



Canadian Association  
of Physicists

Association canadienne  
des physiciens et physiciennes

Contribution ID: 633

Type: **Invited Speaker / Conférencier(ère) invité(e)**

## **(I) The winding road from a degree in physics to the development of leading-edge optical sensors**

*Tuesday, 8 June 2021 14:30 (30 minutes)*

This talk aims to give an example of how a degree in physics can lead to an interesting industrial career in optical sensor development. A broad understanding of different physical laws and behaviors (mechanics, thermodynamics, electromagnetics, optics), combined with a practical grounding in electronics, programming and machining, provides an ideal skill set for developing optical instruments where complex interactions between different sub-systems must be understood and anticipated. I will describe how my university physics degrees led to a varied and interesting career developing satellite instruments for ozone monitoring and wildfire measurement, thermal and terahertz imaging cameras, magnetic tools for pipeline inspection and a laser-based instrument for disease diagnosis in exhaled breath. Along the way I will give a brief introduction to the inner workings of these various sensors.

**Primary author:** DUFOUR, Denis (INO)

**Presenter:** DUFOUR, Denis (INO)

**Session Classification:** TS-5 Private Sector Physics Symposium (Prof.Affairs/DAPI) / Symposium sur la physique dans l'entreprise privée (affaires prof./DPAI)

**Track Classification:** Symposia Day (Prof.Affairs) - A Symposium for Private Sector Physics