

Dr. Francesco Toppan's

List of Works.

Thesis' works.

- 1) Graduation Thesis (supervisor Prof. M. Tonin): Anomalies in SuperYang-Mills and Supergravity Theories.
- 2) Master Thesis (supervisor Prof. R. Iengo): Conformal Anomaly in String Theories.
- 3) Ph.D. Thesis (supervisor Prof. L. Bonora): Conformal Field Theories in Higher Genus Riemann Surfaces.

Lecture notes.

- 1) F. Toppan. "Conformal Field Theories". ICEN Publication. Lectures delivered at Univ. of Petropolis, RJ, Brasil. September 1990.

Research papers:

- 1) A. Diaz and F. Toppan. "Towards the Quantization of the Green-Schwarz Heterotic String". Phys. Lett. B 211 (1988), 285-292.
- 2) L. Bonora, M. Matone, F. Toppan and K. Wu. " $b - c$ system approach to minimal models. The genus zero case." Phys. Lett. B 224 (1989), 115-120.
- 3) L. Bonora, M. Matone, F. Toppan and K. Wu: "Real weight $b - c$ systems and Conformal Field Theories in higher genus Riemann surfaces". Nucl. Phys. B334 (FS) (1990), 717-744.
- 4) F. Toppan. "Fermionization of the Coulomb gas". Fizika, Vol. 21-2 (1989), 62-66.

- 5) F. Toppan. "Fermionization of the Coulomb gas. Minimal models as real weight $b - c$ systems". In High Energy Physics and Cosmology, World Scientific 1990, 245-251.
- 6) F. Toppan "Chiral factorization of the solution for Toda field equations". In ENFPC-Caxambu 1991, 108-125.
- 7) O. Babelon, L. Bonora and F. Toppan. "Exchange algebra and the Drinfeld-Sokolov theorem", Comm. Math. Phys. 140 (1991), 93-117.
- 8) F. Toppan "On the superLiouville Theory", Phys. Lett. B 260 (1991), 346-352.
- 9) M. Lüdde and F. Toppan. "Matrix solutions of Artin's braid relations", Phys. Lett. B. 288 (1992), 321-330.
- 10) F. Toppan and Y.Z. Zhang "Superconformal Affine Liouville Theory", Phys. Lett. B 292 (1992), 67-76.
- 11) L. Bonora and F. Toppan "Global Chiral Vertex Operators", Revues in Math. Phys. Vol. 4 n. 3 (1992), 425-449.
- 12) F. Constantinescu and F. Toppan. "On the Linearized Artin Braid Representation". Intern. Journ. of Knots and Its Ramifications 2 (1993), 399-412.
- 13) F. Constantinescu, F. Toppan and M. Lüdde. "Monodromy of generalized Coulomb Gas Integrals", Frankfurt preprint 1992.
- 14) E. Ivanov and F. Toppan. " $N = 2$ Superconformal Affine Liouville Theory". Phys. Lett. B 309 (1993), 289-296.
- 15) F. Delduc, L. Frappat, P. Sorba, F. Toppan and E. Ragoucy "Rational W algebra from composite operators". Phys. Lett. B 318 (1993), 457-464.
- 16) E. Ivanov and F. Toppan "Superhamiltonian formalism for $2D$, $N = 1, 2$

Theories". *Modern Phys. Lett. A* 9 (1994), 51-66.

17) F. Toppan "Generalized NLS Hierarchies from Rational \mathcal{W} Algebras". *Phys. Lett. B* 327 (1994), 249-256.

18) F. Toppan " $N = 1, 2$ Super-NLS Hierarchies as Super-Coset Reductions". *Int. Jou. Mod. Phys. A* 10 (1995), 895-922.

19) F. Toppan "On Classical \mathcal{W} Algebras". Talk given in Rakhov (Ukr.), February 1994. To appear in the proceedings of the conference. Preprint hep-th 9409125.

20) F. Toppan "On Coset Reductions of KP Hierarchies". *Teor. y Matem. Fizika* 104 (1995), 123-128.

21) F. Toppan "KP Hierarchies, Polynomial and Rational \mathcal{W} Algebras on Riemann Surfaces: a Global Approach". *Mod. Phys. Lett. A* 10 (1995), 133-147.

