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Abstract for an Invited Paper  
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**Control of Spin States in Triple Quantum Dots**

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A brief review will be given on coherent behaviour in serial triple quantum dots in AlGaAs/GaAs heterostructure related to multi-spin states. One series of experiments involves the application of coherent superpositions of multi-electron states to the transfer of single spins and two-spin states non-locally between edge quantum dots while maintaining the center quantum dot occupation fixed at one or zero electrons. A second series of experiments involves the identification of coherent leakage mechanisms away from targeted encoded three-spin states qubits. Finally, results will be shown which reveal an unexpected control of the gap at the S-T+ anticrossing by taking advantage of different nuclear dynamic polarization pumping rates.