

THERACAT

Bio-orthogonal catalysis for cancer therapy



European Training Network
THERACAT

The program

Training event: Monday 25th & Wednesday – Friday 27th – 29th March 2019

Monday 25 th March 2019: General introduction			
11:00-14:30	Welcome and reception	Albertazzi	All
14:30-15:00	General introduction of the network and its scientific goals	Albertazzi	All
15:00-15:30	Introduction of the training programme	Albertazzi	All
15:30-16:30	Talk from Advisory Board member(s) - <i>tbc</i>	Meier - <i>tbc</i>	All
18:30-21:00	<i>Network Dinner at ICMS</i> - www.cateringheesterakker.nl	-	@

The program

Network Meeting: Tuesday 26th March 2019

Schedule	Activity	Responsible	Attendees
09:00-09:30	Tea and Coffee	-	All
09:30-09:45	Introduction of the network and meeting agenda	Albertazzi	All
09:45-12:15	Introduction of each PI and ESR: <ul style="list-style-type: none"> • PI (10 min/each) • ESR (3 min/each) Questions and doubts	All	All
12:15-13:15	Lunch (catering at ICMS)	-	All
13:15-15:00	Project Management: <ul style="list-style-type: none"> • General management issues • Boards and training • Recruitment • Next meetings • Secondments • Dissemination and communication actions • Deliverables and milestones alignment • Financial reporting information Questions and doubts	Miralles	Supervisory Board (PIs)
15:00-15:15	Tea and Coffee	-	All
15:15-16:30	Assessment Commissions (AC): <ul style="list-style-type: none"> • 15:15: AC1 (Satchi-Fainaro, Roelfes, Avramovitch) for students ESR4, ESR5, ESR6, ESR10 • 15:35: AC2 (Palmans, Unciti-Broceta, Robillard) for students ESR1, ESR2, ESR7, ESR9 • 15:55: AC3 (Ward, Albertazzi, Goldie, Amir) for students ESR3, ESR8, ESR11, ESR12, ESR13 	Turns of 3-4 PIs	ESRs
16:30	Closing Remarks	Albertazzi	All
19:00	<i>Network Dinner at Eindhoven Stadsbrouwerij.</i> http://stadsbrouwerijeindhoven.com/index.php	-	#

The program

Wednesday 27th March 2019: Skills to start a successful PhD

09:00-10:30	PhD management (3 scientists sharing their experience with managing PhD + open discussion with moderator)	Palmans	All
10:30-12:00	Work/life balance discussion (including gender and inclusion)	tba	All
12:00-13:30	<i>Lunch at ICMS</i>	-	<i>All</i>
14:00-15:30	Visit at TU/e facilities	Albertazzi	All
15:30-16:30	Ethics (game with cards)	Palmans	All
16:30-17:00	Personality test + grouping ESRs in teams	Albertazzi	All

The program

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

The program

Friday 29 th March 2019: ESRs Meeting			
09:00-11:00	ESRs Meeting: <ul style="list-style-type: none">• Election of the ESR representative for the SB• Formation of the fellows committee (3 ESRs)• Discussion on fellow-related initiatives	Moderates Miralles	ESRs
11:00-12:00	Teambuilding activity	Miralles	ESRs
12:00-12:30	Closing Remarks	Albertazzi	All

Who's THERACAT?

