ENS student conference

ENS Paris-Eclay

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Selected bibliography

- D. S. Scott. A type-theoretical alternative to ISWIM, CUCH, OWHY. *Theoretical Computer Science*, 121:411–440, 1993. Reprint of a manuscript written in 1969.

  G. D. Plotkin. LCF considered as a programming language. *Theoretical Computer Science*, 5:223–255, 1977.

  Two classic texts. Every computer scientist should have read them.

- C. Gunter. *Semantics of Programming Languages. Structures and Techniques*. Foundations of Computing. MIT Press, 1992.

  G. Winskel. *The Formal Semantics of Programming Languages. An Introduction*. MIT Press, 1993.

  J.C. Mitchell. *Foundations for Programming Languages*. MIT Press, 1996.

  Textbooks on programming language theory.

- Th. Streicher. *Domain-Theoretic Foundations of Functional Programming*. World Scientific, 2006. 132pp

  A fairly comprehensive treatment of the semantics of PCF including more recent developments.

- J.M.E. Hyland and C.-H.L. Ong. On full abstraction for PCF. *Information and Computation*, 163:285–408, 2000

  One of the three works that introduced a game semantics for PCF. The introduction gives an excellent overview of the historical development of the subject.

- J. R. Longley. Notions of computability at higher types I. In R. Cori, A. Razborov, S. Todorcevic, and C. Wood, editors, *Logic Colloquium 2000*, volume 19 of *Lecture Notes in Logic*, pages 32–142. Association for Symbolic Logic, 2005

  J. R. Longley and D. Normann. *Higher-Order Computability*. Springer Verlag, 2015

  In-depth discussions of approaches to higher-order computation, including PCF.

- M. H. Escardó. PCF extended with real numbers. *Theoretical Computer Science*, 162:79–115, 1996

  An extension of PCF with a real number type.

- S. Abramsky and A. Jung. Domain theory. In S. Abramsky, D. M. Gabbay, and T. S. E. Maibaum, editors, *Semantic Structures*, volume 3 of *Handbook of Logic in Computer Science*, pages 1–168. Clarendon Press, 1994.

  A fairly mathematical presentation of domain theory with little or no motivation from application areas. Basic knowledge of Order Theory, Category Theory and Topology is assumed.

- R. Amadio and P.-L. Curien. *Domains and Lambda Calculi*, volume 46 of *Cambridge Tracts in Theoretical Computer Science*. Cambridge University Press, 1998.

  Domain Theory is developed alongside various lambda calculi. The only serious reference for stable *domain theory.*

- B. A. Davey and H. A. Priestley. *Introduction to Lattices and Order*. Cambridge University Press, Cambridge, 2nd edition, 2002.

  Contains a gentle introduction to Order Theory and also a chapter on Domain Theory. The main part is about Stone Duality (which is also treated in Abramsky & Jung, chapter 7.

- G. D. Plotkin. Post-graduate lecture notes in advanced domain theory (incorporating the "Pisa Notes"). Dept. of Computer Science, Univ. of Edinburgh. Available from `http://www.dcs.ed.ac.uk/home/gdp/publications/`, 1981.

  A classic reference. Domain Theory is developed alongside denotational semantics, motivating every definition. A wealth of information and challenging exercises.

- J. Goubault-Larrecq. *Non-Hausdorff Topology and Domain Theory*, volume 22 of *New Mathematical Monographs*. Cambridge University Press, 2013.

  The only *textbook on topology that treats non-Hausdorff topological spaces seriously.*

- G. Gierz, K. H. Hofmann, K. Keimel, J. D. Lawson, M. Mislove, and D. S. Scott. *Continuous Lattices and Domains*, volume 93 of *Encyclopedia of Mathematics and its Applications*. Cambridge University Press, 2003.

  A compendium of results in domain theory with an emphasis on connections with topology and Stone duality.