

Foreword: A *Festschrift* for Francisco Miraglia

Marcelo E. Coniglio, Hugo L. Mariano and Vinicius Cifú Lopes

It is a dear pleasure to have to talk about three subjects in this introduction.

Firstly, we were happy to organize a meeting in honor of Francisco *Chico* Miraglia's seventieth birthday, and meet again so many friends there. The workshop took place at the Instituto de Matemática e Estatística of the University of São Paulo (IME-USP) in September 16th and 17th, 2016. The reader can find more details on the webpage

<https://sites.google.com/site/workshop70thchicomiraglia/home>

regarding the talks given, and the discussions held (one on logic and one on politics — it couldn't be otherwise). We were happy to bring in many of Chico's friends and coauthors (if not on paper, certainly in doing mathematics), either from the institute where and to which he devoted most of his energies, or from the university in a broader sense, or from away, and we thank Max Dickmann especially for joining us. But we were also fortunate, and Chico confessed his joy to us, that many young mathematicians also attended the meeting and gave us an idea of what they are working on, how Chico started some of them on their works, or how he could help others ahead.

Secondly, this volume is not the proceedings for that workshop! Although many speakers contribute again to a volume centered around Chico's name, the final result is all new, and shows us a broad spectrum of logic and mathematics across two or three generations. Chico's colleagues, and the colleagues of his students, share many interests in common, and yet dedicate themselves to many different topics and challenges. We appreciate their willingness to contribute their works to this *Festschrift*, composed by 16 high-level contributions.

Thirdly, we must say some words about Chico Miraglia: he started out as an engineer at the Escola Politécnica of the University of São Paulo, then found out he wanted to be a scientist (and yes, he has some papers on semiconductors!), took a PhD at Yale with Abraham Robinson and Angus Macintyre, has been working at the University of São Paulo for almost 47 years now, and handled many struggles with governments and politicians with the same intellectual energy, eagerness and precision that embodies his academic endeavors. Plus, let us mention a few of his interests: sheaves and quantales, quadratic forms, Marshall's conjecture, special groups, Boolean algebras, intuitionism, and noncommutative topology. After all, as the reader should learn (or remember), he calls himself a 19th century man.

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Guest Editors

Workshop

Logic and Applications

in honor to Francisco Miraglia
by the occasion of his 70th birthday

$$\mathcal{W}(\mathcal{G}_S(F)) \cong \mathcal{W}(F) / [\langle 1, -t \rangle \otimes \Psi : t \in S, \Psi \in \mathcal{W}(F)]$$

Confirmed Main Speakers:

Ivan Shestakov (USP)
Maximo Dickmann (Paris 7)
Ofelia Alas (USP)
Ricardo Bianconi (USP)
Ruy de Queiroz (UFPE)

Organizing Committee:

Hugo Mariano (USP)
Marcelo Coniglio (Unicamp)
Vinicius Cifú (UFABC)

IME-USP 16-17 Sept. 2016



Programme

September 16th

- 09:30–10:00 Opening Session
10:00–10:50 Max Dickmann, Paris 6-7:
A Quarter of a Century of Joint Work with Chico Miraglia
10:50–11:20 Coffee break
11:20–11:50 Marcelo Coniglio, CLE-Unicamp:
Swap structures: algebraizing logics by means of multialgebras
11:55–12:25 Rodrigo Dias, UFABC:
Selective games on binary relations
12:30–14:30 Lunch
14:30–15:20 Ofelia Alas, IME-USP:
Maximal countably compact spaces
15:25–15:55 Lucia Junqueira, IME-USP:
Reflecting topological properties
16:00–16:30 Rodrigo Freire, UNB:
Existential Import in Set Theory
16:35–17:05 Coffee break
17:05–17:55 Ricardo Bianconi, IME-USP:
Some model theory of hypergeometric functions
18:00–18:30 Hugo Mariano, IME-USP:
Abstract aspects of quadratic forms
18:30–19:00 Vinicius Lopes, UFABC:
Some of Chico's quotes

September 17th

- 9:30–10:20 Ruy de Queiroz, UFPE:
Propositional equality, identity types, and computational paths
- 10:25–10:55 Andreas Brunner, UFBA:
Model Theory in Sheaves
- 10:55–11:25 Coffee break
- 11:25–11:55 Samuel Silva, UFBA:
Topological equivalences of CUT and CUT(Fin)
- 12:00–12:30 Ciro Russo, UFBA:
Quantale modules and propositional deductive systems: interpretation, amalgamation and the Deduction Theorem
- 12:30–14:30 Lunch
- 14:30–15:20 Ivan Shestakov, IME-USP:
A new approach to the Freiheitssatz
- 15:25–15:55 Leandro Aurichi, ICMC-USP:
A family of hyperspaces and its applications on products problems
- 16:00–16:30 Claus Horodyski Matsushigue, UNB:
Issues concerning Mathematical formalism
- 16:30–17:00 Coffee break
- 17: 00–18:00 Round-table: *Perspectives on the Brazilian university*
Francisco Miraglia, IME-USP
João Zanetic, IF-USP
Itala D’Ottaviano, Unicamp
Walter Carnielli, Unicamp
Hugo Mariano, IME-USP
- 18:00–19:00 Round-table: *Perspectives on logic and applications*
Francisco Miraglia, IME-USP
Itala D’Ottaviano, Unicamp
Walter Carnielli, Unicamp
Max Dickmann, Paris 6,7
Marcelo Coniglio, Unicamp