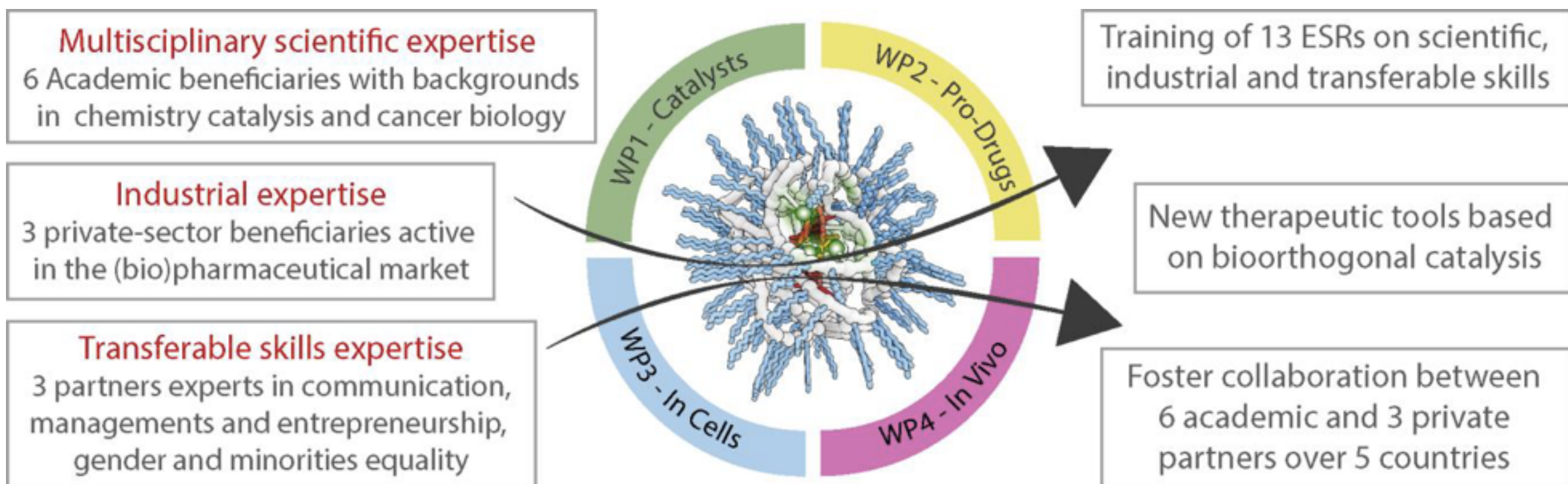
ACADEMIC BENEFICIARIES								
1 – Fundació Institut de Bioenginyeria de Catalunya	IBEC	X			Spain	Nanoscopy for Nanomedicine	Lorenzo Albertazzi	
2 - Technische Universiteit Eindhoven	TUE					Institute for		
3 - Rijksuniversiteit Groningen	GRO							
4 - Universitat Basel	BAS							

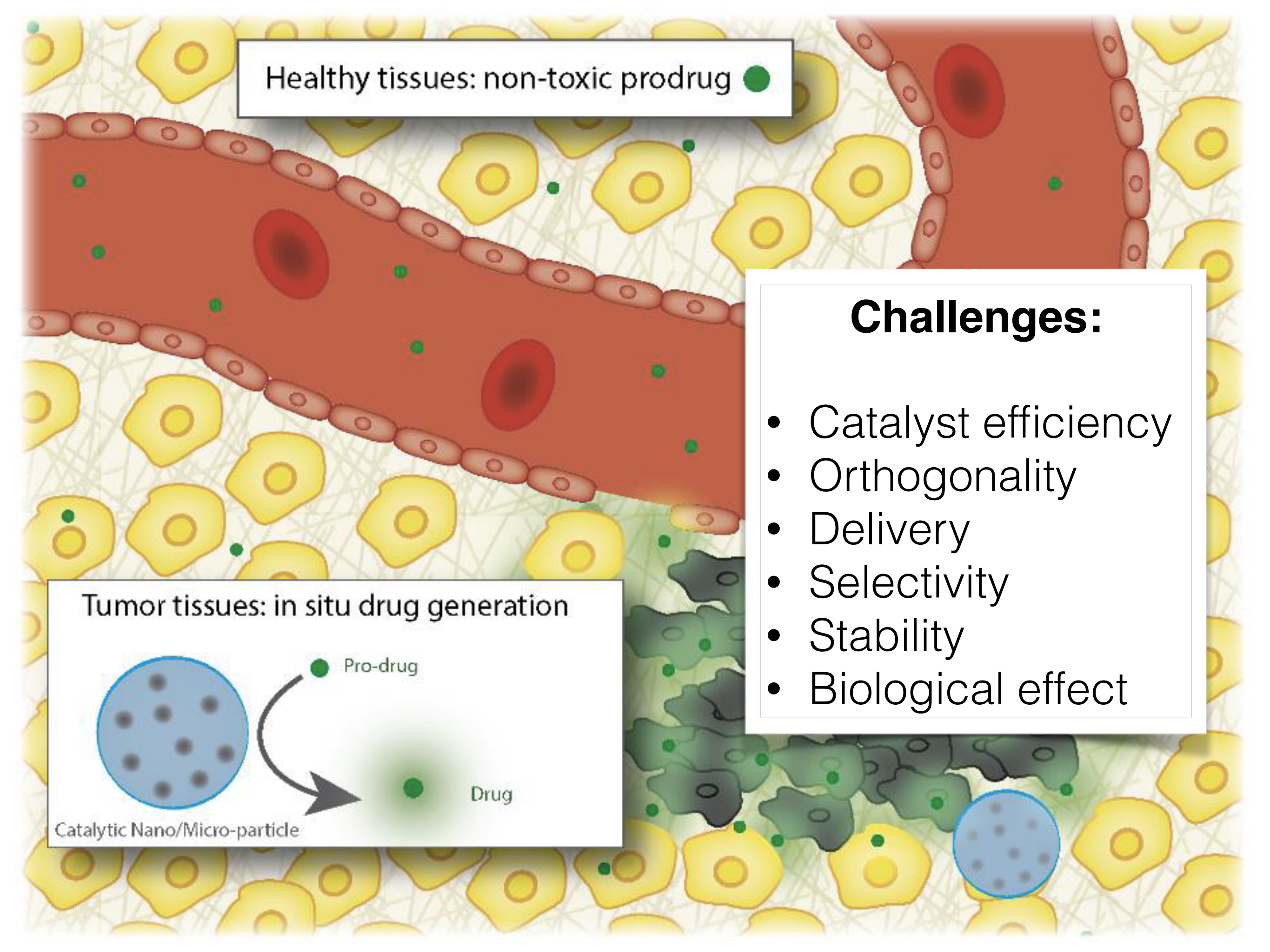
THERACAT:

