Interplay of Domain-Specific and Domain-General Aspects of Scientific Reasoning and Argumentation Skills

International Workshop organized by Prof. Dr. Frank Fischer (CAS Senior Researcher in Residence), Prof. Clark Chinn, Ph.D. (Rutgers/CAS Fellow), Katharina Engelmann (LMU) and Prof. Jonathan Osborne, Ph.D. (Stanford/CAS Fellow)

This workshop explores the extent to which scientific reasoning is dependent on domain-general and/or domain-specific knowledge. Improving our understanding of this enduring issue in psychology, philosophy and sociology is crucial to deepening our understanding of one of the major goals of science education at all levels. The workshop brings together scholars focusing on scientific reasoning and argumentation in a broad range of domains, including a range of natural sciences, the learning sciences, cognitive sciences, as well as computational linguistics.

Organized by
- Prof. Dr. Frank Fischer (CAS Senior Researcher in Residence)
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Center for Advanced Studies
Ludwig-Maximilians-Universität München
Wednesday, 6 July

17:30 - 18:15 Welcome Reception
18:15 - 18:30 Orientation (Frank Fischer, LMU Munich)
18:30 - 20:00 Keynote Lecture
  - Paul Thagard (University of Waterloo)
  Why Reason? Inference, Reasoning, and Education
Introduction: Clark Chinn (Rutgers/ CAS Fellow)

Thursday, 7 July

1st Session
8:30 - 9:30
  - Susan Goldman (University of Illinois at Chicago), Mon-Lin Ko (University of Illinois at Chicago)
  Domain-Specificity in the Practices of Explanation, Modeling, and Argument in the Sciences
  Discussant: Carla van Boxtel (University of Amsterdam)

9:30 - 10:30
  - Beate Sodian (LMU Munich)
  Scientific Reasoning in Elementary and Preschool Children. Early Competencies, Cognitive Correlates and Functions for the Acquisition of Domain-Specific Knowledge
  Discussant: Rainer Bromme (Münster University)

10:30 - 11:00 Coffee Break

2nd Session
11:00 - 12:00
  - Ala Samarapungavan (Purdue University)
  Construing Scientific Evidence: The Role of Disciplinary Knowledge in Reasoning with and about Evidence in Scientific Practice
  Discussant: Susan Goldman (University of Illinois at Chicago)

12:00 - 13:00
  - Iryna Gurevych (TU Darmstadt), Johannes Daxenberger (TU Darmstadt)
  Domain-Specific Aspects of Reasoning and Argumentation: Insights from Automatic Coding
  Discussant: Frank Fischer (LMU Munich)

13:00 - 14:00 Lunch Break

3rd Session
14:00 - 15:00
  - Dorothe Kienhues (Münster University), Eva Thomm (Münster University), Rainer Bromme (Münster University)

Friday, 8 July

4th Session
8:30 - 9:30
  - Clark Chinn (Rutgers/CAS Fellow)
  General Versus Specific Epistemic Cognition: What – if any – Benefits Arise from General Knowledge?
  Discussant: Paul Thagard (University of Waterloo)

9:30 - 10:30
  - Leona Schauble (Vanderbilt University)
  In the Eye of the Beholder: Domain-General and Domain-Specific Reasoning in Science
  Discussant: Beate Sodian (LMU Munich)

10:30 - 11:00 Coffee break

5th Session
11:00 - 12:00
  - Carla van Boxtel (University of Amsterdam)
  - Jannet van Drie (University of Amsterdam)
  Historical Reasoning: The Interplay of Domain-General and Domain-Specific Aspects
  Discussant: Ala Samarapungavan (Purdue University)

12:00 - 13:00
  - Jonathan Osborne (Stanford/CAS Fellow)
  Styles of Scientific Reasoning: What Can We Learn from Looking at the Product not the Process of Scientific Reasoning?
  Discussant: Clark Chinn (Rutgers/CAS Fellow)

13:00 - 14:00 Farewell Lunch
Afternoon
Discovering Munich (Excursion)