

STEFAN BANACH MATHEMATICAL CENTER - XXXVIII SEMESTER

Algebraic Methods in Logic and their Computer Science Applications

joint PROGRAM of all sections

Monday, September 16.

- 10.15-10.30 OPENING SESSION
10.30-11.15 TEA and COOKIES
11.15-12.00} A.Salibra (Italy)
12.15-13.00} Lambda substitution algebras, Axiomatization and representability results.

Tuesday, September 17.

- 9.00-10.45 M.M.Richter (Germany)
Different methods for knowledge representation and integration problem.
11.00-11.45 J.D.Monk (USA)
Lectures on cylindric set algebras. (This is the first talk of an introductory series.)
14.00-15.45 D.Resek (USA)
Cylindric relativized algebras (equational axiomatizations etc.)

Wednesday, September 18.

- 9.00-9.45 M.M.Richter (Germany)
Different methods for knowledge representation and integration problem. (Continuation.)
10.00-10.45 J.Zytkow (USA)
Machine discovery: theoretical foundations and practical results,
11.00-12.00 J.D.Monk (USA)
Lectures on cylindric set algebras. (Continuation.)
14.00-15.30 Gy.Sereny (Hungary)
Cylindric algebraic model theory.
16.00 - till interest lasts.
D.Resek (USA)
Cylindric relativized algebras. (Discussions, examples, exercices.)

Thursday. September 19.

- 9.00- 9.45 J.Zytkow (USA)
Machine discovery (continuation).
10.00-10.45 M.Ferenczi (Hungary)
Uniqueness of constants and representability in cylindric algebras.
11.00-12.00 J.D.Monk (USA)
Lectures on cylindric set algebras. (Continuation)
14.00-15.45 D.Resek (USA)
Cylindric relativized algebras. (Continuation.)

Friday, September 20.

- 9.00- 9.45 J.Zytkow (USA)
Machine discovery. (Continuation.)
- 10.00-11.00 J.D.Monk (USA)
Lectures on cylindric set algebras. (Continuation.)
- 11.15-12.45 M.Ferenczi (Hungary)
Measures and measurable homomorphisms on
cylindric algebras.
- 14.30-15.15} B.Herrmann (~~USA~~ Germany)
15.30-16.15} Equivalential and Algebraizable Logics,
(Universal Algebraic Logic.)

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Monday, September 23

- 10.00 - 11.00 J.D. Monk /USA/
Lectures on cylindric set algebras./Continuation/
- 11.15 - 12.45 W.Craig /USA/
Algebras of sets of finite sequences:exposition
of new research possibilities.
- 14.30 - 16.00 D.Resek /USA/
Cylindric relativized algebras /equational theory of/
/Continuation./

Tuesday, September 24

- 9.00 - 9.45 Do Long Van /Vietnam/
Which finite monoids are syntactic monoids
of the rational ω -languages?
- 10.00 - 11.00 J.D. Monk /USA/
Lectures on cylindric set algebras./Continuation./
- 11.15 - 12.45 A.Simon /Hungary/
Complete axiomatizations of the following logics:
language independent first order logic, the logic
equivalent to representable cylindric algebras, logics
of first order formula schemata, and infinite dimensional
multi-modal logic.
- 14.30 - 16.00 H.Andréka and I.Németi /Hungary/
Recitation for Prof. Monk's series of lectures
/informal discussions of questions coming from
the audience, concrete examples etc./.

Wednesday, September 25

- 9.00 - 9.45 J.Żytkow /USA/
Machine discovery. /Continuation./
- 10.00 - 11.00 J.D. Monk/USA/ ~~Set~~
Lectures on cylindric algebras. /Continuation./
- 11.15 - 12.45 I. Sain /Hungary/
An algebraization of first order logic in which
the set algebras form a finitely axiomatizable variety.
/Equality makes a big difference/
- 14.30 - 15.30 E. Orłowska /Poland/
Algebras of relations for non-classical logics.

Thursday, September 26

- 9.00 - 9.45 J.Żytkow /USA/
Machine discovery. /Continuation./
- 10.00 - 10.45 G. Kalmbach /Germany/
~~Title to be announced~~ Inner regularizations
- 11.00 - 11.45 R.Berghammer /Germany/
Applications of abstract relation algebra
in computer science.
- 14.30 - 15.30 D. Schleiger /Germany/ Hyperlogics P.T.O.