- 5 countries (ES, NL, UK, CH, IL)
- 3 of 9 beneficiaries from industry
- 1 large pharma, 2 SMEs, 1 business school, 1 charity
- 6 of 13 PI are women

5 - Un Ed	7 - TEVA Pharmaceutical Industries Ltd.							
6 - Tel Av	8 - Tagworks Pharm							
9 – Bi								
PARTNER ORGANISATIONS								
10 - Cancer Research UK	CRUK		X		United Kingdom	Research Information and Engagement	Fionnuala Ratcliffe	Training, Host Secondment
11 – Fundación ESADE	ESADE	X			Spain	Dpt of Strategy and General Management	Jordi Vinaixa	Training
12 – Universitat Autònoma de Barcelona	UAB	X		X	Spain	Observatory for Equality	Joana Gallego	Training

Why THERACAT?



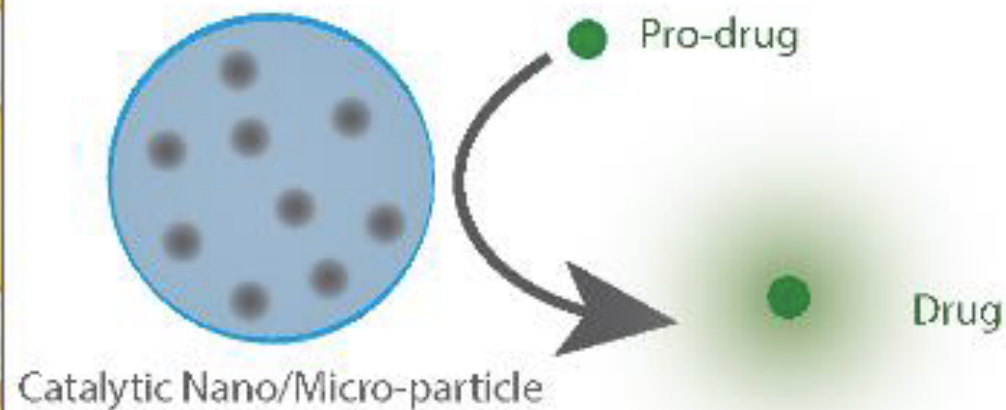


Healthy tissues: non-toxic prodrug ●

Challenges:

