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|  |  | הטכניון - מכון טכנולוגי לישראל  TECHNION - ISRAEL INSTITUTE OF TECHNOLOGY |
| הפקולטה להנדסה כימית  ע"ש וולפסון |  |  |
| The Wolfson Department of Chemical Engineering |  |  |

**Wolfson Department of Chemical Engineering Seminar**

**Wednesday, March 17th, 2021 at 13:30**

**Online seminar via Zoom**  
<https://technion.zoom.us/j/97591164072>

**Detection Volatile Organic Compounds in Liquid for Monitoring Health**

**Ianovici Ron**

**MSc Seminar**

Advisor: Prof. Haick Hossam

Department of Chemical Engineering, Technion-Israel Institute for Technology

Volatile organic compounds (VOCs) have been a considered as a promising candidate for health diagnosis and monitoring via blood, urine, saliva and more body fluids, including communicable and non-communicable diseases. Nevertheless, to bring this capability into a point-of-care settings, there is a need to design, developed and test fast, inexpensive and repeatable chemical sensors. In this work, I present the design and production of custom-made system based on molecularly modified gold nanoparticle sensor arrays coated with biocompatible membranes. We show that the designed system is able to detect and discriminate polar and nonpolar VOCs and, furthermore, can distinguish them from confounding VOCs or other compounds in the same environment. Furthermore, the results show a potential of this approach to detect VOC-based biomarkers of diseases, such as head and neck cancer and breast cancer.