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Abstract for an Invited Paper  
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### **Quantum Many-Body Physics with Ultracold Atoms<sup>1</sup>**

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Ultracold atoms on optical lattices form a versatile platform for studying many-body physics, with the potential of addressing some of the most important issues in strongly correlated matter. In this talk, I will present experimental results on the characterization of the BEC-BCS crossover with ultracold atomic fermions (<sup>6</sup>Li) and the detection of anti-ferromagnetic order in the three-dimensional Hubbard model, one of the paradigm models of strongly correlated physics.

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