole life, let alone presenting it in three minutes. But it does achieve something precious: it tears down silos. Silos of me and you, of all those ideas of what makes us different, of what divides us, of the ‘what I do’ identities. It leaves you with something simpler, something about a shared humanity and a sense of what probably does matter and what probably does not (at least not that much).

It is from within this space that thirty-two people from fifteen countries began a journey to explore ‘The Future Of Universities, as if Sustainability Mattered’: a training programme centred around the question of how universities can be a positive force for transformation and change towards a more sustainable future.

Read more...
The 3rd INTREPID Training School named WE LOVE TRANSDISCIPLINARITY MAITE DUGU – Shaping the future of universities, took place in Donostia, Spain (6-7 September, 2018) Workshops were organised to develop transformative learning and ideas.

Creative reflection was structured around three levels, ranging from the individual to the institution.

1. **Personal and Interpersonal Level**: Exploring the aptitudes, attitudes and emotions that foster or hinder shifts to work in a more transdisciplinary, open, and responsible way.

2. **Contextual Level**: Exploring co-creation working methodologies that foster trust, reciprocity and generative scenarios and the role that physical and virtual environments play in the generation and co-production of knowledge.

3. **Institutional Level**: Exploring organisational and regulatory changes in universities and other knowledge institutions that stimulate and/or slow down collaboration, transdisciplinarity, inclusiveness of different actors, openness, new governance models, and responsiveness.
“We shape the world by the questions we ask”

John A. Wheeler

At Donostia we were invited to address the two key questions each university should be able to answer about its academic work. The first is: ‘what are we good AT?’, and the second is ‘what are we good FOR?’.

The first one is the most common one. Almost every university in the world responds to it, typically by enumerating some disciplines or fields of study in which they believe they distinguish themselves, through knowledge creation or application. And this is very easy to measure (publications, citations, patents, conferences, impact factors...).

The second one is a less often asked question. We begin to respond to this question when knowledge creation, application and dissemination become responsive to societal needs.

Adapted from: Igor Campillo, Euskampus & DR M Wedgwood, MMU
There are many factors shaping the future of universities. One of the most relevant ones is responsible research and innovation strategies and practice, or putting in other words, how universities can take responsible research and innovation, and I would add responsible teaching, as a guiding principle and animating force for the deployment of their mission.

Universities are very long-standing institutions (for about a thousand of years) dealing with knowledge: knowledge generation, knowledge transmission, knowledge dissemination, and more recently, knowledge valorisation through transfer to society in different ways. For many centuries, universities have functioned as a sort of temples of knowledge, with a deep sense of themselves, and with clear boundaries between the academy and society.

**Igor Campillo**  
*Director of Euskampus Foundation*

Foundation linked to the University of the Basque Country, a technology, industry-oriented research corporation (Tecnalia), a center for basic research in Physics (DIPC), and the University of Bordeaux in France.
The physicality and spatiality of knowledge is another key aspect of the Future of Universities.

In collaboration with Newcastle University and non-architecture, INTREPID celebrated the International Symposium/Workshop: UNIVER(CITY) The Future Space and of Knowledge (Newcastle, UK, 16-18 January 2019) The workshops introduced scenarios and created structured discussion and ideas, that were then enabled and visualised by different architects.

Across the span of three days, academics, professionals and students from different institutions and with various disciplinary backgrounds, gathered in order to discuss the current state-of-the-art concerning academia, knowledge production, as well as the physical, digital and mental spaces where these operate.

Additionally, the group explored possible scenarios for envisaging the future of universities, a future where academia plays an active role in responding to tomorrow’s challenges and in bringing about positive and sustainable transformation within the cities and regions where they function including a more decolonisation of universities. Throughout the three days, a series of insightful and provocative talks introduced a range of diverse and multi-faceted issues currently concerning academic
institutions, calling for a critical reappraisal of the ways in which we teach, learn, think and produce knowledge, as well as the ways in which we build, manage, conceive and situate universities in light of rapid socio-economic, cultural and political change.

The symposium concluded with participants dividing into three working groups which explored three different scenarios for the future of universities, tackling some of the provocations put forward during the presentations. The symposium was an exercise in imagination appealing to multiple senses and ways of knowing, which could deepen our understanding of the challenge(s) and potential solution(s). Enriching the ‘abstract’ with the ‘tangible’ may set in motion that virtuous circle of wider and deeper understanding that many claim is a key aspect of interdisciplinarity. The necessary starting point becomes the human scale and the human body itself, and its infinite potential for skills and dispositions that can be enhanced or defeated by the nature of space and place.

Then comes the institution of academia and higher education with its buildings and campuses, followed by a necessary redefinition of the civic and porous university, the place of reference and thriving dialogue in the city; Finally, the inescapable leap into the digital world beyond place into infinite space, where the ways of knowing can be multiplied with no boundaries. Making and designing will become part of this process of discovery, a reflection of new modes of knowledge production and learning, inside and outside the university.
During Autum 2018 NONARCHITECTURE launched a “Learning” competition to develop design proposals for the university, intended as a space of higher education, training, and teaching on all levels and disciplines.