- Catalyst efficiency
- Orthogonality
- Delivery
- Selectivity
- Stability
- Biological effect

Tumor tissues: in situ drug generation



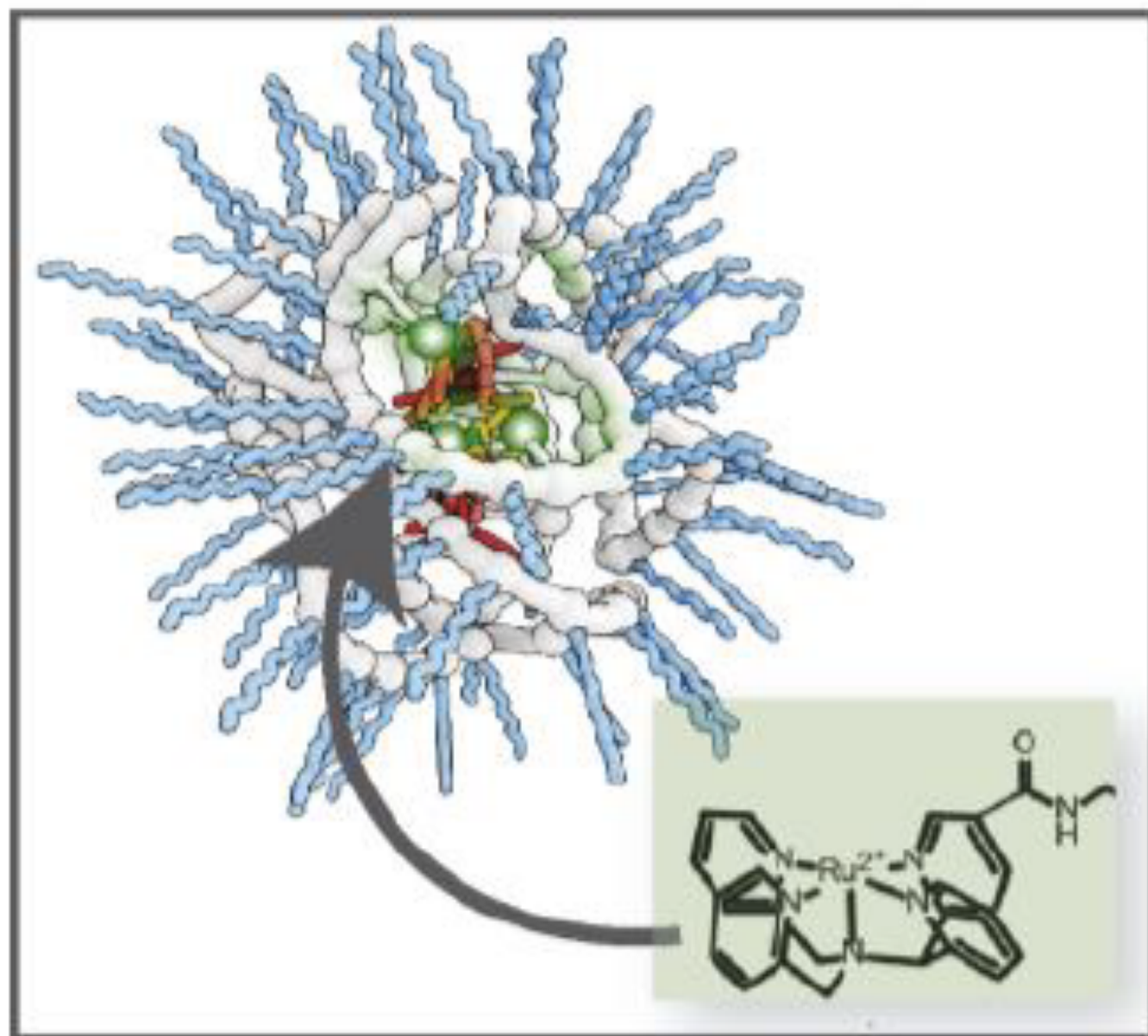
The main scientific objectives of THERACAT are:

S1 - Synthesis and characterization of bio-orthogonal (nano)catalysts (WP1)

S2 - Design of novel catalytically-activable prodrugs and prodyes (WP2)

