

Professor Walter Johnstone



Description of research interest

1. Fundamental developments of Tunable Diode Laser Spectroscopy (TDLS) for the accurate measurement of gas concentrations, pressure and temperature: application of TDLS to industrial process control under harsh conditions including the measurement of methane, carbon dioxide and water vapour in operating fuel cells, the measurement of carbon dioxide, nitrous oxides and water in gas turbine (aerospace) engine exhausts and combustion chambers and the measurement of vapour phase hydrogen peroxide and ethylene oxide in sterilisation processes plus many others.
2. Optical fibre telecommunications networks for niche applications such as on board aircraft and shipping
3. General laser and optical fibre sensing and instrumentation systems.
4. Fibre laser and Raman fibre laser and amplifier systems for sensing applications.
5. Optical waveguide devices including fibre optic components development.

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Work Groups

|                               |                                     |
|-------------------------------|-------------------------------------|
| Biophotonics                  | <input type="checkbox"/>            |
| Integrated Photonics          | <input type="checkbox"/>            |
| Solar Cell Devices            | <input type="checkbox"/>            |
| Solid State laser Engineering | <input type="checkbox"/>            |
| Photonic Sensors              | <input checked="" type="checkbox"/> |