The participants were asked to create innovative and unconventional projects on this theme, questioning the very basis of the notion of the university.
Non Architecture competition winners

UNBOUND
Where experience is knowledge
Team
Kristijan Dapcevic Montenegrin, Politecnico di Milano.
Savo Radovic Montenegrin, University of Montenegro.
Selected by Astrid Piber
Partner @UNStudio

UNIGO
A virtual world of knowledge
Team
CHUEN Yui Ming Hong Kong, Hong Kong Univ.
LEUNG Verena, Hong Kong, Hong Kong Univ.
SO Cheuk Ying Sharon, Hong Kong, Hong Kong Univ.
Selected by Arjen Wals
Sustainability/UNESCO Chair @WUR

THE LABIRINT CAMPUS
Learning flow and journeys that makes you wander and lose yourself within
Team
Jocelyn Tay, Malaysian Chinese
Selected by Prue Chiles
Professor of architectural design research
Director of Architecture at Newcastle University
Common patterns arising from the Non Architecture.

The way our body might be implicated in the process of learning and knowledge production may not be the first thing to be considered when one wonders about the alternative views on the future of higher education and on its challenges. When we are discussing concerns of content, curricula, technical or/and soft skills, the focus, as we know, is usually on the intellectual realm.

That we are not disembodied minds is something that the University should probably (re)learn, and teach, from the first levels of education.
INSPIRING & EMPOWERING

Contributing to inspire and empower the next generation of scholars and practitioners.
The added value of the COST-funded network is to inspire change and build leadership, both at the level of funding agencies, but also among the youngest researchers who choose to promote interdisciplinary inquiries despite the many challenges (and often-times risks) that this entails.

INTREPID’s three Training Schools:
- Inter and Transdisciplinary Urban Research
- The future of university as if sustainability mattered: A co-creation experience through Theory U journey
- WE LOVE TRANSDISCIPLINARITY MAITE DUGU – Shaping the future of universities

These have given almost 100 participants both new methods, and a new understanding, of inter and transdisciplinary practices. The Schools provided both direct experience of the relevance and challenges of implementing this type of knowledge production, as well as the network and support into the future, as trainees seek to go back into their institutions and experiment with what they have learnt.

INTREPID was both a safe environment and a creator of opportunities for PhD Students and Early Career Investigators (ECIs) to pursue their inter and transdisciplinary trajectories through joint publications, new projects and new jobs. This was documented in a presentation during the final MC meeting Taking stock of the INTREPID experience - Personal INTREPID Journey and will become a publication by Padaam, K., Ojamae, I., Varanda, M., Bina, O., Guimarães, MH (forthcoming).

STSM’s and training schools had an especially important role here. See for instance publications by ECIs: Josefine Fokdal, Maria Helena Guimarães, Julie Mennes, Giulia Sonnetti, Lavinia Pereira. INTREPID was also a source of inspiration for undergraduate students from Windesheim Honours College, whose final project “The Future of Universities from a students’ perspective: from knowledge transfer to Value Creation” (presented at our Final Conference), was built upon INTREPID’s training schools and reflection on the Future of University.

INTREPID’s concern with ECIs was clearly translated in 2nd Policy Brief by Catherine Lyall, (2019) Exploring Interdisciplinary Careers, and in a forthcoming paper by Guimarães, M. H., Pohl, C., Varanda, M. and Bina, O.
The first round of INTREPID STSMs aimed to produce a collection of case studies of good examples of ID/TD practice with a strong focus on inspiring and empowering ECI’s.

Through the first round of STSMs we aim to reflect and learn about how ID & TD knowledge creation is embedded in the research institutions work, formally and informally, and how it is enabled or constrained by current funding practices, by targeting institutions, Research Institutes and Researchers and Funding institutions, at the EU and national levels, that are considered examples of good practice.

With this 1st round, we produced a collection of case studies of good examples of ID practice, which could lay the ground for an institutional road map for the improvement and/or implementation of ID research in selected research centres. The cases provided information regarding factors enabling or obstructing interdisciplinarity, and explored ways of enabling ID beyond epistemological, pedagogical, institutional and cultural barriers.

The ECI’s profiting from the 1st round of STSM have produced a number of outputs for INTREPID and beyond, being scientific publications (e.g. Helena and Julie), inspiration for the creation of an ID/TD phd in Portugal (the case of Luis), own research advancement (e.g. Klaus Gärtner and Julie) or even new job opportunities (e.g. Bianca Vienni) Links for blogs:

- Helena Guimarães visited the Transdisciplinarity Lab at the Swiss Federal Institute of Technology (ETH) Zurich;
- Luis Goulão the Academy of Finland Centre of Excellence in the Philosophy of the Social Sciences - TINT (Helsinki);
- Bianca Vienni’s in TU Delft interdisciplinary centres, JPI Urban Europe and NWO (Netherlands)
- Klaus Gärtner at the Research Focus Cognitive Sciences of the University of Potsdam
- Julie Mennes Addressing epistemological barriers for urban studies at the Sheffield Business School.

The Second ROUND OF INTREPID STSMs (2017-2019) was dedicated to the Future of University and Transdisciplinarity, in consonance with INTREPID’s concern about the role of university in the knowledge construction for a more just and sustainable society. INTREPID STSM’ers have inquired how HEI are embedding Transdisciplinarity, among other challenges, in their strategy to meet the challenge of global sustainability. The UNESCO in its evaluation of
the Decade of Education for SD (2005-2014) has recognised that the “global transformation of higher education towards sustainable development has yet to occur”. For HEI to play a meaningful role a major reorientation of teaching, learning, research and university-community relationships will be required. The diagnosis has been made, the barriers and challenges have been mapped, INTREPID wanted to engage on the discussion of how to move forward. What may (or already does) drive this change and will fulfil the purpose of transforming HEI to lead society’s sustainability? What steps can be taken now by HEI administrators and academics (teachers, researchers) to initiate change? Hence the foci of STSM inquiry was a) HEI’s already engaging in transdisciplinary strategies for embedding sustainable development; b) HEI’s willing and planning to engage in transdisciplinary strategies for embedding sustainable development.

