

# Workshop CAST 2020

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## *Embedded exact Lagrangian fillings not coming from surgery*

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Consider a Legendrian knot  $\Lambda$  in  $S^3_{\text{std}}$  and an exact Lagrangian filling  $L$  in  $B^4_{\text{std}}$ , with genus  $g(L)$  and  $i(L)$  immersed points. A classical result states that  $g(L)$  and  $i(L)$  must compensate each other, as  $tb(\Lambda) = 2(g(L) + i(L)) - 1$ .

On the other hand, Polterovich surgery gives us a way to solve immersed points of an immersed Lagrangian filling to get an embedded one. A natural question is then, can any embedded Lagrangian filling be obtained by surgery on an immersed one? We will see that the answer is no and give counter-examples. This is joint work with O. Capovilla-Searle, N. Legout, E. Murphy, Y. Pan and L. Traynor.