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Abstract for an Invited Paper  
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**Symmetry breaking and coherent control: the importance of the envelope**

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I shall review the progress of the field of “coherent control,” according to which control of dynamical processes is achieved by using lasers to induce (destructive or constructive) interferences between different quantum pathways leading to the same final outcome. I shall then discuss symmetry breaking stimulated by external laser fields and the role played by the relative and the “envelope” phase. Applications to chiral purification and the control of photo-current directionality in semiconductors will be given.