Again STSM’ers have both benefitted and contributed to INTREPID’s aim’s though a variety of experiences. See for instance Lavinia Pereira’s stay at The Alternative University of Romania: a life-changing experience?; or Alessandro Coppola’s, Experimental Turn in Urban Governance: The promise and the reality, undergone at MISTRA URBAN FUTURES; or still Matej Niksic’s Urban design themes in the curricula of none-core studies – the interdisciplinary approaches in teaching practice Urban Planning, at the Institute of the Republic of Slovenia in Split; or Giulia Sonetti’s stay at ISEG, University of Lisbon, to work on How to integrate SDGs into current university’s economics curricula?
INTREPID KNOWLEDGE

INTREPID PERSONAL JOURNEYS
How to express this experience with INTREPID, maybe like this children game, finding for each letter a correspondence?

\[ \begin{align*}
I & \text{ as } \text{International} \text{ program opening views, not only on European studies cases but broader} \\
N & \text{ as } \text{New challenge} \text{ to meet professional and academics from different countries, with different background, and try to share experiences and common concepts, but with basic common English language} \\
T & \text{ as } \text{Tremendous opportunity} \text{ to discover different practice and urban projects, during conferences, workshop and informal walks in various cities} \\
R & \text{ as } \text{Road to pursue}, \text{ with colleagues, friends} \\
E & \text{ as } \text{Education proposals} \text{ to promote in next future} \\
P & \text{ as } \text{Propitious conditions} \text{ to share and explore new paths} \\
I & \text{ as } \text{Invigorating process} \text{ to apply in my own practice} \\
D & \text{ as } \text{Debates and discovery} \text{ place.}
\end{align*} \]
I guess disciplinarity has a great deal to do with the perception of the individual academic rather than being a set of intrinsic and objective characteristics.

I have always felt that I am a highly interdisciplinary scholar, however as such, one’s journey can feel quite lonely; it is common to feel like an outsider in the academy or certainly someone always on the peripheries rather than the core. Through INTREPID I feel the participating members have felt like they have belonged to something; that they have been core to an endeavour. I must admit that I am disappointed to have missed some meetings as unfortunately being interdisciplinary in the academy often requires working beyond one’s central remit. In this sense, the travelling required (both physical and conceptual) invariably must be undertaken in one’s ‘spare time’ – a commodity that is becoming increasingly rare and perhaps provides the biggest challenge to those choosing this journey currently and in the future.

INTREPID was my first introduction to EU ‘cost actions’ and it felt at first like I’d stumbled, gratefully, into another world. Meeting peers from across Europe working on similar, though rarely identical, topics and issues, and coming from a variety of disciplines, was a truly eye-opening experience. Moreover, the style of the cost-action – facilitating discussions in a welcoming and inquisitive environment – really provided some highlights of my academic career to date. My memories of INTREPID events outshine those of conferences that are more aligned to my putative field/interests in part, I think, because the discussions at INTREPID enabled participants to unshackle themselves from their disciplinary norms and traditions and to approach questions and issues on thoughtful dialogue.
I was supposed to be the networking leader, something that really I am not very brave to do, BUT ...the atmosphere at the meetings and – in my case – the participation at the two season (winter and spring) schools in Barcelona somehow helped me to become more polite, more networked, more with the feet on the ground, more sensible and reactive to the smiles of the people, and – I hope – less boring when I give presentations of complex abstract stuff and visions, which is the material my mind is most able to deliver.

It was a great learning experience, and the key for this I think was in one word – which is the same for all COST Actions – and such word is GRATUITY.

Gratuity, because you have no out of pocket expenses to pay for participating (just a little bit of patience to learn how to get reimbursed ...).

Gratuity, because you have not to produce a deliverable subject to a deadline to be paid - you work for free. This means that you are free to be what you wish to be, and contribute what you wish to contribute.

Gratuity because what you have the opportunity to learn – when your task is to reflect with the others on your way of doing research, instead of doing some specific research – has really no price, but a huge value, as it helps to transform the way you do research for the rest (hopefully long ☺) of your life.
The personal experience of embedding (in fact, breathing is more correct) the concept of IT/TD for more than 4 years in my life, brought me other reflections. One interesting and unexpected one was that, during INTREPID, I suddenly missed... my discipline. I have not, for a longtime, worked as a “true sociologist”, but the complexity of ID thinking, made me long for the protection of a more framed reflection. Another interesting and unexpected feeling was how fast I became tired of discussing...ID (or TD for that matter) and felt the need to start really focusing on the enabling (3rd objective of INTREPID). Everything had been said on the concept and so little is actually put in practice at the policy, organisation and group level. And now, after the whole effort spent on identifying the obstacles an enablers of ID/TD, I learned that for ID/TD to strive all we need is love!!! We need, each and everyone, the humility to open our minds and hearts to different types of knowledge, to other ways of expressing knowledge, to other ways of building knowledge. And this knowledge will transcend all of us participating in it. When writing this I was trying to remember who brought the concept of humility. I believe it was Henrik in the Delft meeting. But it is this way of thinking that INTREPID taught me I must disregard. The word humility came up in the safe, fertile and fun context of INTREPID, and it made its path. It transcended Henrik and materialised in many INTREPID gatherings.
This journey has been revealing. The network allowed me to understand and better define the terms of the discussion (what is ID and TD and their institutional arrangements). At the same time I realised that, despite many announcements to move in that directions, scholars and schools are very reluctant to implement real structural changes. I refer to the two fields of knowledge in which I operate: architecture and urban planning.

