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**Two layer flow between corrugated electrodes** ELIZAVETA DUBROVINA, RICHARD V. CRASTER, DEMETRIOS T. PAPAGEORGIOU, Imperial College London — In recent years there has been growing interest in the miniaturisation of electronic tools and much research has gone into finding appropriate techniques for patterning at small scales. One such technique exploits the electrohydrodynamic instabilities of a system to induce ordered structures. In this talk we present a model of the evolution of the interface between two perfect dielectric fluids flowing between two electrodes one of which is corrugated. With the help of a Floquet stability analysis and of full time dependant numerical simulations, we will show how the amplitude and the shape of the topography influence interfacial patterns.

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