S3 - Effective strategies for the selective delivery of catalysts in the cancer site (WP3)

S4 - An in vivo validation of the antitumor strategy using imaging and animal models (WP4)

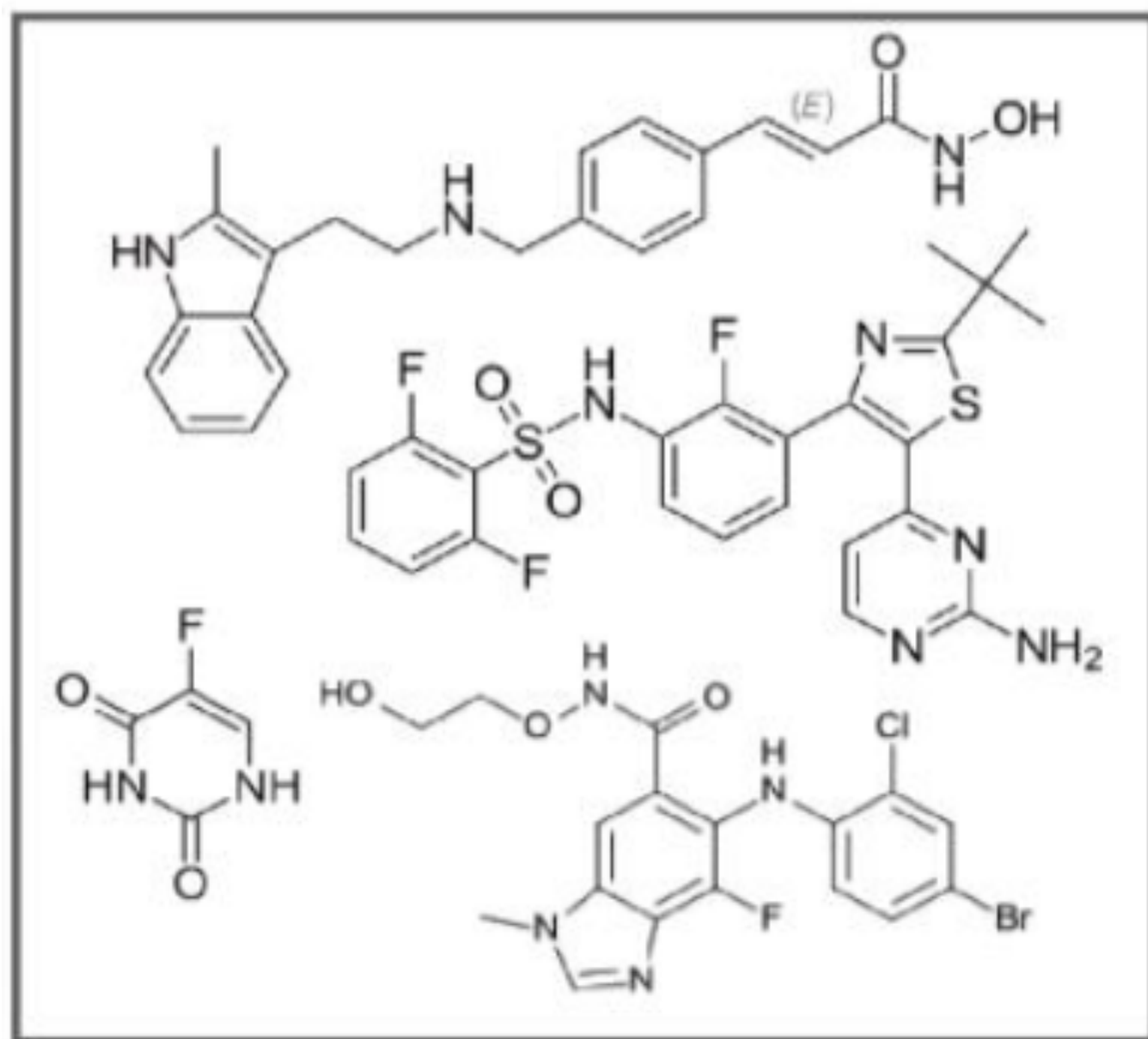


Carriers:

- Proteins (CA, SA)
- SCPNs
- Micelles
- Polymer microparticles

Catalysts:

- Pd(0)
- Pd(II)
- Ru(II)

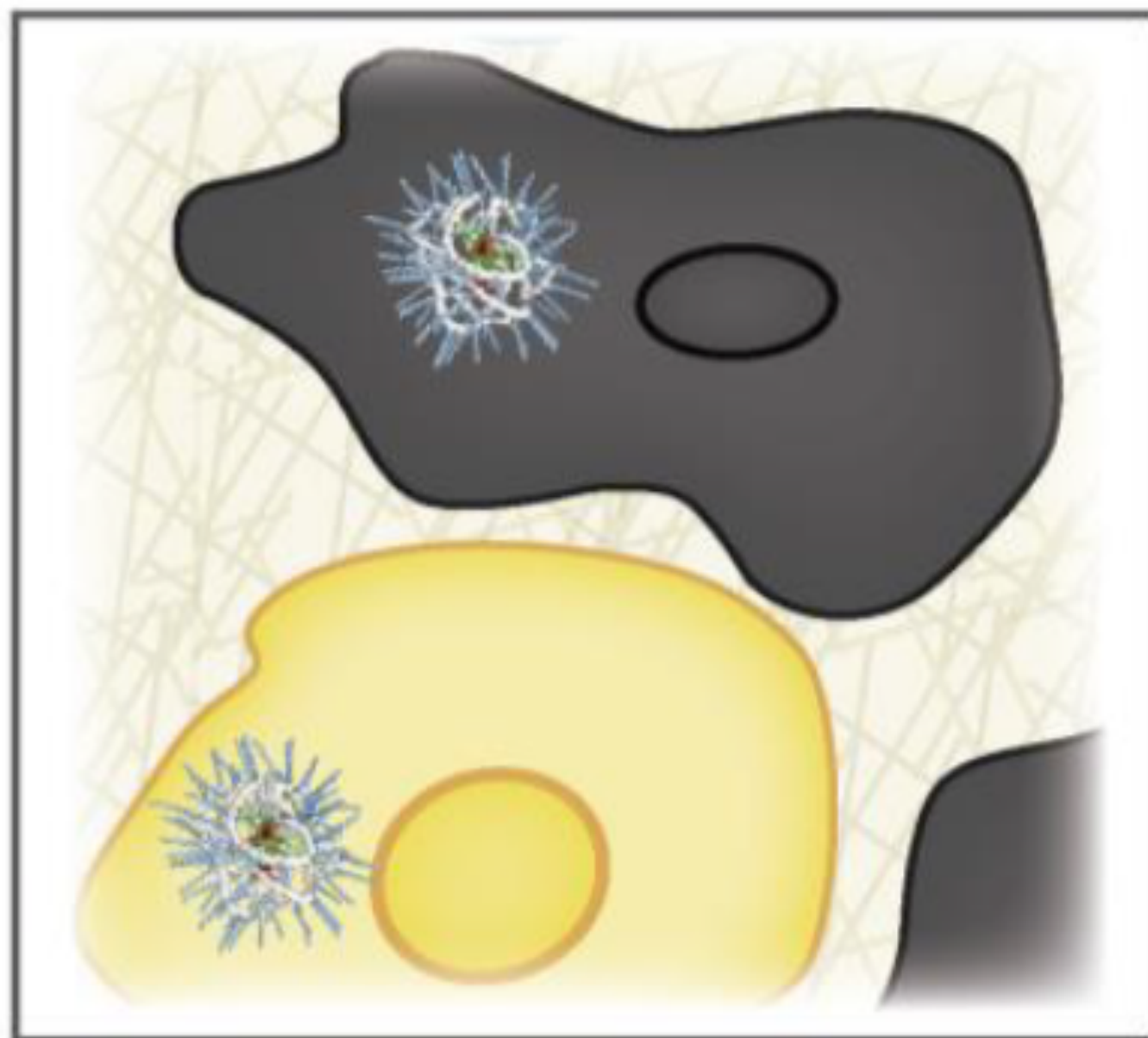


Prodrugs:

- HDAC inhibitors (panobinostat)
- Kinase inhibitors (dabrafenib and selumetinib)
- Alkylating agents (duocarmycin)