My conclusion is that the claim to be interdisciplinary might be quite superficial, with few genuinely adopting other methods of knowledge production. In absence of effective University incentives, the all discourse of ID and TD could remain a mere variation of the BAU. Nevertheless, western neoliberal Universities (like mine) might incidentally produce space for rethinking existing teaching and research practices, even if not driven by particularly good intentions. In this scenario, having people with solid knowledge of ID/TD, could make a real difference in enabling changes and consequently in achieving more sustainable futures. Therefore, despite my underlying scepticism of the current institutional context in which we all work, INTREPID has been a real great success! And this is due to its people!

There is a large potential for the development and application of transdisciplinary approaches when designing new built environments, and changing extant ones, that is still marginal to research and practice in this complex and vast field. This potential has been confirmed by specific cases. However, these cases also illustrate the need for a much stronger collaboration between researchers and practitioners which this COST Action has tried to promote.

It has been a joyful, frustrating, enriching, and diverse journey. Most of all, it has been a humbling experience. The diversity of disciplinary backgrounds, their implicit and explicit worldviews, and the many different cultures of INTREPID's community have raised in me much curiosity, but also a resistance, and the struggle of wanting to define things, to reach ‘closure’ on aspects that defy simple or in any case, single, answers.
What did INTREPID bring to my life?

A greater scope of how to put together smart people to create a connection that last beyond the days of the event. For me this connection is filled with **trust**, **authenticity** and **spontaneity**. Those are **beautiful ingredients** that could also be named as **complicity**. What did it create? A **willingness to engage in projects** that could **impact the world in a positive way**. What if we could use our talents? And what if we can use them together? Wait a moment, and what if we have **fun** while doing it?

We are all immersed in our own duties, and time distribution is always challenging, but **there is always place in our agendas for INTREPID**. It is like desserts at dinner, **there is always space for them in our stomach**.

For me I think it all began with an early expressed ambition to **take steps for academic transgression between architecture and sociology**; to build radical new bridges between architecture design and sociologically inspired critical interpretations in particular of explorative residential situations or architectural projects at large. The **terms or the notions of ID or TD were never explicitly evoked by that time**, only perhaps cross-disciplinarity.

When presented to the INTREPID COST landscape I was struck that of doing research in interdisciplinary or transdisciplinary ways was now considered inter-disciplinarity or trans-disciplinarity, they were now things or object entities when becoming a noun, a significant change of attitude for me. In general when confronted to the INTREPID wider environment I consider my own profile as someone who had instinctively in essence adopted this formula without explicitly conceptualising much about it. I could say I have experienced both ID and TD from the inside but I have actually also seen intra-disciplinarity.
INTREPID combined in a unique way several topics that I had addressed in my research and teaching activities – the urban process, the sustainable development concept and participatory planning approaches. The discussions of INTREPID community both challenged and enhanced my previous knowledge and experience in the ‘theory-practice’ dialogue at the urban level. Agreeing on terminology proved to be a process, which required professional competence but also creative thinking and open-mindedness in order to understand differences and build bridges between disciplinary approaches. The international dialogue at the INTREPID meetings and conferences focused the transdisciplinary debate around the complex issues of sustainable urban development; it also outlined the variety of transdisciplinary challenges depending on the cultural context. The preparation of the joint publication on inter- and transdisciplinary urban research, and particularly Rome ‘writeshop’, was to me a most exciting process within the Action. Jointly building our knowledge about the enablers of inter and transdisciplinarity and formulating messages to diverse target groups from academia and practice, was also to me a unique experience of shared learning - I am most grateful to all the colleagues from the group for being together in that process. Participating in INTREPID and also hearing from other colleagues in the network doing different projects and research, we are inspired to move forward and we want to find the way of balance the bureaucratic requirements of bachelors (indicators, learning objectives, mandatory subjects, etc…) to create a more organic curricula for year 1 and 2 where we go away from professional linked silos and we can offer students the possibility and flexibility to co-learn and co-create together with students from different disciplines toward common societal goals. One of the idea is to take away subjects organisation and names of the curriculum and work with yearly topics/goals linked to the SDGs, and then use the traditional foundational knowledge to help students address the complexity of those goals. In the future we want to extend the protocol so students can travel and work, at the same time that learning and being part of our community, sharing their experiences and exchanging our courses for other MOOCs or combining. We also are part of a pilot in our university to develop a platform online that facilitates transdisciplinary groups working together worldwide, without limitations of space or time.
I especially enjoyed the Rome meeting experience of working in a group of experts intensively, focused on a common task (book production in this case) – the discussions could get deep and detailed in the form of a writeshop. I have learnt a lot through the discussions, it also helped me in developing the terminology which we often lack in inter/trans-disciplinary collaborations (while I still struggle to translate some of them – e.g. how would »enablers« sound in Slovene?). I regret I could not take part in more events of this kind which was due to keeping the work-family balance.

And above all, the new friendships that emerged from this Action are something very valuable to me too. Besides all the interesting professional discussions, the exchanges on the current political issues or simply personal stories among us, were the added values that made INTREPID experience special. INTREPID will stay in my memory as not merely one more European project on the list, but as an experience of meaningful exchanges at the personal level too.

