



Kyle Gilchrist

Associate Consultant: Air Quality Support : Atmospheric Modeller/IT Consultant

Kyle Gilchrist is a technical consultant with 20 years' experience as a hardware in computers, electronics and sensitive instrumentation. He has a Bachelor of Science (Physics) degree from the University of Victoria, New Zealand.

His previous role was as a technical service field engineer, where he conducted equipment installation and maintenance for laboratories all over Queensland and Western Australia. This equipment included gas chromatography, mass spectrometry, colorimetry, microwave, infrared and other specialist testing equipment. His role also included onsite hardware and software support for Information and Technology (IT) infrastructure which included desktop computers for a staff of 20+, servers, and peripheral equipment.

His subsequent role included more focus on the hardware and software IT aspect of his expertise, where he was engaged to procure, process, and install desktop computers and servers for a new olfactory laboratory (Scentroid SS600 Olfactometer and SM100 infield olfactometer) and air quality consultancy. He was responsible for consolidating all instruments, as well as codifying calibration standards and procedures. At this role, Kyle also started to get involved with assisting in setting up numerical models. He is an expert Linux administrator, and well-versed with the specialised requirements of the Weather Research and Forecast (WRF) model and the Mesoscale Model InterFace (MMIF) processing tool. Other models he has worked with include TAPM, CALPUFF, and AERMOD. He was in charge of implementation of single- and multi-processor configuration of cloud-based modelling systems, specifically using Amazon Web Services (AWS).

Kyle has utilised his expertise and experience to venture out and establish a niche IT and air quality consulting service (Air Quality Support Pty Ltd - AQS). He keeps up with the latest computational advances, ensuring that the in-house modelling systems are as advanced as practically possible. He assists clients with their specific hardware and software infrastructure and focuses on tailor-made solutions for maximum cost-benefit optimisation. Further to this, Kyle enhances the air quality services of AQS, where he uses his extensive knowledge in established scripting and programming methods, statistical tools and Geographic Information Systems (GIS) to streamline the air quality assessment process.

Technical Experience/Skills Set

- Air Quality Assessments
- Emissions inventories for modelling
- Air Dispersion Modelling (CALPUFF, AERMOD, MMIF)
- Meteorological Modelling (WRF, TAPM, CALMET, AERMET)
- Network infrastructure
- Hardware configuration
- Specialist equipment calibration and management
- Systems Analysis
- Computer coding (bash, Python)