Professor Nicolas Voelcker

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Leader in remote monitoring and patient-centred diagnostic technologies, developing wearable, implantable and point-of-care solutions that enable earlier intervention, personalised care and healthcare delivery beyond traditional clinical settings.

Brief Biography

- Internationally recognised bioengineer advancing translational healthcare technologies.
- Pioneer of wearable, implantable and point-of-care diagnostic platforms for continuous biomarker monitoring.
- Combines expertise across engineering, materials science, medicine and pharmaceutical sciences.
- Inventor on 50+ patent families with a strong track record translating research into clinical and commercial outcomes.
- Leads large multidisciplinary collaborations spanning healthcare providers, academia, industry and government.

Core Expertise

Wearable biosensors; implantable diagnostics; companion diagnostics; microneedle technologies; electrochemical sensing; biomarker monitoring; point-of-care diagnostics; digital health; medical devices; personalised healthcare; clinical translation.

Relevant Projects and Experience

- Leads international programs developing remote monitoring technologies and wearable biosensors for continuous assessment of biomarkers and personalised care
- Pioneered microneedle-based sensing technologies capable of monitoring glucose, insulin, urea, lactate and other biomarkers through interstitial fluid
- Developed point-of-care and real-time biosensing platforms for infectious diseases, metabolic disorders, cancer biomarkers and maternal-child health applications.
- Leads the MOBIUS Biosensor Hub, a large multi-sector consortium advancing molecular biosensors from discovery to real-world healthcare deployment.
- Strong record of industry, clinical and health-system partnerships supporting real-world implementation, adoption and scale-up of diagnostic and monitoring technologies.

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Horizon Europe Calls of Interest

HORIZON-HLTH-2027-01-CARE-02

Areas of Contribution

Interested in contributing to work packages involving:
• Wearable technologies • Care pathway innovation • Home-based monitoring • Biomarker validation • Remote patient monitoring • Clinical decision support • Medical devices and their implementation • Digital health integration • Patient-centred innovation

Potential Consortium Roles

- Remote Monitoring and Digital Care Lead
- Diagnostic and Sensing Technologies Lead
- Biomarker Monitoring Lead
- Medical Device Translation and Implementation Lead
- Home-Based Care Innovation Lead

Key Words

• Wearable biosensors • Remote patient monitoring • Point-of-care diagnostics • Home-based care technologies • Digital health integration • Biomarker monitoring • Clinical decision support • Medical device translation • Patient-centred innovation