

Prof. Dr. sc. **Zvonimir ŠIKIĆ**
Faculty of Mechanical Engineering and Naval Architecture
University of Zagreb

Curriculum Vitae

Education

1. B.Sc. Mathematics, University of Zagreb, 1975.
2. M.Sc. Mathematics, University of Zagreb, "General Proof Theory and its Relations with Classic Metamathematics", 1979.
3. Ph.D. Mathematics, University of Zagreb, "Rules Systems and Sequent Systems", 1987.

Employment

1. Teaching assistant, University of Zagreb, 1976-1988.
2. Assistant professor, University of Zagreb, 1988-1990.
3. Associate Professor, University of Zagreb, 1990-1998.
4. Professor, University of Zagreb, 1998-present.

Editorial Duties

1. *Scientia Yugoslavica*, main editor, 1989-1990.
2. *Scientia*, main editor, 1990-1991.
3. *Glasnik matematički*, member of the Editorial Board, 1990-1995.
4. *Encyclopedia moderna*, member of the Editorial Board, 1991-present.
5. *Rugjer*, member of the Editorial Board, 1996-present.
6. *International Studies in the Philosophy of Science*, member of the Editorial Board, 2001-present.

Professional Duties

1. Forth Conference "Algebra and Logic", Zagreb, 1984, member of scientific committee.
2. First Yugoslavian Seminar for Logic and Computer Science, Ohrid, 1988, secretary of seminar and member of program committee.
3. Second Yugoslavian Seminar for Logic and Computer Science, 1989, secretary of seminar and member of program committee.
4. Philosophy and Science, Zagreb, 1994, member of program committee.
5. First Croatian Mathematical Congress, Zagreb, member of scientific committee, 1996.
6. Philosophy of Science, Dubrovnik, conference director, 2001-present.
7. Croatian Mathematics and Physics Society, member of Upravnog odbora, 1991-1990.
8. Croatian Mathematic Society, member of 1991-1997.
9. Croatian Mathematic Society, vice-president, 1997-1999.
10. Croatian Mathematic Society, president, 1999-2003.
11. First Meeting of Croatian Mathematics Teachers, 1992, member of program committee.
12. Second Meeting of Croatian Mathematics Teachers, 1994, member of program committee.
13. Third Meeting of Croatian Mathematics Teachers, 1996, member of program committee.
14. First Congress of Croatian Mathematics Teachers, 2000, member of program committee.

15. Head of Mathematical logic and foundations of mathematics seminar, Department of Mathematics at University of Zagreb, 1988-present.
16. Voditelj Znanstvene tribine University of Zagreb, 1988-1993.
17. Head of Independent Union of Science and High Education, 1993-2002.

Projects

1. "Mathematical Modeling and Applications", subproject "Algebra and Mathematical Logic", researcher, 1980-1990.
2. "Logical Foundations of Mathematics and Computer Science", main researcher, 1991-2001.
3. "Mathematical Logic and Applications", main researcher, 2002-present.

Publications

Books

1. *Kako je stvarana novovjekovna matematika*, 199 pages, Školska knjiga, Zagreb 1989.
2. *Filozofija matematike*, 84 pages, Školska knjiga, Zagreb 1995.
3. *Matematika i muzika*, 96 pages, HMD, Zagreb 1999.
4. *Knjiga o kalendarima*, 256 pages, Profil, Zagreb 2002.

Textbooks

1. *Račun - diferencijalni i integralni*, 408 pages, Školska knjiga, Zagreb 1992. (co-author L. Krnić).
2. *Infinitezimalni račun*, 583 pages, udžbenik University of Zagreb, Profil 2002.
3. *Diferencijalne jednadžbe*, 202 pages, udžbenik University of Zagreb, Profil 2002.

Book editorials

1. *Novija filozofija matematike*, Nolit, 1987. (editor and author of introduction study).

