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MICRO-MOLDED NEURAL ARRAYS

BIOTECHNOLOGY

Micro-molded electrode with multiple individually addressable sensors that enables lower cost fabrication of customized neural arrays.

TECHNOLOGY TYPE

Biosensors
Neurology

STAGE OF DEVELOPMENT

- Functional electrodes produced.

- Ongoing work to develop fabrication capabilities for multi-shaft glass and polymer-glass micro-molded arrays.

IP PROTECTION

Nationalized PCT Pending in the United States and Europe

Micro-Molded Electrodes, Arrays, and Methods of Making the Same
US20160220135A1

LEARN MORE

Reference Number:
U-5437

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TECHNOLOGY SUMMARY

Physicians view electrode arrays as cutting edge treatment and therapy for neurological disorders. However, customization requirements, high costs, and technological deficiencies represent research and development challenges that must be overcome for mass adoption of electrode arrays.

Researchers at the University of Utah have created a platform technology that facilitates fabrication of micro-molded, customizable neural arrays. This platform allows users to customize substrate material, electrode material, and 2D or 3D configuration. The array is ten created using a micro assembly process for low-profile integration of single and multi-shaft probes that do not impinge on overlying structures, such as the skull. This technology is especially well-suited for research use because researchers can customize the electrode arrays, allowing for cost-effective, repeatable array design. Micro-molded neural arrays also have applications in drug delivery, optogenetics, and neuroprosthetics.

FEATURES AND BENEFITS

- Facilitates fabrication of customizable neural arrays.
- Reduces cost.
- Improves consistency.
- Enables low-profile probe design.

INVENTOR PROFILE

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