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Abstract for an Invited Paper  
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### **Novel Phases in Quantum Critical Polar Metals**

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It is well known that metals close to quantum critical points can exhibit novel phases including non-Fermi liquid behavior and unconventional superconductivity. Motivated by recent discoveries of polar metals that undergo inversion symmetry-breaking transitions, I'll present a theoretical exploration of the emergence of strong correlations driven by criticality when the polar transition is tuned to zero. Several novel interacting phases will be discussed with specific predictions for experiment.