Book chapters

1. *O razlikovanju čiste i primijenjene matematike u svjetlu matematičkog postojanja*, Problem postojanja u matematici, pages 19-27, Matematički institut, Beograd 1979.
2. *Aksiomska metoda, prirodni brojevi i teorija modela*, Brojevi, pages 231-257, Školska knjiga, Zagreb 1985.
3. *Formalna logika i aritmetika*, Brojevi, pages 16-21, Školska knjiga, Zagreb 1985.
4. *Prirodni logaritmi*, Istorija matematičkih i mehaničkih nauka 4, pages 95-105, Matematički institut, Beograd 1990, sažetak na engleskom.
5. *Diferencijalni i integralni račun*, pages 37-58, Inženjerski priručnik 1, Temelji inženjerskih znanja, Školska knjiga, Zagreb 1996.
6. *Obične diferencijalne jednadžbe*, pages 58-64, Inženjerski priručnik 1, Temelji inženjerskih znanja, Školska knjiga, Zagreb 1996.
7. *Parcijalne diferencijalne jednadžbe*, pages 64-69, Inženjerski priručnik 1, Temelji inženjerskih znanja, Školska knjiga, Zagreb 1996.
8. *Račun kompleksnih funkcija*, pages 69-79, Inženjerski priručnik 1, Temelji inženjerskih znanja, Školska knjiga, Zagreb 1996.
9. *Vektorski račun*, pages 79-91, Inženjerski priručnik 1, Temelji inženjerskih znanja, Školska knjiga, Zagreb 1996.

Journals

1. *A note on sum-eliminator (abstract)*, Journal of Symbolic Logic 45, 407 (1980).
2. *A note on sum-eliminator*, Glasnik matematički 15, 249-251 (1980).
3. *Multiple forms of Gentzen's rules and some intermediate logics (abstract)*, Journal of Symbolic Logic 48, 1227-1228 (1983).
4. *Multiple forms of Gentzen's rules and some intermediate logics*, Zeitschr. f. math. Logik und Grundlagen d. Math. 30, 335-338 (1984).
5. *Novija filozofija matematike*, Scientia Yugoslavica 10, 3-10 (1984).
6. *Nekatere opombe k logiki in filozofiji znanosti*, Anthropos 3/4, 126-129 (1985).
7. *Continuing variations on a system of Gentzen*, Zeitschr. f. math. Logik und Grundlagen d. Math. 31, 537-544 (1985).
8. *Cantor's theorem and paradoxical classes*, Zeitschr. f. math. Logik und Grundlagen d. Math. 32, 221-226 (1986).
9. *On the logical system L_1* , Zeitschr. f. math. Logik und Grundlagen d. Math. 32, 349-353 (1986).
10. *Singular consequence relations and order relations*, Grazer Mathematische Berichte 304, 118-127 (1989).
11. *Taylor's theorem*, Int. J. Math. Ed. Sci. Technol. 21, 111-115 (1990).
12. *Premiss tree proofs and anti-intuitionistic logic (abstract)*, Journal of Symbolic Logic 55, 429 (1990).
13. *Premiss tree proofs and logic of contradiction*, Zeitschr. f. math. Logik und Grundlagen d. Math. 36, 273-280 (1990).
14. *A proof of the characterization theorem for consequence relations*, Zeitschr. f. math. Logik und Grundlagen d. Math. 37, 41-43 (1991).
15. *On Devide's axiomatization of natural numbers*, Grazer Mathematische Berichte 313, 57-64 (1991).
16. *On a distinction between pure and applied mathematics*, Encyclopaedia moderna 1, 6-9 (1992).
17. *The diagonal argument - a study of cases*, International Studies in the Philosophy of Science 6, 191-203 (1992).
18. *On the equivalence of the solution lemma and Aczel's antifoundation axiom*, Grazer Mathematische Berichte 323, 69-78 (1994).
19. *What are numbers*, International Studies in the Philosophy of Science 10, 159-171 (1996).
20. *On unfounded universe with individuals and proper classes*, Bulletin of Symbolic Logic vol. 3, 118-119 (1997).
21. *On numbers and classes*, Mathematical Communications 3, 231-236 (1998).
22. *On Newcomb's paradox*, Croatian Journal of Philosophy (prihvaćeno za objavljivanje).

Proceedings

1. *O razlikovanju čiste i primijenjene matematike u svjetlu matematičkog postojanja*, V. Seminar za konstruktivnu matematiku i teoriju modela Zagreb-Beograd: "Problem postojanja u matematici", Zagreb 15-17.6.1978.
2. *Multiplarne forme Gentzenovih pravila i neke međulogike*, VII. kongres matematičara, fizičara i astronoma Jugoslavije, Bečići 1980.
3. *Transformacije Gentzenovih sistema*, VII. kongres matematičara, fizičara i astronoma Jugoslavije, Bečići 1980.
4. *Formalna logika i aritmetika*, IX. Seminar za konstruktivnu matematiku i teoriju modela Zagreb-Beograd: "Problem broja", Zagreb 4-6.12.1980.

