Contribution ID: **53** Type: **not specified**

ERL

Tuesday 19 November 2024 14:30 (1 hour)

Energy-Recovery-Linacs (ERLs) are an emerging field in accelerator R&D. They are needed for the sustainable operation of future high-power electron machines, e.g. the LHeC with an anticipated electron beam-power of 1 GW. The energy used for the beam's acceleration is recycled and re-used in an ERL. Higher beam currents are feasible while maintaining the RF power consumption at a comparable level. At the same time, the beam will be dumped at lower beam energies, typically below the neutron separation threshold. Less radiation is produced, and only a moderate dump cooling is needed. Since the postulation of the principle in 1965, many ERLs have been operated, and many more are foreseen and planned for the future. Especially the R&D for superconducting multi-turn ERLs is urgently needed to path the way to future high-power ERLs. An overview of the field and the latest developments, will be presented.

Presenter: JANKOWIAK, Andreas (Helmholtz-Zentrum Berlin)