As a researcher, the struggle for territory and boundary definition never made sense to me. For me, science is a human instrument for the common good that needs to pose the necessary questions and would not stop at any border just because it is there. As researcher we should reflect and be reflexive but that does not mean that we need to exclude connections or dialogue just because of ethical concerns or strategic thinking in terms of career progression; these are challenges that we need to cope with.

Today I am a fulfilled research and INTREPID contribute to this, not only by the reasons listed before but also by all the laughs, life experiences and friendships that INTREPID allowed. I am full-blown “INTREPIDer” and hope to continue to resonate INTREPID message for many many years. A sincere thank you for all INTREPID members for the moments we spend together!
What have I learned during this 4 year journey?
That collaboration between practitioners and academics, is not always easy, that we must remove many prejudices and stay with the best of what makes us human. That collaborating in a transdisciplinary way needs INTREPIDers. And how are the INTREPIDers?

- as good listeners
- they grasp complexity
- and move to change it

When I first attended the training school in Barcelona in April, I was astonished and deeply touched to meet open minded, creative and motivated students, teachers and researcher who wish to think and act towards a new future for universities. We talked, learnt, connected, walked together and most of all, enjoyed to transform ideas into hands-on prototypes. I suddenly understood that interdisciplinarity (ID) and transdisciplinarity (TD) is made from and for people. And that these disciplines will develop and be alive when more and more students, teachers and researchers will practice in this way. Where and how to train these disciplines?

Spaces like the INTREPID community made and make it possible to openly expose doubts, exchange personal and professional experience, listen actively to each one and generate knowledge through questions.

It was beautiful to see how the different cultures and disciplines could learn from each other without the habitual judgement. Thank you to all who made and make this possible!
INTREPID has shown me the **importance of listening to colleagues**, of meeting and **networking with academic and non-academic peers** from across Europe with diverse and different experiences and expertise. My experiences have also taught me that **looking for a single unified definition of ‘transdisciplinary’ or ‘interdisciplinary’ and ‘multidisciplinary’ research is futile**. Trans and interdisciplinarity is in the ‘doing’ of research at all stages (from designing research questions to shaping research outputs like publications and research impact via methodological training and career mentoring as well as [importantly from my perspective] evaluating funding proposals and framing funding calls).

The debates and discussions in INTREPID as well as the concrete outputs from the Action have offered me a **map** (or at least a topographical description) of a research landscape that can help me assist researchers find a **route towards transdisciplinary encounters and research practices** that will help produce better ultimately **more productive and impactful research**.

I have a Haiku that basically says how I experience the COST Action:

```
Interdisciplinarity
A goal becomes difficult
If it is different
```

Having people with solid knowledge of ID/TD, could make a real difference in enabling changes and consequently in achieving more sustainable futures. Despite my underlying scepticism of the current institutional context in which we all work, INTREPID has been a real great success! And this is due to its people!
Lessons from INTREPID.
Dwelling on memories of what is yet to be?
Chantal Pacteau and Jean-Paul Vanderlinden

The birds they sang -
At the break of day -
Start again -
I heard them say -
Don’t dwell on what -
Has passed away -
Or what is yet to be -

(Leonard Cohen, Anthem, The Future)

Thursday December 6 evening.

Dear Chantal,
I hope on a train for a rather intrepid journey Paris-La Rochelle on a TGV, France’s “Train à Grande Vitesse”- very grand indeed. Seats are wide, there is a plug for my computer, and my phone keeps me connected with the whole wide world. Yet freedom is within grasp. //

I am embedded in male-ish network of social and technological devices. I am speeding over 200km/h in a modern contraption that defies everything that feels human to me. Yet I am about to engage into a conversation about Intrepid, the COST action – which I found beautifully human. //
This very modern high speed displacement through space is opening a window in time for us to reflect on our Intrepid experience. Would there be some sort of connection between Intrepid, the social device, and modernity?

Let us be patient before exploring this question.

In the meantime I share with you the first thing I learned from intrepid:

**Lesson 1:** within an intricate web of fierce reactionary forces, it is possible to open a crack, that grows into a creative space, within and without oneself. Intrepid meetings were such rare moments, where the convergence of values generates pure joy and pragmatic solutions to today’s challenges. There are no better time to begin paving the road for a better future. No need to dwell on what "Has passed away - Or what is yet to be."

*There is a crack, a crack in everything
That’s how the light gets in
That’s how the light gets in
That’s how the light gets in* (Leonard Cohen, Anthem, The Future)

Hugs

December 7 late at night,

Dear Jean-Paul,

So it is my turn for lesson 2? Not an easy one. Right now France is in turmoil. There are armored vehicles in the streets of Paris. Pictures of high school students rounded up and being forced to remain for hours on their knees, are making the front pages. It seems that desire for social justice may lead to serious upheaval.

While you were speeding to La Rochelle, I was myself putting the final touches to the latest issue of our union magazine: VRS. This month’s issue is dedicated to women’s work in higher
education and research. It demonstrates in details how academic capitalism, through its numerous biases, is progressively destroying what once made science and progress walk hand in hand – “science and progress walk hand in hand” isn’t that a modern way of framing things? It seems that justice is not on the agenda nowadays – be it in academia or in the country – yet we long for it.

I agree with you, progress comes with desire, joy, controversies, debate, surprises – this is what academia is about, and INTREPID was full of these - hence the smiles. Yet I disagree with you in part: we MUST “dwell on what is yet to be” – framed as consequences of our actions today, within and without academia. Did you forget that it is indeed possible to “do things with words.”?