22) S. Krivonos, A. Sorin and F. Toppan "On the Super-NLS Equation and its Relation with $N = 2$ Super-KdV within Coset Approach". *Physics Letters A* 206 (1995), 146-152.

23) F. Toppan "On Matrix KP and Super-KP Hierarchies in the Homogeneous Grading". *Int. Jou. Mod. Phys. A* 11 (1996), 3257-3295.

24) D. Sorokin and F. Toppan "Hamiltonian Reduction of Supersymmetric WZNW Models on Bosonic Groups and Superstrings". *Nucl. Phys. B* 480 (1996), 457-484.

25) F. Toppan "On Bosonic, Fermionic and Mixed Supersymmetric Two-dimensional Integrable Models". In "Problems of Quantum Field Theory", 400-406, proceedings of the 10th Int. Conf. on QFT, Alushta (Ukraine) May 1996.

26) D. Sorokin and F. Toppan "An $n = (1|1)$ super-Toda Model Based on $Osp(1|4)$ ". *Lett. in Math. Phys.* 42 (1997), 139-152.

- 27)** F. Toppan "SuperToda Models Associated to Any (Super)Lie Algebra". In hep-th 9612245. To be published in the proceedings of the X Born Symposium, Karpacz (Poland), Sept. 1996.
- 28)** E. Ivanov, S. Krivonos and F. Toppan " $N = 4$ SuperNLS-mKdV Hierarchies". Physics Letters B 405 (1997), 85-94.
- 29)** F. Toppan "Lie-Algebraic Characterization of $2 - D$ Superintegrable Models". In Lecture Notes in Physics, "Supersymmetry and Quantum Field Theory", Springer-Verlag 1998 Vol. 509, 161-165.
- 30)** F. Toppan "Susy Hierarchies and Affine Algebras". In Lecture Notes in Physics "Supersymmetry and Integrable Models" Springer-Verlag 1998 Vol. 502, 283-293.
- 31)** C.P. Constantinidis, F.P. De Vecchi and F. Toppan "Two-dimensional $N = 1, 2$ Supersymmetric Chiral and Dual Models". Mod. Phys. Lett. A 13 (1998), 2095-2109.
- 32)** F. Toppan "Superaffine Hierarchies and Their Poisson Embeddings". In Lecture Notes in Physics, Springer Verlag 1999 Vol. 524, 288-298.
- 33)** L.P. Colatto, M. De Andrade and F. Toppan, "Matrix Space-times and a $2D$ Lorentz-covariant Calculus in Any Even Dimension". Preprint CBPF-NF-063-98. In hep-th/9810145 (Oct. 1998). Revised version to be submitted for publication to JHEP.
- 34)** M. De Andrade and F. Toppan, "Real Structures in Clifford Algebras and Majorana Conditions in Any Space-Time". Modern Phys. Lett. A 14 (1999), 1797-1814.
- 35)** M. De Andrade, M. Rojas and F. Toppan, "Triality of Majorana-Weyl Space-times With Different Signatures". Preprint CBPF-NF-039/99. In hep-th/9907148.
- 36)** E. Ivanov, S. Krivonos and F. Toppan, " $N = 4$ Sugawara Construc-

tion on $sl(\widehat{2|1})$, $sl(\widehat{3})$ and mKdV-type Superhierarchies”. Mod. Phys. Lett. **A 14** (1999) 2673-2686.

37) F. Toppan, “Triality of Majorana-Weyl Spacetimes”. Preprint CBPF-NF-063/99. Invited talk given at the Workshop on Super and Quantum Symmetries. Dubna, July 1999. To appear in the proceedings.

38) M. De Andrade, M. Rojas and F. Toppan, “The Signature Triality of Majorana-Weyl Spacetimes”. Preprint CBPF-NF-009/00. Extended version of hep-th/9907148. To be submitted for publication to JHEP.

39) F. Toppan, “On anomalies in classical dynamical systems”. Draft notes available. The editorial board of “J. Nonlinear Math. Phys.” required the final version of the paper to be sent for publication.

40) A. Pashnev and F. Toppan, “Classification of Extended Supersymmetric Quantum Mechanical Systems”. In preparation.

Rio de Janeiro, February 5th 2000,

(Francesco Toppan)