Wild Hitchin Characters

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Embedding a mathematical problems into string theory usually enables us to gain new insights into it. In this talk, I will study the moduli space of wild Hitchin systems and its quantization via physics. Although these moduli spaces are non-compact and lead to infinite-dimensional Hilbert spaces after the quantization, in many cases a C* "Hitchin action" exists, enabling us to talk about the "Hitchin character" of the Hilbert space. This quantity can be computed using quantum field theory techniques and encodes much geometric and topological information about the moduli space. A surprising relation to chiral algebras appears once the Hitchin character is decomposed into a summation over fixed points of the C*-action. This talk is based on joint work with Laura Fredrickson, Wenbin Yan and Ke Ye.

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Seminar room Big Ground floor / Office Bldg West (I21.EG.101)