This leads me to lesson 2: seeing INTREPID’s work I came to realize that transdisciplinary work involves changes within, and without – and this change has to be value driven and future concerned. There can’t be a future without social justice, at all levels, in all realms. There is a fundamental, ethical and pragmatic need for justice, within and without academia => transdisciplinary practices are concerned with the withins and the withouts.

By starting with Leonard Cohen you did set the bar high, let’s reduce expectations:

\[ \text{Little sheep don't let your feet stray} \\
\text{Happiness is easy.} \]

(Talk Talk, Happiness is easy, Happiness is easy).

Hugs

Much later, together,
Would there be some sort of connection between Intrepid, the social experience, and modernity? Well space is limited and we do not have a clear answer.

Envisioning the future may be a rational exercise, jointly mobilizing knowledge, values, and
imagination. It may also be an exercise finding its foundation in emotions and imagination as the only ingredients.

Within Intrepid our feeling (yes “feeling”) is that a balance between the ways and means of fostering was achieved.

Memories of what is yet to be

This would be lesson 3.

Does this mean that these visions of the future will turn into plans for the future? Will such plans be adopted? What it means is that through transdisciplinary work it is possible to envision the possibility of a future that we desire. As for plans, maybe we can lower the bar a bit more and let XTC have the final words:

*We’re only making plans for Nigel*
*We only want what’s best for him*
*We’re only making plans for Nigel*
*Nigel just needs this helping hand*
*And if young Nigel says he’s happy*
*   He must be happy*
*   He must be happy in his work*

(XTC, Making plans for Nigel, Drums and Wires)
INTREPID KNOWLEDGE
The journey continues...

ABILITY TO LISTEN

FRIENDSHIP

NETWORKING

AUTHENTICITY

TRUST

HUMILITY

GRATITUDE

PLEASURE OF SHARING KNOWLEDGE

ENVISION FUTURE WE DESIRE

REVEALING

INVIGORATING

LOVE

BELONGING
INTREPID KNOWLEDGE FINAL ACTION CONFERENCE

March 27-29, 2019
Lisbon, Portugal
Hosted at ISEG (University of Lisbon) INTREPID celebrated its four-year journey at a final conference: ‘INTREPID Knowledge’.

The added value of INTREPID’s network has been to explore the potential of inter and transdisciplinary knowledge, inspiring change and build leadership, at the level of policy for research funding, within universities/Higher Education Institutions (HEIs), and crucially among the youngest researchers who choose to promote interdisciplinary inquiries despite the many challenges (and oftentimes risks) that this entails. The Action achieved its main aim targeting three challenges, which were explored over the three days:

• **27th March** - Focus on Inter &Trans-Disciplinary facilitation and implementation.
• **28th March** - Focus on Inter &Trans-Disciplinary urban research enablers & changes in curricula.
• **29th March** - Focus on INTREPID Knowledge & the future of university.

Watch the Lisbon video teaser
Keynote presentations 27th March

- New Logics of Interdisciplinarity: How institutions shape academic careers
  Catherine Lyall, The University of Edinburgh

- How new logics of interdisciplinarity can help ID and TD researchers shape institutions?
  Maria Helena Guimarães, Institute of Mediterranean Agricultural and Environmental Sciences (ICAAM), Évora Uni

- Shape-ID: Shaping interdisciplinary practices in Europe
  Catherine Lyall, The University of Edinburgh

- Facilitation of ID and TD teaching and training courses
  Christian Pohl, USYS TdLab Department of Environmental Systems Science

- Closing the Loop: Enhancing Interdisciplinarity in Research and Teaching
  Jörg Balsiger, Frédéric Darbellay (CIDE), Philippe Haeberli (Pôle SEA), Pauline Plagnat; Patrick Naef, Université de Genève

- Swiss Cases funded by COST Office, Switzerland Stakeholder Motivations: What do we know?
  Tobias Buser, SCNAT td-net

- Sustainability Education in Practice (SEP) How to integrate SDGs into current university’s economics curricula?
  Giulia Sonetti (Politecnico di Torino and Università di Torino), Marta Varanda & Patricia Melo (ISEG Lisbon School of Economics and Management, UL)

- Sustainability Science -Resources, Food and Society (REASON): towards a transformative higher education
  Luís Goulão

Keynote presentations 28th March

- Enabling the City: the importance of working across disciplines
  Presentation: Katrin Paadam, Prue Chiles  Chair: Josefine Fokdal: Panelists: Sten Gormark, Hans Thor Andersen, Katrin Paadam, Olivia Bina, Chris Woiwode, Giulia Sonetti

- Urban Curricula – State of the Art
  Giulio Verdini, University of Westminster
Keynote presentations 29th March

- **INTREPID T-U HUB forward looking**
  Marite Guevara, Carlo Sessa, Isabel Chaparro, Igor Campillo, Olivia Bina, Marta Varanda, Valerie Adolf, Giulia Sonetti, Doerte Weig

- **The Future of universities**
  Isa Molewijk, Tim Jantoss, Thomas Jansen, & Konstantin Delbrück, Windesheim Honours College

- **From University to Non Universities**
  Luca De Stefano, Non Architecture

- **INTREPID Knowledge for the Present and Future**
  Olivia Bina, ICS-ULisboa

- **Univer(c)ity: The Future Space and Place of Knowledge**
  Prue Chiles, University of Newcastle

