On some generalizations of the Poisson sigma model (joint with T. Strobl and, partially, with P. Schaller)

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The Poisson sigma model (PSM), invented in early ninetieth, together with the Wess-Zumino-Witten (WZW) and Chern-Simons (CS) sigma models, inspired a great source of mathematical results, the most known of which is the deformation quantization of arbitrary Poisson manifolds. We provide certain natural generalizations of the PSM, linking it with the Gauged WZW model and higher order analogues of Poisson manifolds (Courant algebroids and their extended versions). We compute the classical equations of motion and gauge symmetries of the corresponding sigma models, showing the geometrical meaning of them.