Super Global Program, Waseda University, June 2019

"Introduction to Poisson geometry"

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Selected bibliography

There are not many books on Poisson geometry. In chronological order:

K. H. Bhaskara, K. Viswanath, *Poisson algebras and Poisson manifolds*, Wiley, 1988.

M. V. Karasëv, V. P. Maslov, *Nonlinear Poisson Brackets. Geometry and Quantization*, American Mathematical Society, 1993 (Russian edition, 1991).

Izu Vaisman, *Lectures on the Geometry of Poisson Manifolds*, Birkhäuser, 1994.

Jean-Paul Dufour, Nguyen Tien Zung, *Poisson Structures and their Normal Forms*, Birkhäuser, 2005.

Camille Laurent-Gengoux, Anne Pichereau, Pol Vanhaecke, *Poisson structures*, Springer, 2013.

But there are many more books that contain whole chapters or information on Poisson geometry and related topics.

Paulette Libermann, Charles-Michel Marle, *Symplectic Geometry and Analytical Mechanics*, Kluwer, 1987.

Pierre Cartier, "Some fundamental techniques in the theory of integrable systems", in *Lectures on Integrable Systems*, World Sci. Publ., 1994, 1–41.

Jerrold E. Marsden, Tudor S. Ratiu, *Introduction to Mechanics and Symmetry*, Springer, 1994, 2nd edition 1999.

Ana Cannas da Silva, Alan Weinstein, *Geometric Models for Noncommutative Algebras*, American Mathematical Society, 1999.

Charles-Michel Marle, "Differential calculus on a Lie algebroid and Poisson manifolds", in *The J. A. Pereira da Silva Birthday Schrift*, Univ. Coimbra, 2002, 83–149,

Yvette Kosmann-Schwarzbach, "Lie bialgebras, Poisson Lie groups and dressing transformations", in *Integrability of Nonlinear Systems* (1997), 2nd edition, Lecture Notes in Phys. 638, Springer, 2004, 107-173,

Kirill C. H. Mackenzie, *General Theory of Lie Groupoids and Lie Algebroids*, Cambridge University Press, 2005.

Yvette Kosmann-Schwarzbach, "Multiplicativity, from Lie groups to generalized geometry", in *Geometry of Jets and Fields*, Banach Center Publ. 110, 2016, 131–166.

Here are some more or less classical articles on the subject (among hundreds of other relevant papers).

André Lichnerowicz, "Les variétés de Poisson et leurs algèbres de Lie associées", *J. Differential Geom.* 12 (1977), 253-300.

V. G. Drinfeld, "Hamiltonian structures on Lie groups, Lie bialgebras and the geometric meaning of classical Yang-Baxter equations", *Sov. Math. Dokl.* 27 (1983), 68-71.

Jean-Louis Koszul, "Crochet de Schouten-Nijenhuis et cohomologie", *Astérisque*, hors série (1985), 257-271.

Kirill C. H. Mackenzie, Ping Xu, "Lie bialgebroids and Poisson groupoids", *Duke Math. J.* 73 (1994), 415-452.

Alan Weinstein, "The modular automorphism group of a Poisson manifold", *J. Geom. Phys.* 23 (1997), 379-394.

Alan Weinstein, "Poisson geometry", *Differential Geom. Appl.* 9 (1998), 213-238.

Ping Xu, "Gerstenhaber algebras and BV-algebras in Poisson geometry", *Comm. Math.Phys.* 200 (1999), 545-560.

Yvette Kosmann-Schwarzbach, "Poisson manifolds, Lie algebroids, modular classes: a survey", *SIGMA Symmetry Integrability Geom. Methods Appl.* 4 (2008), 30 pp.

For more recent references, see "Poisson geometry in mathematics and physics", special issue of *Lett. Math. Phys.* 108 (2018), no. 3, and see the publications of Anton Alekseev, Henrique Bursztyn, Alberto Cattaneo, Marius Crainic, Giovanni Felder, Rui Fernandes, Zhang-Ju Liu, Jiang-Hua Lu, Yoshiaki Maeda, Eckhard Meinrenken, Eva Miranda, Pavol Ševera, ...