- **Inner Transformation for 21st Century Futures: The Missing Dimension in Higher Education**
  Christoph Woiwode, Bath Spa University & Indo-German Centre for Sustainability

- **When Tomorrow Comes: Imagining the Future of Knowledge and Education**
  Paola Bonini, Rai Digital

- **Future of Universities Panel discussion**
  Chair: Igor Campillo, Panelist Tim O’Riordan, Garry Jacobs, Paola Bonini, and Chris Woiwode

For more information watch the video gallery
What is the future for universities as places of knowledge and learning? was our central question at our Action Conference on the final day. It is a question that arose half way through our four-year journey, when we realised that the original focus on the funding of research for new knowledge raised deep questions about the responsibility (and potential solutions therein) of universities: their culture, practices and ethos all mattered when it came to what knowledge would be legitimised and promoted. Thus, we launched an INTREPID Futures Initiative, designed to target the growing gap in preparedness between lofty science policy objectives promoting inter and transdisciplinarity and the actual capacity of universities to deliver on this. But we also felt we needed to go further and to explore the purpose(s) of higher education institutions in a century of rapid change, technologisation and digitalisation, of growing divisions and inequalities, of decolonisation and reconolonisation of the domains of knowledge. Examples of how we sought to impact and shape the debate include the involvement of high profile speakers:

**SCHOLARS ON SCIENCE POLICY** - The keynotes by Felicity Callard (Durham University) and Immanuel Wallerstein (Yale University), at our 1st Action Conference, Calouste Gulbenkian Foundation, Lisbon;

**EU Higher Education Institutions** - The keynote by K. Maes (of the League of European Research Universities - LERU) in Lisbon;

**EU Research Foundations** - The keynote by Igor Campillo (the Director of Euskampus Foundation) at our 3rd INTREPID Training School – Donostia;

**Global Science Networks** - The keynote by Garry Jacobs (the Chief Executive of the World Academy of Art and Science (WAAS)) and by Heather Campbell (then University of Sheffield) at the TD Net Conference, Leuphana University;

**Civic University Concept** - the Keynote by John Goddard (Newcastle University) at our Workshop on Space and Place of knowledge.

Overall, the picture that arises from the debates initiated by INTREPID confirms the views expressed by scholars dedicated to rethinking higher education, including Raewyn Connell (‘The Good University’, 2019), who finds that universities remain a ‘tremendous social asset’ which risk being overwhelmed by ‘outdated
At our Final Conference, we invited four scholars and practitioners to share their thoughts on the Future of Universities with us. Olivia Bina opened the day’s proceedings with a reflection on ‘INTREPID Knowledge for the Present and Future’, where she offered six steps for universities to start their journey from ‘being part of the problem to being part of the solution’.

The role and contribution of universities to a fair and sustainable future ‘shows a very mixed record, and an overall unsatisfactory one judging from UNESCO’s [United Nations Educational, Scientific and Cultural Organization] reviews over the past decades’, and warn that few institutions have shown to be capable of learning about themselves, and reimagining their present and future.

The first of six steps is about ‘questioning and exposing’ our assumptions, unconscious or unassumed biases, paradigms or frames of reference. This includes the underlying biases, points of view, ideas and paradigms that are applied to education, research and producing new knowledge. In the words of James Baldwin: “Not
everything that is faced can be changed, but nothing can be changed until it is faced” – we cannot hope to become part of the solution, and a real player in the pursuit of sustainable futures, unless we take this step.

This introduction was followed by the exciting presentation on inspiring examples around the world, led by Isa Molewijk, Tim Jantoss, Thomas Jansen & Konstantin Delbrück, all students from Windesheim College. The afternoon discussions were shaped by the following interventions:

- **Inner Transformation for 21st Century Futures: The Missing Dimension in Higher Education** - Christoph Woiwode (Bath Spa University and Indo German Center for Sustainability).
- **When Tomorrow Comes: Imagining the Future of Knowledge and Education** - Paola Bonini (Rai Digital).
- **Leadership in Higher Education** - Garry Jacobs (World Academy of Art and Science).
- **The Future of University and Sustainability** - Timothy O’Riordan (University of East Anglia).

The day closed with a panel discussion involving all keynotes, chaired by Igor Campillo, who began by asking the overarching question:

- “Which are the current underlying higher education community perceptions (narratives) and belief systems (values) that are preventing universities from delivering the kind of leadership needed to create sustainable futures?”

Igor then invited our four speakers to consider universities’ futures through the lens of global megatrends:

- Which role do you envision for universities in an increased interconnected globe, with two contradictory tendencies, one of breaking down the geographical barriers, but at the same time another of rising local identities?
- How do you imagine universities in a world of virtual, augmented or mixed realities? How will universities change their curricula as well as the way they teach in this high-tech scenario?
- What will learning and employability mean for universities in a world dominated by artificial intelligence?
- Which changes must universities introduce in order to respond to a population with increased life-spans and longer careers?
Linking to INTREPID’s recent inquiry, led by Olivia Bina and Prue Chiles, into the ‘space and place of future knowledge and learning’, Igor Campillo also asked: “Why do you think we may still need physical universities in the future?”

