

**Donnerstag, 20. Februar 2025, 17.00 Uhr**  
Ortenauhalle Kongress 1  
Tiefe Geothermie

**Thursday, 20 February 2025, 5.00 pm**  
Ortenauhalle Congress 1  
Deep geothermal energy



## **DEEPLIGHT: Electro-Pulse Power drilling tool development**

### *DEEPLIGHT: Entwicklung eines Elektroimpuls-Bohrwerkzeugs*

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Electro-Pulse Power (EPP) Drilling is an advanced technology that uses high-voltage electrical pulses to break down rock formations. EPP drilling uses high-voltage electrical pulses to generate mechanical stress in rock with minimal contact opposed to conventional rotary drilling. The technology offers unique advantages and opportunities over alternative drilling methods.

Developing drilling equipment is challenging because of the extreme operational environment, unpredictable subsurface and very specific equipment requirements. Introducing novel tools, especially using innovative, non-mechanical cutting technology requires a proper understanding of all requirements. Therefore, the DEEPLIGHT consortium was created to ensure a drilling solution is built that meets industry standards and requirements. This international consortium consists of equipment builders, universities & knowledge institutes, geothermal operators and drilling service companies with the objective to build a working EPP prototype and develop related technology.

This presentation will focus on the rock breaking principle of EPP drilling and will show examples of applications, specific benefits & opportunities. Finally, a brief overview of the current developments will be given.