5. *Mehaničko rasuđivanje i Goedelov teorem o nepotpunosti*, XI. Seminar za konstruktivnu matematiku i teoriju modela Zagreb-Beograd: "Matematička logika i računarstvo", Beograd 7-9.12.1982.
6. *Mehaničko rasuđivanje i Goedelov teorem o nepotpunosti*, VII. simpozij iz informatike Jahorina '83, Jahorina 4-8.4.1983.
7. *Logička semantika vs. teorija modela*, XII. Seminar za konstruktivnu matematiku i teoriju modela Zagreb-Beograd: "Filozofija teorije modela", Beograd 13-16.1.1984.
8. *Peacock's principle and Euler's equation*, Proceeding of the conference "Algebra and Logic 1984", 165-170 (1985).
9. *Operatori zatvaranja i njihova primjena u logici*, VIII. kongres matematičara, fizičara i astronoma Jugoslavije, Priština 23-27.9.1985.
10. *Closure operators and consequence relations*, Proceedings of the conference "Algebra and Logic 1987", 151-159 (1989).
11. *A note on sum-eliminator*, Logic Colloquium '78, Mons 29.8-1.9.1978.
12. *Multiple forms of Gentzen's rules and some intermediate logics*, Logic Colloquium '82, Firenze 7.7-13.7.1982.
13. *Mehaničko rasuđivanje i Goedelov teorem o nepotpunosti*, Zbornik radova VII simpozija iz informatike Jahorina 83, 191/1-191/4 (1983).
14. *Cantor's theorem and paradoxical classes*, VII. Congress of Balkan's mathematicians, Atena 19-23.12.1983.
15. *On a distinction between pure and applied mathematics*, X. Philosophy of Science, IUC-Dubrovnik 4-14.4.1984.
16. *Princip permanencije i Eulerova formula*, IV. konferencija "Algebra i logika", Zagreb 7-9.6.1984.
17. *O logičkom sistemu L_1* , IV. konferencija "Algebra i logika", Zagreb 7-9.6.1984.
18. *Nekatere opombe k logiki in filozofiji znanosti*, "Intenzionalne modalne logike in teorija znanosti", Ljubljana 7-9.11.1984.
19. *Mathematical logic: mathematics of logic or logic of mathematics*, XI. Philosophy of Science, IUC-Dubrovnik 5-15.4.1985.
20. *Aksiomatizacije prirodnih brojeva*, V. konferencija "Algebra i logika", Cetinje 12-14.6.1986.
21. *Operatori zatvaranja u logici*, VI. konferencija "Algebra i logika", Sarajevo 18-20.6.1987.
22. *Premiss-tree proofs and anti-intuitionistic logic*, Logic Colloquium '88, Padova 28-30.8.1988.
23. *Closure operators and consequence relations*, VI. Matematikertrefen Zagreb-Graz, Opatija 3-5.11.1988.
24. *Dokazi razvedeni prema premisama*, I. Jugoslavenski seminar za logiku i računarstvo, Ohrid 27-30.9.1988.
25. *Sistemi sekventi kao metasistemi sistema pravila*, 7. konferencija "Algebra i logika", Maribor 15-17.6.1989.
26. *Sistemi sekventi kao metasistemi sistema pravila*, II. Jugoslavenski seminar za logiku i računarstvo, Kragujevac 27-29.9.1989.
27. *On Devid's axiomatization of natural numbers*, VII. Matematikertrefen Zagreb-Graz, Graz 17-18.12.1990.
28. *The diagonal argument - a study of cases*, XVIII. Philosophy of Sceince, IUC-Dubrovnik 13-18.4.1992.
29. *How mathematical physics came into being*, XIX. Philosophy of Sceince, IUC-Dubrovnik 12-17.4.1993.
30. *On the equivalence of the solution lemma and Aczel's antifoundation axiom*, VIII. Matematikertrefen Zagreb-Graz, Graz 9-11.12.1993.
31. *On numbers and classes*, XX. Philosophy of Sceince, IUC-Dubrovnik 11-16.4.1994.
32. *O matematizaciji*, Filozofija i znanost, Zagreb 23-25.6.1994.