Overall, we can confirm that many examples of innovative practices can be found, both amongst our network members’ institutions (notably, Leuphana University and Windsheim College), and across continents. As we explored at the Newcastle University workshop, conceptions of the civic university and demands for decolonising knowledge are contributing to re-ignite demands for change. Persistent tension between the historically established ways of knowledge production through disciplines, and the urgent need to widen, and often change, both the production of knowledge and its organisations, suggests that continuing to build universities according to disciplinary divides may be unwise. This explains the wide and rising interest in inter and transdisciplinary research, both within and outside universities, and yet today, embarking on such research requires significant courage, and entails risks as well as opportunities, for one’s career progression. Compared to the lofty promises and acknowledgements of how important, urgent and even essential inter and transdisciplinary knowledge production is supposed to be today, the state of such research, training and career options seem to fall well short of aspirations.
POSTSCRIPT: LOOKING TO THE FUTURE
SUSTAINING the Network

We have been building momentum towards the next step of INTREPID, especially through its exploration of inter and transdisciplinary knowledge in the context of changing Higher Education and uncertain techno-scientific futures. The increasing links between core INTREPID themes and Europe’s RRI agenda has been central to discussion about the Network’s future. We aim to continue to operate as a Hub, maintaining our webpage, which was migrated to the University of Lisbon server to ensure stability. The publication plans for a Special Issue in Environment, and the H2020 project will also provide continuity.

Emerging topics

We think COST could usefully engage with exploring the future of knowledge and of universities in producing and disseminating it: Implications of technology (automation, AI and big data) both for academia and inter/transdisciplinary teaching/research, and for the type of employment that it should prepare to target, are among the issues we began to explore. But much needs to be done, and a lot of the answers are being offered by international organisations (OECD, World Bank, etc.), consultancies (McKinsey, Ernst & Young, etc.), leaving open the space for COST and the EC to provide wider perspectives.

Future

INTREPID aims to develop a strategy document and implement an action plan to build a network of responsible research and innovation learning hubs (i.e. of groups of foresight experts, business, civil society and policy stakeholders, citizens). The ambition of the network of learning hubs is to create, identify, and accelerate new ways to collaborate, learn, research, and enabling change that generate shared value. In this regard the learning hubs aim to cultivate a culture of innovation based on a broader set of values and ethical considerations, offering solutions that meet societal needs and desirability. The strategy will associate INTREPID and experts from sister networks and initiatives. It will be realised gradually by promoting pilot activities: testing the approach in ongoing or new projects, developing a business model for the network, and – as a first step – launching a pilot learning hub in Barcelona, where several INTREPID experts are placed.

At ‘INTREPID Knowledge’ our Final Conference we launched a Special Issue in environmentmagazine.org on this topic, due 2020.
Could universities be part of a new transparent, responsible, inclusive and sustainable paradigm of development?

This figure illustrates in part what has been presented at the Lisbon conference (the Future of University Hub session on Friday 29 March), but extends also the same concepts to forward looking whole transitions and transformations of our society to a new Transparent, Responsible, Inclusive and Sustainable university paradigm of development.
INTREPID People
Harald SCHALLER
Heather CAMPBELL
Henrik VON WEHRDEN
Iakovos YAKOUMIS
Igor CAMPILLO
Igor NEDELKOFSKI
Inge Mette KIRKEBY
Irene VAN KAMP
Isabel Cristina CHAPARRO
Isabel LOUPA-RAMOS
Isabel REIS
Jakob KOHLBRENNER
James ANDERSON
Jean-Paul VANDERLINDEN
Jen HOLZER
Jaeling LIU
Jiesper PEDERSEN
Joao CABRAL
Joao FERRAO
John ROBINSON
Jorge CORREIA JESUINO
Jose LEANDRO ROSA
Josefine FOKDAL
Julia D. DAY
Julie KLEIN
Julie MENNES
Justs DIMANTS
Katri HUUTONIEMI
Katrien MAES
Katrin PAADAM
Klaus GARTNER
Konstantin DELBRUCK
Lakshmi PRIYA RAJENDRAN
Lavinia PEREIRA
Lee CROOKES
Leslie MABON
Lex BROWN
Liesbeth RIJSDIJK
Liis OJAMAE
Lorenzo CHELIERI
Luca DE STEFANO
Luca LONGO
Lucia BARLEAN
Luis BALULA
Luis GOULAO
Luiza Olivia RAMOS
Lulu VAN ROOYEN
M.Dolores SANCHEZ GALERA
M.Ángeles OVIDO-GARCÍA
Maja USICO
Marco Mattia CRISTOFORI
Marei SAMMAR
Maria GARCÍA ALVAREZ
Maria Helena GUIMARAES
Maria Theresa NORN
Maria ZAMPETA DAOUTI
Mariia GOLOVIANKO
Mario ALVES
Marite GUEVARA
Marko MARELJA
Markus MOLZ
Marta OLAZABAL
Marta VARANDA
Mary GEAREY
Matej NIKSIC
Melissa ARRIGITIA
MennatuAllah HENDAWY
Merritt POLK
Mila KONJAR
Mila POPOVICH
Mladen BRNCIC
Monica TATARCIUC
Nicky CHAMBERS
Oana MARIN
Oksana CHABANYUK
Olga POMBO
Olivia BINA
Ozge ZIHNIOGLU
Pamela CAJILIG
Patricia WOLF
Paulo ANCIAES
Per STALNACKE
Peter ALPERT
Peter FISCH
Thank you all!
Editors: Olivia Bina, Marta Varanda and Marite Guevara
Publication Design: Ersilia Foundation
Illustrations: Jakob Kohlbrenner

This publication is based upon work from Intrepid COST Action (TD1408), supported by COST (European Cooperation in Science and Technology).