

Vidzeme University of Applied Sciences Latvia

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Est. 500 Million People Affected by Vitamin D Deficiency, incl. USA, China, Germany, Nordic Countries

According to Dr. Holick ideal range is 40-60 ng/ml of 25-Vitamin D
a.k.a. serum 25 (OH) D, a.k.a. calcidiol in bloodstream.

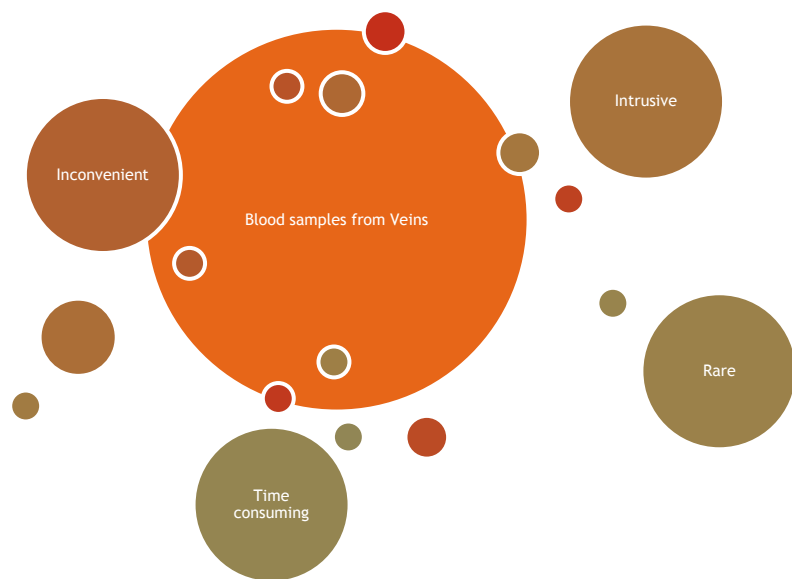
Insufficient is 21-29
Deficient is <20
Intoxication >150.



Topics to Explore

- Build an international consortium
 - with the aim to build (likely mid infra-red) sensor system
- for non-invasive Vitamin D measuring
- For time being it is envisaged that the prototype is a wearable.
 - The most important is that the Vitamin D level can be followed without need to taking blood samples each time.

How D is measured now?



Current status

Scientific validation of the idea

Team forming

- ▶ Partners: Institute of Solid State Physics, Uni of Latvia, and qualified medical professionals.
- ▶ The idea of our project "Measuring vitamin D with built-in optical sensors" team are 1st prize winners at the Deep Science Hackathon event on May 18, 2018: <https://www.cfi.lu.lv/eng/conferences/deep-science-hackathon/>.
- ▶ I am the author of the winning idea.

Submitted application. In January 2019 evaluated by EC pool experts. Evaluated as being well above threshold, but not financed due to insufficient funding in the national scientific application call to European Regional Development Fund

Partners thought

The evaluation received in January 2019 makes us to believe that our proposal may have a good chance in H2020 calls, if we strengthen certain proposal and team segments.

Also, the project has good commercial potential, yet, it is technologically risky.

The first we are looking for is establishing close and good working relationship with a strong and established **end-user** that sees value in having in their portfolio a non-invasive Vitamin D tracker.

Having found such end-user, we would need to jointly build the value chain map and apply for **H2020 project financing**.

The financing is needed to finance technological routes towards building a lab **prototype** - we need money for optics experts in optics lab.

We need a partner with strength in **mid-infrared optoelectronics** and **evanescent wave sensor development**, ideally in mid IR.

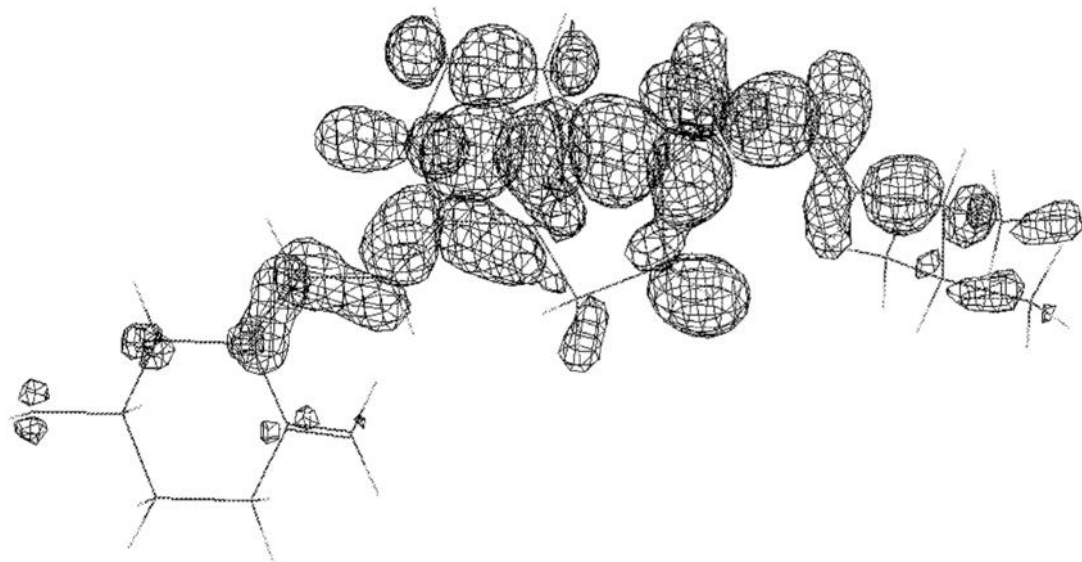
Partner with R&D experience of **building Integrated Quantum Optic Devices**, ideally in mid IR.

Experience

- ▶ Institute of Solid State Physics is the leading national materials physics institute
- ▶ It has good cooperation partnership with Swedish RISE
- ▶ Good laboratory experience in optical recording and skin medical devices
- ▶ Our team has leading national dermatologists

- ▶ I am a doctor of Materials Physics and I work at Vidzeme University of Applied Sciences as the director of Research Institute at Engineering Department.
- ▶ I coordinate research projects and engage in research.
- ▶ Assistant to the FP7 Regpot Project Manager, Institute of Atomic Physics and Spectroscopy, Uni of Latvia. My duties included project application drafting, R&D project developing, negotiations, dissemination and setting up research teams. I run a project work pack.
- ▶ 10.2011 - 6.2012; Senior Expert, acting as an evaluator in the evaluation of research proposals in relation to the FP7-NMP-2012-SME-6 call for proposals, EC DG Research, Directorate G - Industrial Technologies. The call belongs to the Theme of “Nanosciences, Nanotechnologies, Materials and new Production Technologies”. Evaluation of projects (two stages) and preparing recommendations
- ▶ 10.2010 - 6.2011; Expert, acting as an evaluator under the Seventh Framework Programme of the European Community for Research, Technological Development, and Demonstration Activities, a call in the Theme of “Nanosciences, Nanotechnologies, Materials and new Production Technologies” - FP7-NMP-Small-5. Evaluation of projects (two stages) and preparing recommendations
- ▶ 2009-2010; participant - ICT-Ensure (A project of the Seventh Framework Programme). Information preparation about the ICT Research Area in the Baltic States

Thank you for your attention



Please contact me

in person during the event

or

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