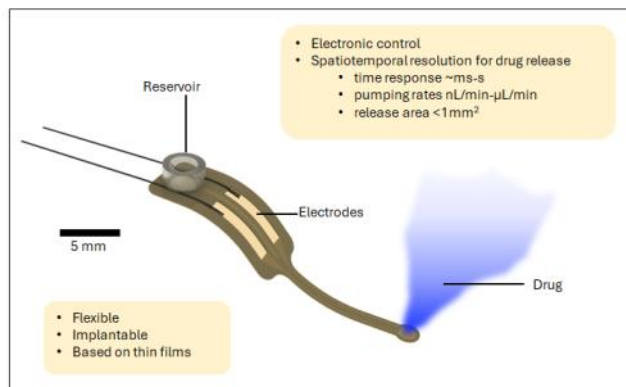


E-esmotrode - a concentric electrode electroosmotic pump

A flexible implantable electroosmotic pump enabling precise drug delivery through innovative concentric electrode design and laser-micromachined integration.

Applications: Localised drug delivery, neurostimulation and neuromodulation, targeted cancer therapy, implantable pumps, chronic disease management



Features

Femtosecond laser micromachining enables the precise engraving of embedded microfluidic channels directly into the device

Concentric electrode pairs with alternating polarity

Benefits

This advanced fabrication process allows for compact integration and highly controlled fluid transport, ensuring efficient and scalable drug delivery and sampling

Serves as a spherical reservoir for localised drug delivery, enhancing therapeutic precision – unlike conventional pumps where the infusion site is positioned remotely from the driving electrodes

Features	Benefits
Flexible, ultra-thin, soft material construction	Enhances comfort and safety for long-term implantation and eases installation process
Low flow rate operation	Allows precise dosing and sampling for sensitive medical needs

Awaiting patent and Available for

- Co-development
- Consulting
- Licensing

To find out more, contact enquiries@innovation.ox.ac.uk and quote the project number.

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