Friday, September 27

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| 9.00 - 9.45 | J. Źytkow/USA/
Machine discovery. /Continuation./ |
| 10.00 - 10.45 | H. Priestley/U.K./
Title to be announced later. An overview of
duality theory |
| 11.00 - 12.30 | W.Craig /USA/
Algebras of sets of finite sequences./Continuation. |
| 14.30 - 15.30 | T. Tung Nguyen /Belgium/
Relational nondeterministic programs:A semantic
approach of imperative programming./An application
of cylindric algebras and other algebras
of relations./ |
| <u>15.45 - 17.00</u> | D. Schweigert /Germany/
Hyperlogics. |

Algebraic Methods in Logic and their Computer Science Applications

joint PROGRAM for all sections /Sept.30 - Oct.4/Monday, Sept. 30

- 10.00 - 11.45 R. Michalski /USA/
Unifying principles for machine learning.
- 13.30 - 14.30 H. Andréka, J.D. Monk, I. Németi /USA, Hungary/
Lectures on cylindric algebras and a survey
of algebraic logic. /Continuation./
- 14.45 - 15.30 S. Rudeanu /Rumania/
Monadic and polyadic Lukasiewicz-Moisil algebras.
I. Motivation and general theory.

Tuesday, Oct. 1

- 9.00 - 9.45 J. van Bentham /Holland/
Categorial grammar, relational algebra and dynamic
logic.
- 10.00 - 11.45 R. Michalski /USA/ Parallel section III./Computer sci./
Synthetic methods for symbolic learning. (Room 13)
- 10.00 - 12.00 /with break/ I. Sain/Hungary/ Parallel section II.
/Algebraic logic/
New possibilities for algebraizing quantifier logics;
including algebraic meta-theorems, applications in logic
and informal discussion of the author's previous talk.
(Room 14)
- 13.30 - 14.30 H. Andréka, J.D. Monk, I. Németi /USA, Hungary/
Lectures on cylindric algebras and a survey
of algebraic logic. /Continuation./
- 14.45 - 15.30 S. Rudeanu /Rumania/
Monadic and polyadic Lukasiewicz-Moisil algebras.
II. More on the polyadic case.

Wednesday, Oct. 2

- 9.00 - 9.45 J. van Bentham /Holland/
Categorial grammar, relational algebra and dynamic
logic. /Continuation./
- 10.00 - 11.45 R. Michalski /USA/ Parallel section III /Computer sci./
Synthetic methods for symbolic learning. (Room 13)
- 10.00 - 12.00 /with break/ W. Craig /USA/ Parallel section II.
/Algebraic logic./
Algebras of sets of finite sequences./Continuation./
(Room 14)
- 13.30 - 14.30 H. Andréka, J.D. Monk, I. Németi /USA, Hungary/
Lectures on cylindric algebras and a survey
of algebraic logic. /Continuation./
- 14.45 - 15.15 S. Rudeanu /Rumania/
The algebraic counterpart of the logic of problem
solving.
- 15.30 - 16.15 W. Rautenberg /Germany/
Axiomatizing logics closely related to varieties.

P.T.O.

Thursday, Oct. 3

- 9.00 - 9.45 D. Vakarelov /Bulgaria/
Modal logic for knowledge representation.
- 10.00 - 10.45 L. Iturrioz /France/ D. Vakarelov: Arrow logics.
~~Modalities in intuitionistic logics.~~
- 13.30 - 14.30 H. Andréka, J.D. Monk, I. Németi /USA, Hungary/
Lectures on cylindric algebras and a survey
of algebraic logic. /Continuation./
- 14.45 - 15.30 W. Rautenberg /Germany/
Axiomatizing logics closely related to varieties.
/Continuation./

Friday, Oct. 4

- 10.00 - 10.45 W. Scharlau /Germany/
Algebraic coding theory.
- 11.00 - 12.00 /with break/ W. Craig /USA/ Room 14
Algebras of sets of finite sequences. /Continuation./
- 13.30 - 14.30 H. Andréka, J.D. Monk, I. Németi /USA, Hungary/
Lectures on cylindric algebras and a survey
of algebraic logic. /Continuation./

14.95

Ferdinand Börner (Germany)
Operations on relations of various ranks.