33. *Zašto je zdravorazumska fizika ustupila mjesto matematičkoj*, III. International philosophical Symposium on Plato, Platonism, Petriš & Natural Philosophy, Cres 17-21.7.1994.
34. *Some questions concerning the unity of mathematics and physics*, XXI. Philosophy of Science, IUC-Dubrovnik 10-15.4.1995.
35. *On Unfounded Universe with Individuals and Proper Classes*, Logic Colloquium '95, Haifa, Izrael 9-17.8.1995.
36. *On Newcomb's paradox*, XXIII. Philosophy of Science, IUC-Dubrovnik 7-12.4.1997.
37. *The rational value of paradoxes*, XXV. Philosophy of Science, IUC-Dubrovnik 5-10.4.1999.
38. *Mathematics, evolution and biology*, Mind and Brain I, IUC-Dubrovnik 27-29.10.2000.
39. *Sukob prošlosti i budućnosti u suvremenom obrazovanju*, Aktualni problemi prirodnih znanosti i obrazovanja u Hrvatskoj, Palača HAZU 3.4.2001.
40. *Goedel's theorem, man-machine non equivalence and evolution*, XXVII. Philosophy of Science, IUC-Dubrovnik 9-14.4.2001.
41. *Znanost i demokracija*, Znanost i mediji, Opatija 11-14.6.2001.
42. *Sukob prošlosti i budućnosti u suvremenom obrazovanju*, Aktualni problemi prirodnih znanosti i obrazovanja u Hrvatskoj, pages 75-83, HAZU (2001).
43. *Goedel's theorem, man-machine non equivalence and evolution*, Mind and Brain II, IUC-Dubrovnik 15-19.10.2001.
44. *Znanost i demokracija*, Znanost i javnost – Public Understanding of Science, 35-43, Izvori (2002).
45. *A case study in empiricism*, XXIX. Philosophy of Science, IUC-Dubrovnik 07-12.4.2003.
46. *Mathematics, physics and music*, III. International Conference on Science and culture – The role of mathematics in Physical Sciences, Lošinj 25-29.8.2003

Teaching Duties

Undergraduate Courses

1. *Mathematics I (differential and integral calculus)*, FSB, University of Zagreb.
2. *Mathematics II (differential and integral calculus)*, FSB, University of Zagreb.
3. *Mathematics III (vector analysis)*, FSB, University of Zagreb.
4. *Mathematics IV (probability theory and statistics)*, FSB, University of Zagreb.
5. *Mathematics V (complex variable functions)*, FSB, University of Zagreb.
6. *Laplace Transforms*, FSB, University of Zagreb.
7. *Mathematical Logic and Set Theory*, Department of Mathematics, University of Zagreb.
8. *History of Mathematics*, Department of Mathematics, University of Zagreb.
9. *Mathematical Logic and Set Theory*, Department of Mathematics, University of Rijeka.

Graduate Courses

1. *Mathematics (applied functional analysis)*, FSB, University of Zagreb.
2. *Mathematics (tensor analysis)*, FSB, University of Zagreb.
3. *Optimization Methods*, FSB, University of Zagreb.
4. *Tensor Calculus*, FSB, University of Zagreb.
5. *Differential Equations*, FSB University of Zagreb.
6. *Stochastic Processes*, FSB, University of Zagreb.
7. *Linear Algebra*, FSB, University of Zagreb.
8. *Unprovability of consistency*, Department of Mathematics, University of Zagreb.
9. *Unprovability Logic*, Department of Mathematics, University of Zagreb.
10. *Set Theory*, Department of Mathematics, University of Zagreb.

11. *Orthogonality and Geometry of the Special Theory of Relativity*, Department of Mathematics, University of Zagreb.
12. *Mathematical Logic*, Graduate Study in History and Philosophy of Science, University of Zagreb (Dubrovnik).
13. *Philosophy of Mathematics*, Graduate Study in History and Philosophy of Science, University of Zagreb (Dubrovnik).
14. *Philosophy of Mathematics*, Department of Mathematics, University of Zagreb.
15. Što su i čemu služe infinitezimali, Department of Mathematics, University of Zagreb.
16. Applied Logic, Department of Mathematics, University of Zagreb.