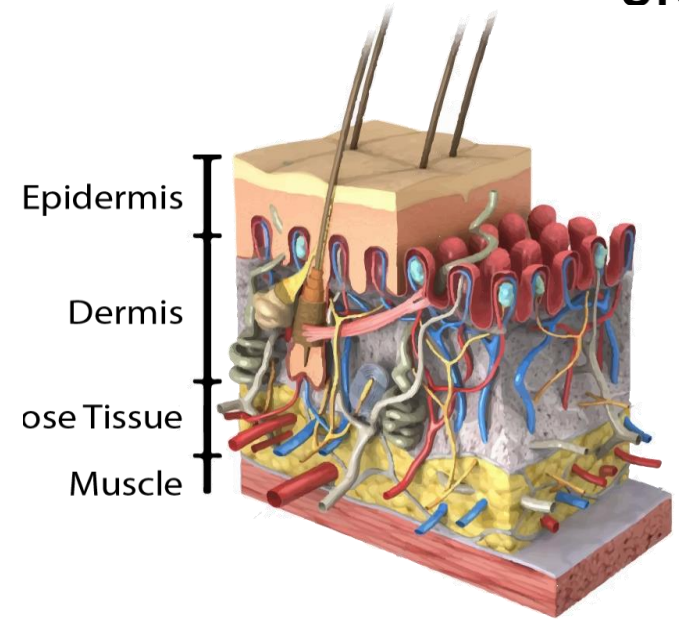
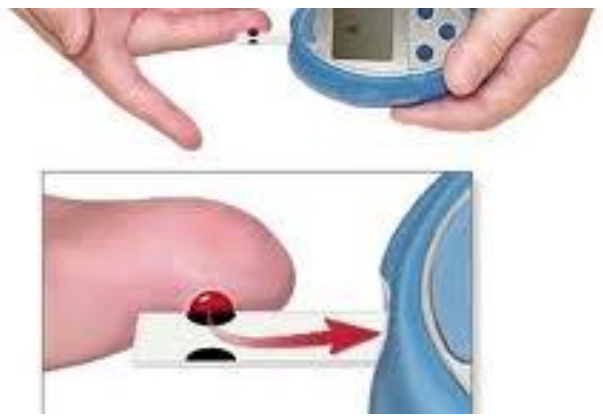


Non-invasive photonic quantum sensing for glucose monitoring

Prof. Gin Jose

g.jose@leeds.ac.uk





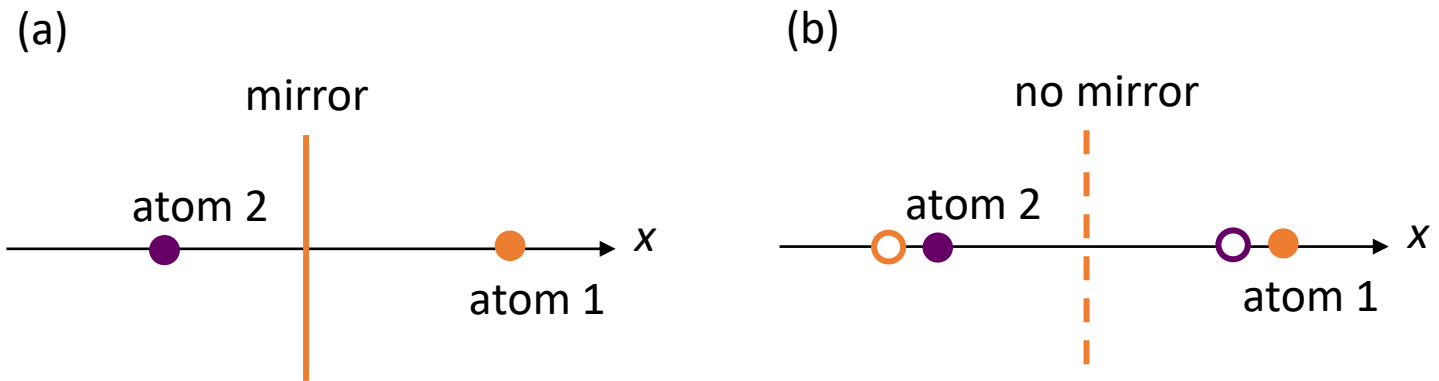
Skin penetration

Non-Invasive Solution-Glucose

Current finger prick measurements require taking a drop of blood to use for electro-chemical analysis on a disposable test strip

Continuous glucose meters utilize a subcutaneous wired enzyme sensor and need to be replaced every 14 days (approx.)

