

Recent Progress in the Accelerator on a Chip International Program (ACHIP)

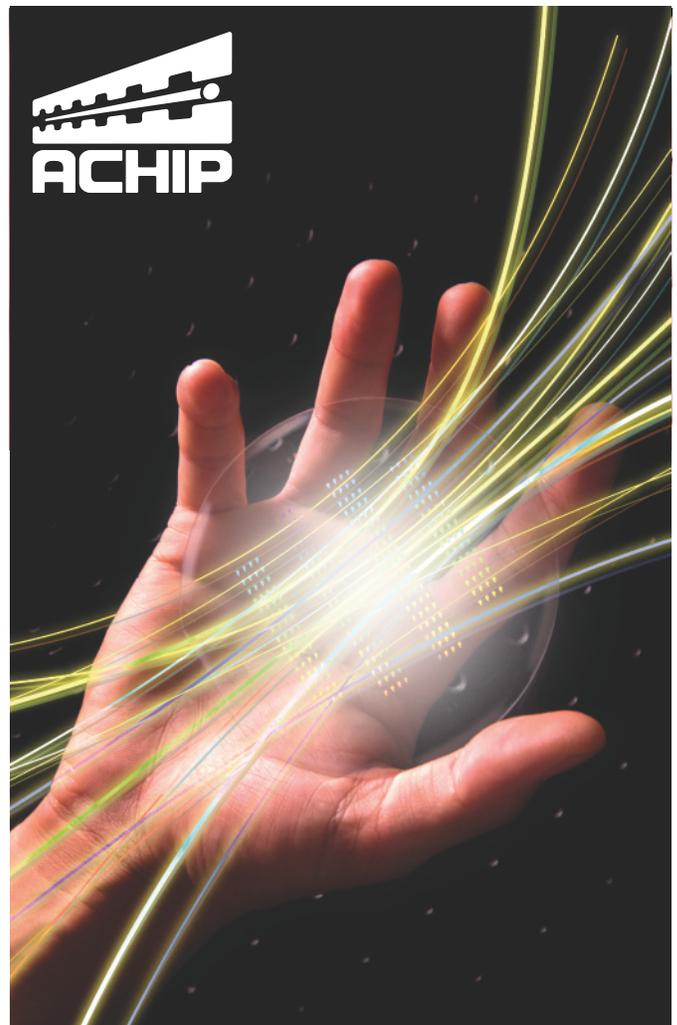


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Abstract:

The idea for an accelerator with a chip grew from early interactions with SLAC in 1996. The Advanced Accelerator Division led by Robert Siemann elected to collaborate with a campus group led by R. L. Byer. Early success from the collaboration caught the eye of the Moore Foundation and resulted in a request for a proposal. The proposal was submitted, reviewed and funded in 2015.

The ACHIP collaboration now has more than 50 members, a dozen universities, and three national laboratories (SLAC, DESY and PSI) working to demonstrate a Dielectric Laser Accelerator (DLA) that fits into a shoe box. Early progress concentrated on accelerator structures in fused silica (850 MeV/m) and silicon (370 MeV/m), electron sources, beam location and steering, focusing, and bunching.



Designing, constructing and testing all accelerator elements at the nanoscale on a chip is challenging. Current status and future plans will be discussed.

February 26, 4:00PM, Kavli Auditorium, Refreshments Served at 3:45PM