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Laser-driven electron acceleration tutorial

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15 years ago, laser-driven electron accelerators have first been observed to produce collimated, quasi-monoenergetic electron bunches by the simple interaction of an intense laser pulse with an underdense plasma medium. While still prone to large random fluctuations back in the day, the process of laser-wakefield acceleration LWFA) has since established laser-driven electron accelerators as the focus of a thriving research field. The ensuing research has given us a many handles of controlling LWFA and shaping it into a reproducible tool for real-world applications such as brilliant laser-driven X-ray sources. We will introduce the basic principles of laser-wakefield acceleration, give an overview of the main developments (such as e.g. controlled injection or bunch characterization) that led to the current status and will attempt an outlook towards the future development of the field.