ProDyes:

- Caged Rhodamines

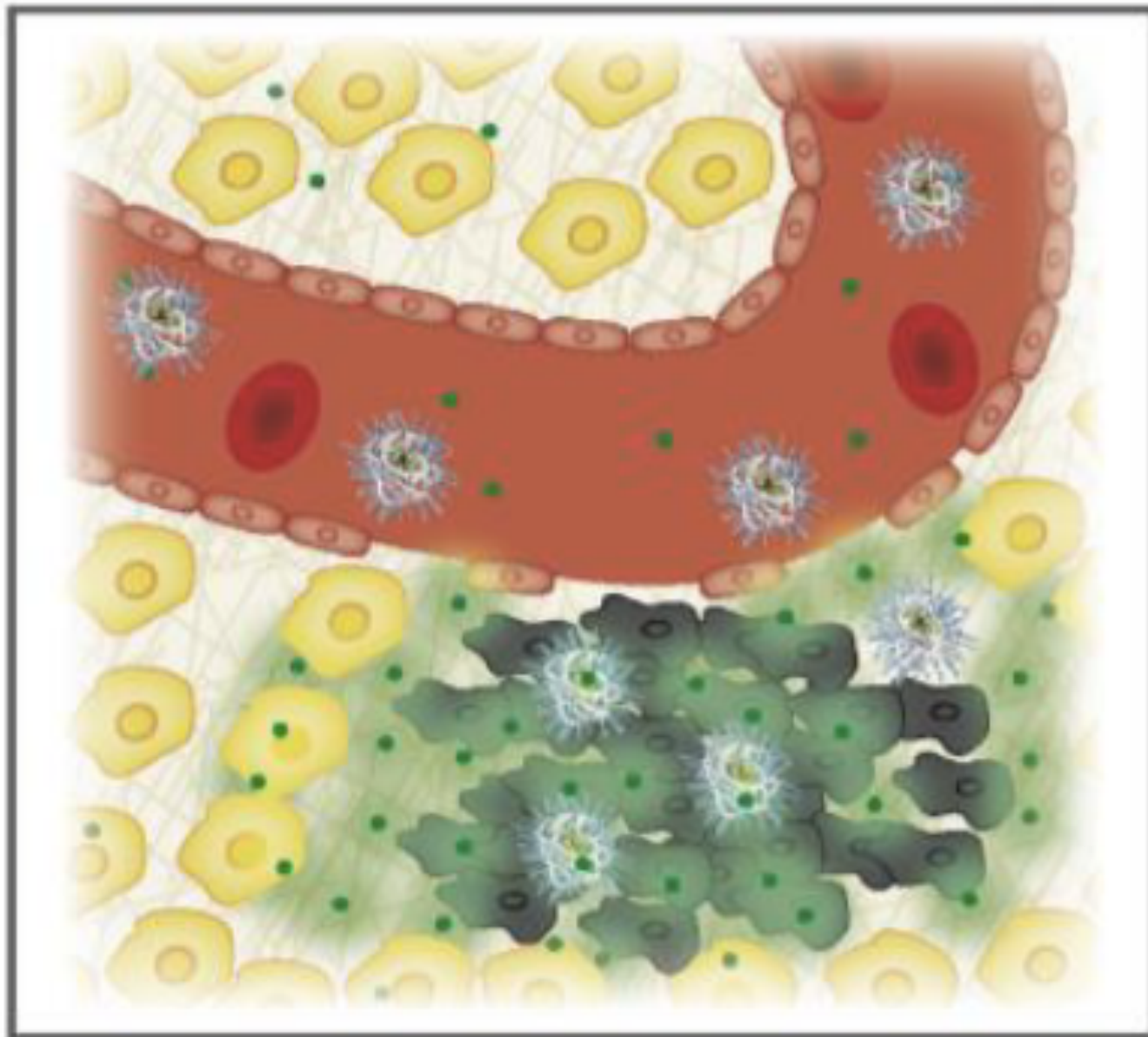


Models:

- Test tube (PBS, serum)
- Cultured cells
- 3D ECM mimics

Test for:

- Catalytic efficiency
- Cell toxicity
- Targeting and delivery
- Orthogonality



Models:

- Murine cancer models

Methods:

- mCherry labeled orthotopic models
- In vivo imaging

Test for:

- Biodistribution
- Anticancer efficacy
- Stability

The main training objectives of THERACAT are:

T1: Research Excellence is the foundation of the scientific training of the ESRs. This will be ensured by supervisors with established international reputation in their respective fields.