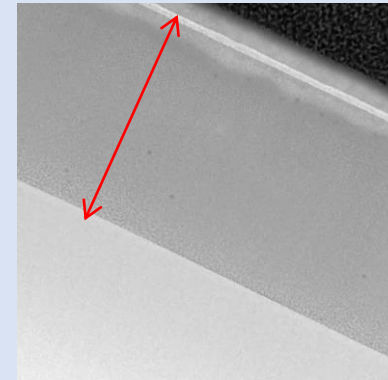
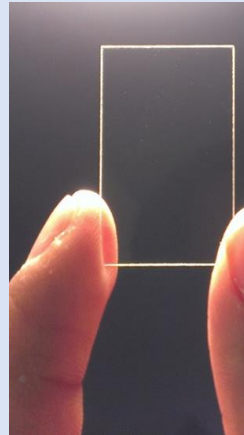
Non-invasive Sensing Principle



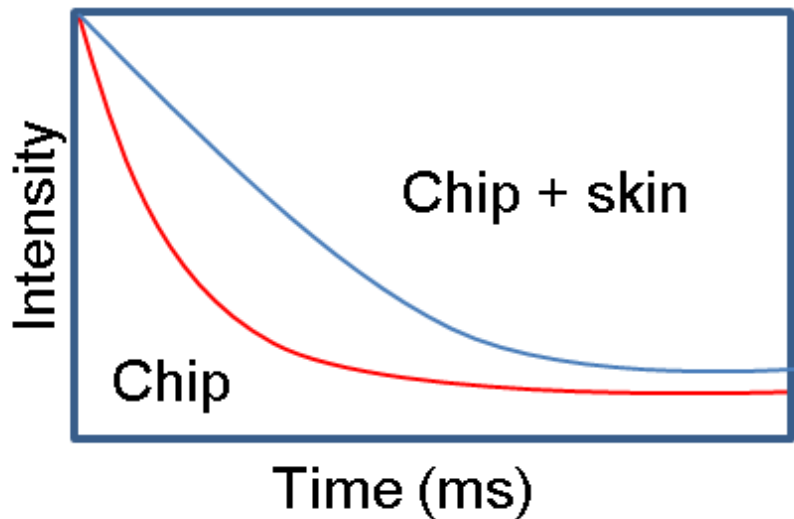
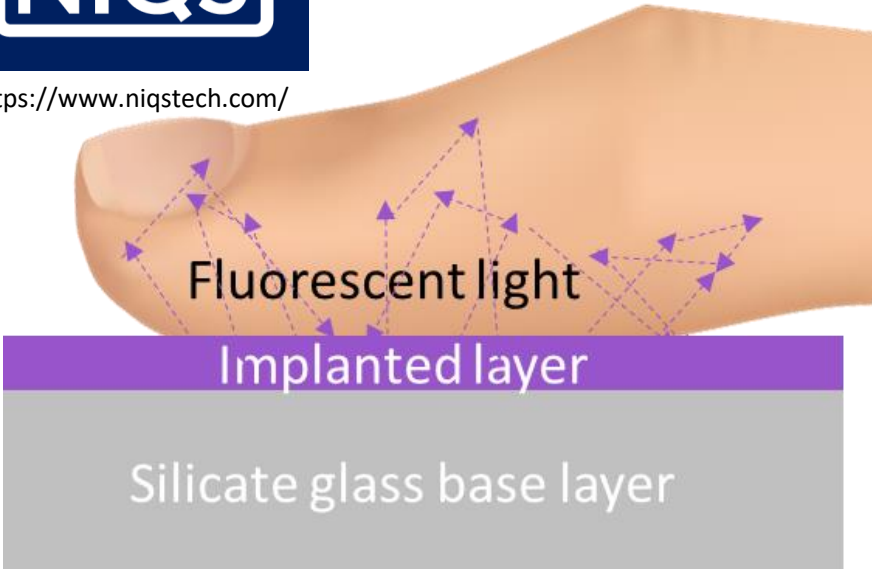
- Use of a mirror analogue that can create effective optical long-range interactions
- Detection is then based on change the **spontaneous decay rate of atoms** in the presence of glucose molecules on the other side.

The Materials Technology

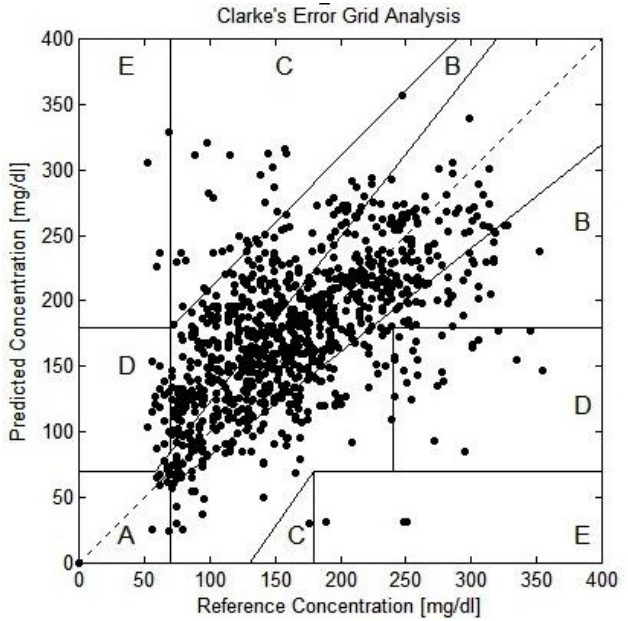
**Patented Platform
technology is based on a
*Glass Photonic Chip***



