



According to Duval's statement that "there is no noesis without semiosis", a semiotic lens has shown to become more and more important for analyzing mathematics learning and teaching processes and for designing consequent teaching experiments at all school grades. The workshop gathers some researchers who are all contributing to this stream of investigation in order that they can share and discuss different frameworks and results, and possibly identify common programs of research.

PROGRAM

April, 10

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| 9:45 | Opening |
| 10:00 | Welcome by A. Andretta,
chair of the Mathematics Department "G. Peano"
F. Arzarello and F. Ferrara: <i>Aims of the Seminar</i> |
| 10:30 | <u>First Session</u> (chair: F. Ferrara)
A. Bikner (Universität Bremen)
<i>A coordinate system as a reference diagram for graphical representations</i> |
| 11:30 | Coffee break |
| 12:00 | M.G. Bartolini (Università of Modena-Reggio Emilia)
<i>The magic of signs: a distance dialogue on the prehistory of semiotic mediation with Igor Arieviditch and Anna Stetsenko</i> |
| 13:00 | End of the first Session |

April, 10

- 15:00 Second Session (chair: A. Bikner)
R. Nemirovsky (Manchester Metropolitan University)
Inhabiting Mathematical Concepts
- 16:00 C. Sabena (Università di Torino)
Gestures as semiotic resources in mathematical discussions with formative assessment purposes
- 17:00 Break
- 17:15 *General discussion*
- 18:00 End of the second session

April, 11

- 9:00 Third Session (chair: R. Nemirovsky)
O. Swidan (Ben-Gurion University of the Negev and Università di Torino)
Objectifying pre-calculus concepts in an environment that simulates scientific inquiry: semiotic aspects
- 10:00 D. Behrens (Universität Bremen)
"If one becomes ten... one tenths" - How the digital place value chart influences students' epistemic processes at the transition from natural to decimal numbers
- 11:00 Coffee break
- 11:30 E. Faggiano, A. Montone, M. A. Mariotti (Università di Bari e di Siena)
Conceptualizing axial symmetry at primary school through a synergy between manipulative and digital artefacts
- 12:30 End of the third session
- 14:15 Fourth Session (chair: C. Sabena)
F. Arzarello (Università di Torino)
The instrumented covariation: a semiotic mediation phenomenon
- 15:15 *General discussion*
- 16:00 End of the fourth Session
- 16:30 Lecture by R. Nemirovsky to the Mathematics Students
The Rhythms of Mathematical Iteration
- (The lecture will be delivered at the Department of Mathematics,
Via Carlo Alberto, 10, Room A, in the courtyard)
- 18:00 End of the Workshop