

Maximising Societal Impact

A Dissemination Strategy for
COST Action CA15118
FoodMC WG4

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COST Objectives

Communication Channels

Scientific impact on society

Publication Strategy

Example: Knowledge Book

Building, Intervention & Evaluation

Example: Ludovic

What you should Remember

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COST Objectives

COST Dissemination Plan[7]

A positive impact on society is continuously gaining importance as an assessment criterium for research. [25, 4]

Communication Objectives

- ▶ Share research results and outcomes
- ▶ Change views
- ▶ Influence decision-making
- ▶ Raise awareness
- ▶ Stimulate new research or projects

Target Audiences

- ▶ Academia
- ▶ Industry
- ▶ Policy makers
- ▶ General public

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Communication Channel

How to communicate scientific progress using a multitude of channels, maximising the impact? [20]

- ▶ Traditional Media (e.g. TV, newspapers)
- ▶ Social Media (e.g. Facebook, Twitter, LinkedIn)
- ▶ Scientific networks (e.g. ResearchGate.com, Academia.edu)
- ▶ Open-access publications (i.e., COST requirement)
- ▶ Education (e.g., MOOC¹, courses, textbooks, certificates)
- ▶ Face-to-Face (e.g., lectures, lobbying)
- ▶ Open-source program code (e.g., SourceForge, GitHub)
- ▶ Patents (e.g., Espacenet)

¹Massive Open Online Course

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Scientific impact on society

Rigor, Relevance & Innovation [20]

How can science² maximise it's impact on society?

- ▶ Through the **development** and **dissemination** of artefacts
 - ▶ products, services, projects
 - ▶ scientific theories
 - ▶ engineering methods
- ▶ and a proper **communication** of their
 - ▶ **relevance**,
 - ▶ How they solve a practical problem.
 - ▶ How they exploit an opportunity in a meaningful way.
 - ▶ **rigor** and
 - ▶ How they reflect the state-of-the-art.
 - ▶ **innovation**
 - ▶ How they advance the-state-of-the-art.

²here COST Action CA15118 FoodMC

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Publication Strategy

1. Problem Definition: Position Paper [29]
 - ▶ Why is the problem important?
2. Literature Review: Systematic - [23]
 - ▶ What is the state of the art?
3. Building: Design Science [18]
 - ▶ How could it be solved?
4. Intervention: Case Study Research [36]
 - ▶ How to evaluate progress?
5. Evaluation: Action Design Research [28]
 - ▶ Has the problem been solved satisfactorily?
6. Overall Effect:
 - ▶ Technology Acceptance [6]
 - ▶ Economic Impact [19]
 - ▶ Meta-Analysis

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Knowledge Book

MakeBook [22]

- ▶ Problem: Knowledge Transfer from Academia to Industry
 - ▶ Requirements: Low Disorientation, Low Cognitive Load
- ▶ Literature Review:
 - ▶ Source: Science Direct
 - ▶ Importance: 114613 Results
 - ▶ Findings: Important Journals & Topics
- ▶ Building: Concept Maps with Hypertext
- ▶ Intervention
 - ▶ TeamBois [21]
 - ▶ BISENS [31]
 - ▶ CANAL-Salve [27]
- ▶ Evaluation
 - ▶ Measures for Requirements [1]

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Building, Intervention and Evaluation (BIE)

Action Design Research (ADR) [28]

BIE is an iterative process reciprocally shaped by practitioners and academics, during which the quality of the artefact is continuously improved and the public exposed to the artefact is continuously enlarged. [8]

1. Building: Generate alternative designs.
2. Intervention: Test them in a realistic setting.
3. Evaluation: Evaluating them against relevant requirements,
4. until a satisfactory design is achieved. [30]

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Extrusion Software

Ludovic

- ▶ Problem: Extrusion of Food [10]
 - ▶ Requirement: Non-Newtonian Fluids [33]
 - ▶ Deliverable: Simulation Software
- ▶ Phase 1: Newtonian Fluids [32]
 - ▶ α -version: Food [12, 26]
 - ▶ β -version: Polymers [34]
- ▶ Phase 2: Non-Newtonian Fluids [17]
 - ▶ Rheometer: Building, Intervention & Evaluation [35]
 - ▶ Rheology [13, 11, 24]
- ▶ Phase 3: Prediction of Product Properties
 - ▶ Process Simulation [3, 16, 15]
 - ▶ Product Simulation [14, 2, 5]
- ▶ Dissemination to End-Users [9]

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What you should Remember

- ▶ A Positive Impact on Society is fundamental.
- ▶ A Communication Strategy can increase Societal Impact.
 - ▶ Communication Objectives and Channels
 - ▶ Target Audiences and Messages
- ▶ Every step in the Scientific Process could lead to a Publication
 - ▶ Position Paper
 - ▶ Systematic Literature Review
 - ▶ Case Study
 - ▶ Action Design Research
- ▶ Building, Intervention & Evaluation is an iterative process of continuous improvement.
- ▶ A Publication should not be the end of a research project

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