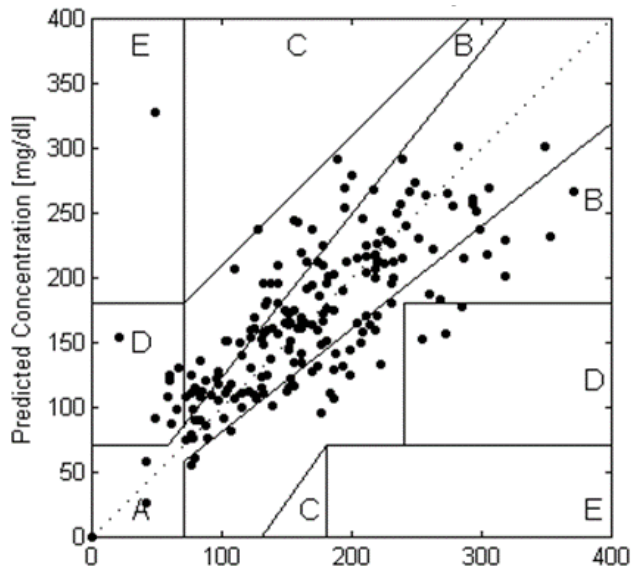
- **Glass is impregnated with fluorescent ions using a laser to make a *photonic chip***
- Unique manufacturing process and chip composition design



Proof of Concept



CGM Measurement



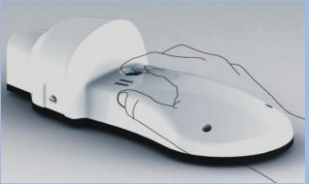





Fingerstick Measurement

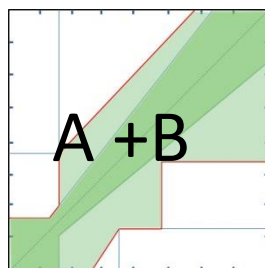
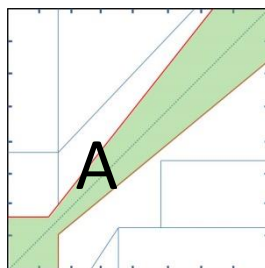


Proof of Concept

Comparison

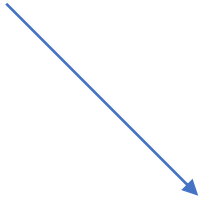
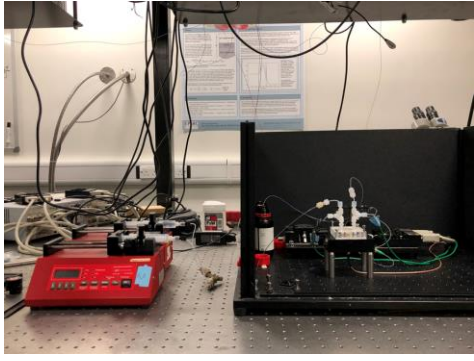
<https://www.niqstech.com/>

Devices	Prototype-1	GlucoTrack	DexCom STS	Medtronic Guardian RT	Abbott Navigator	Abbott Libre
		 (selected countries, EU and APAC)				 (EU only)
Type of Sensing	Truly non-invasive sensing	Ear lobe based: non-invasive but indirect measurement	Invasive Continuous glucose monitor			
Clinically accurate	77% (PoC data)	42%	49%	61.7%	81.7%	Study in progress
Clinically acceptable	96.5% (PoC data)	97%	90%	96%	98.4%	Study in progress

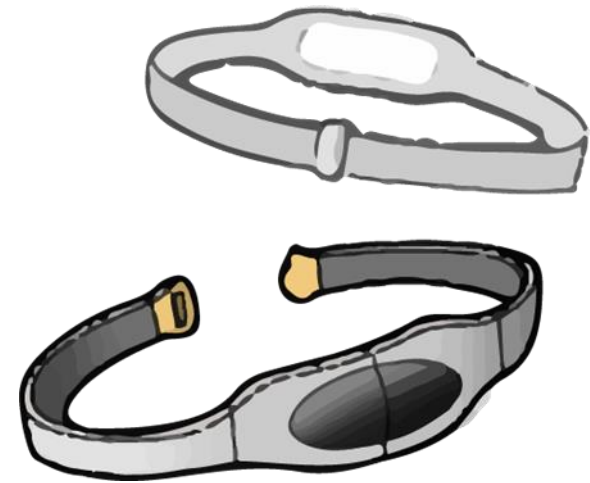


Key differentiator: Truly non-invasive, direct measurement

Next steps



Led by NIQS



CONFIDENTIAL



<https://www.niqstech.com/>

Team & advisory board



Dr Nicholas Furtak-Wells
Chief Executive Officer



Benjamin Dawson
Chief Technical Officer



Annie Brooking
Commercial Director



Prof. Gin Jose
Project leader, photonics
(NIQS Scientific advisor)



Dr Almut Beige
Theoretical quantum optics
(NIQS Scientific advisor)



Dr Sikha Saha
In-vitro studies
(NIQS Scientific advisor)



Prof. Ramzi Ajjan
Leading diabetologist
In-vivo/clinical studies



<https://www.niqstech.com/>



UNIVERSITY OF LEEDS

Thank you

