

Higgs Bundles resources

I. The original sources:

1. K. Corlette, *Flat G -bundles with canonical metrics*. J. Di. Geom. 28 (1988), 361-382.
2. S. Donaldson, *Twisted harmonic maps and the self-duality equations*. Proc. London Math. Soc. 55 (1987), 127-131.
3. N. Hitchin, *The self-duality equations on a Riemann surface*. Proc. London Math. Soc. (3) 55 (1987), no. 1, 59-126.
4. N. Hitchin, *Stable bundles and integrable systems*, Duke Math. J. 54 (1987), 91-114.
5. N. Hitchin, *Lie groups and Teichmüller space*. Topology 31 (1992), no. 3, 449-473.
6. C. Simpson, *Systems of Hodge bundles and uniformization*. Harvard thesis, 1987.
7. C. Simpson, *Constructing variations of Hodge structure using Yang-Mills theory and applications to uniformization*. J. Amer. Math. Soc. 1 (1988), no. 4, 867-918.
8. C. Simpson, *Higgs bundles and local systems*. Inst. Hautes Etudes Sci. Publ. Math. No. 75 (1992), 5-95.
9. C. Simpson, *Moduli of representations of the fundamental group of a smooth projective variety. I*. Inst. Hautes Etudes Sci. Publ. Math. No. 79 (1994), 47-129.
10. C. Simpson, *Moduli of representations of the fundamental group of a smooth projective variety. II*. Inst. Hautes Etudes Sci. Publ. Math. No. 80 (1994), 5-79 (1995)

II. Surveys:

1. S.B. Bradlow, O. García-Prada and P.B. Gothen, *Maximal surface group representations in isometry groups of classical hermitian symmetric spaces*, Geometriae Dedicata 122 (2006), 185-213.
2. S. B. Bradlow, O. García-Prada, and P. B. Gothen, [What is a Higgs bundle?](#), [Notices of the AMS 54, no. 8 \(2007\)](#), 980-981.
3. O. García-Prada, *Moduli spaces and geometric structures*, appendix to the third edition of the book by R.O. Wells, *Differential Analysis on Complex Manifolds*, Springer, GTM 65, 2008.
4. O. García-Prada, *Higgs bundles and surface group representations*, in *Moduli Spaces and Vector Bundles*, LMS Lecture Notes Series **359** (2009) 265-310
5. P. B. Gothen, [Higgs bundles and the real symplectic group](#), Proceedings of the XIX International Fall Workshop on Geometry and Physics, AIP Conf. Proc. **1360** (2011), 39-50. doi:10.1063/1.3599126. [arXiv:1102.4175 \[math.DG\]](#).

III. Lectures notes and websites:

1. S. Bradlow. Mini-course on Higgs bundles at the GEAR Junior Retreat, July 2012: convenient links can be found at <http://gear.math.illinois.edu/programs/retreats2012-archive.html>
2. S. Bradlow. Lecture notes from a 1998 course on vector bundles: <http://cwillett.imathas.com/bundles/>

3. S. Bradlow, B. Goldman, O. García-Prada and A. Wienhard, Background notes prepared for a workshop on Surface Group Representations at the American Institute of Mathematics (Palo Alto, California) in 2008
http://www.aimath.org/WWN/surfacegroups/aim_intro_final.pdf
4. R. Wentworth. Higgs bundles and local systems on Riemann surfaces. Lecture notes from the Third International School on Geometry and Physics at the Centre de Recerca Matemàtica in Barcelona, March 26-30, 2012
<http://www2.math.umd.edu/~raw/papers/barcelona.pdf>
5. 2011 Talbot workshop on Non-Abelian Hodge Theory
<http://math.mit.edu/conferences/talbot/index.php?year=2011&sub=links>