

# SEM

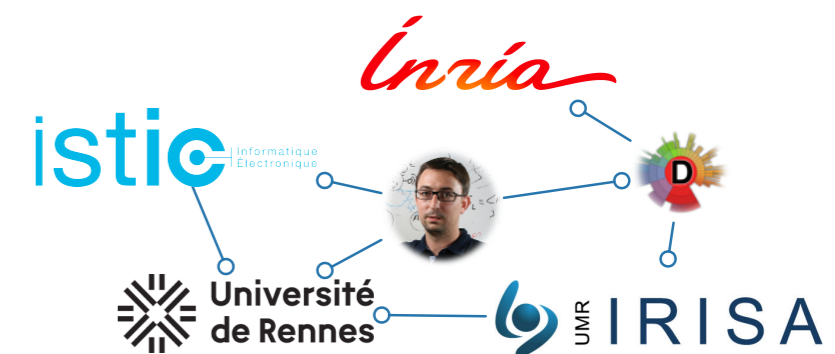
*OR TRAINING THROUGH RESEARCH ON ADVANCED SOFTWARE ENGINEERING TOPICS*

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ESIR3 SI, 2024-2025

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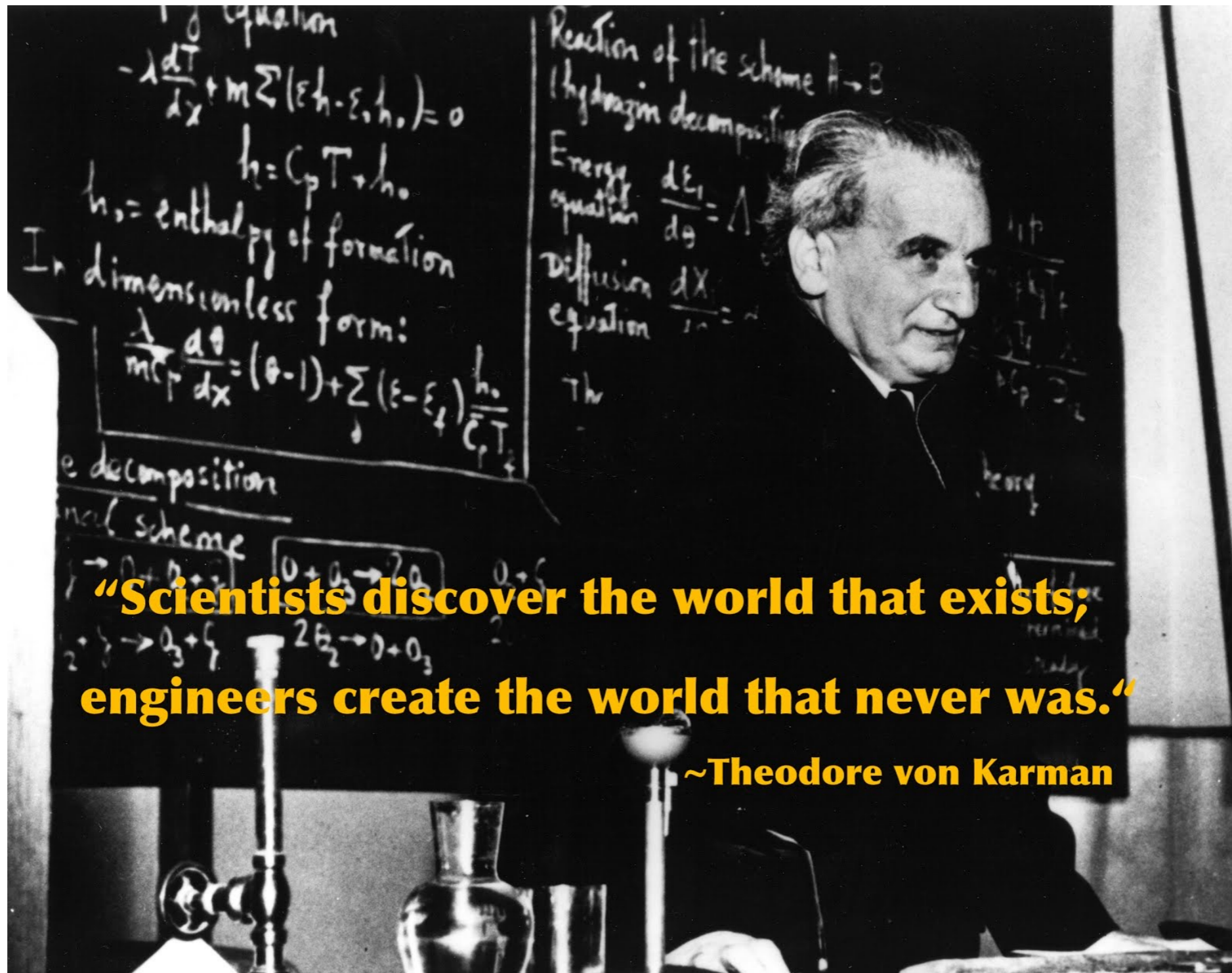


# Motivation

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- ▶ Academia and Industry are not in silo!
- ▶ Most of software paradigms come from academia
- ▶ Most of software experiences are reported to academia
- ▶ The scientific rigor is expected/appreciated by both academia and industry
  - ▶ Side note: In industry, the PhD is increasingly recognized in France (and since a long time abroad)
- ▶ A software engineer must build her own, sound and strong vision

# Motivation: Science vs. Engineering?



# Objectives

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- ▶ Get the basics to scientifically conduct a review of a given topic
  - ▶ Insights on the scientific method
  - ▶ Application to the review a specific field
- ▶ Current (hot) SE topics
  - ▶ Foresee the future evolution and coming technologies
  - ▶ Understand the past, present, future to get a vision.

# Overall Organization

► Conferences on some hot topics of software engineering

► Review of a given topic among other hot topics of software engineering

- Research topics: <https://github.com/selabs-ur1/research>
- Assignments:



| Lecture                                       | Material               |
|---|------------------------|
| Introduction of the course                    | <a href="#">slides</a> |
| Scientific Method                             | <a href="#">slides</a> |
| Scientific Method, cond.                      |                        |
| Sustainable Digitalization                    | <a href="#">slides</a> |
| Sustainable Digitalization, cond.             |                        |
| Secure Supply Chain (conf)                    | <a href="#">slides</a> |
| Open Hours                                    |                        |
| Open Hours                                    |                        |
| Generative AI for Software Engineering (conf) | <a href="#">slides</a> |
| Open Hours                                    |                        |
| Open Hours                                    |                        |
| Privacy and Web Engineering (conf)            | <a href="#">slides</a> |
| Open Hours                                    |                        |
| Presentation & Evaluation                     |                        |
| Presentation & Evaluation, cond.              |                        |
| Presentation & Evaluation, cond.              |                        |

# Evaluation

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- ▶ Final exam (individual) about the lecture and the different conferences (50%)
  - ▶ Dec. 18<sup>th</sup>
- ▶ Presentation (15", per group of 3) of the research topic addressed (50%)
  - Note: the presentations are for all!