T2: Industrial and entrepreneurship training of ESRs by the private sector partners aims at closing the gap between Industry and Academia, facilitating the future transition of ESRs from their academic studies into the EU scientific industries.

T3: The acquisition of **transferable skills** including scientific communication and dissemination, project management, entrepreneurship, ethics and gender awareness is envisioned to prepare the ESRs towards their future careers in academia, industry and governmental agencies.

What can we train you for?

THERACAT expertise:

Organic and Polymer Chemistry (TAU, TUE)

Metal catalysis (GRO, BAS)

Medicinal chemistry (EDI)

Drug delivery (TAU, IBEC, EDI)

Imaging (IBEC, TAU, TAG)

In vitro and in vivo cancer models (TAU, BGX)

Industrial formulation of materials (TEVA)

Entrepreneurship and management (ESADE)

Communication and engagement (CRUK)

Gender and minorities (UAB)

Training events

**1 - Introducing the THERACAT Network &
How to plan and start a PhD**

M12, 4 days

2 ECTS

BAS

2 – Chemical synthesis & catalysis

M18, 5 days

2 ECTS

TUE

3 – Drug delivery & microscopy

M24, 5 days

2 ECTS

EDI

4 – Going in vivo, chemistry and cancer biology

M30, 5 days

2 ECTS

TAU

5 – Getting ready for the next career step

M36, 7 days

3 ECTS

IBEC

Communication

Cancer-related Charities



aeecc
Contra el Cáncer

Social media

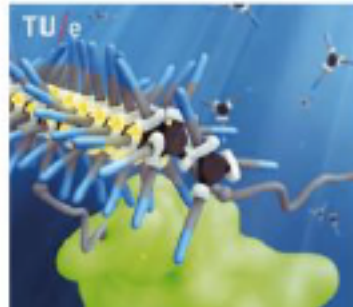


Blogs

IBEC Divulga



Videos



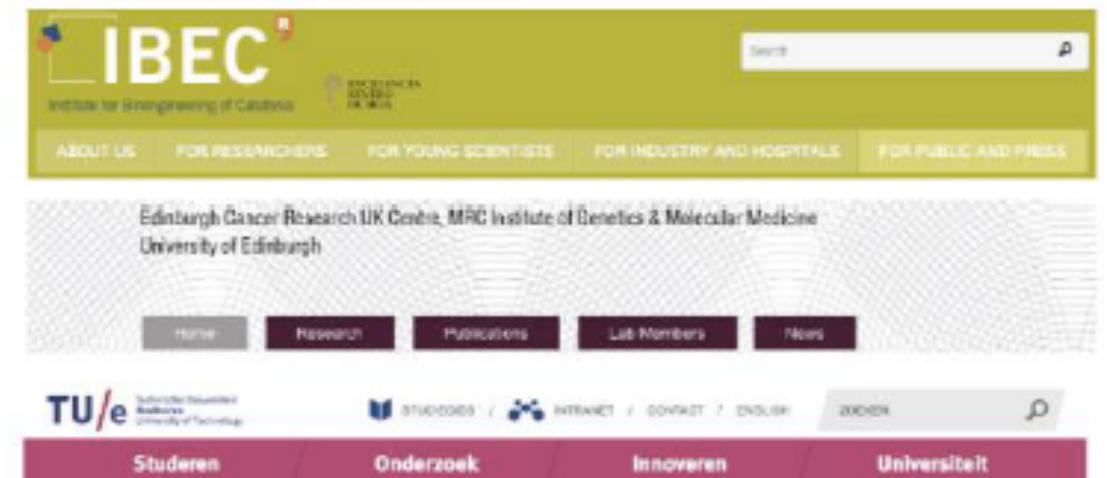
Publications



Conferences



Partners websites



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