

# Dr. Roshan WIJETUNGE

*born 8 July 1975 (age 32)*

*Nationality British*

43 Marshfield Way

Bath

BA1 6HD, UK

Tel (home): +44 (0) 1225 314 792

Tel (Mobile): +44 (0)7787 783 783

E-mail: [rwijetunge@hotmail.co.uk](mailto:rwijetunge@hotmail.co.uk)

## PROFESSIONAL EXPERIENCE

- 2005-present* Freelance Engineering Consultant, WIJET ([www.wijet.co.uk](http://www.wijet.co.uk))  
**Independent consultant engineer**, mechatronic systems modelling, control, design and analysis, specialising in Automotive applications. Recent contracts include predictive modelling of multi-stage turbocharging concepts for diesel and DI gasoline engines.
- 2003-2005* Powertrain and Vehicle Research Unit, University of Bath, UK  
**Research Fellow** in Dept. of Mechanical Engineering automotive group. Responsible for the successful execution of high-value commercial research projects. Contracts included Visteon UK Ltd (turbocharging control system development and engine modelling) and Cosworth Technology Ltd (Direct Injection gasoline systems advanced calibration methods).
- 2001-2002* Visteon UK Ltd., Dunton, UK  
**Advanced Control Systems Engineer** for Powertrain Systems Design Group. Responsible for control system development and integration for turbocharged applications of electrically-driven supercharging system. Involved in all aspects of process, from concept design through to vehicle implementation and demonstration to international clients (including Audi, Renault, Ford, Volkswagen, Fiat / GM).
- 1994-1997* Work placements including:  
12 month contract with **GEC ALSTHOM TURBOGENERATORS (Belfort, France)**, modelling and design work for large electrical machines.  
3 summer placements **UKAEA FUSION (Culham Labs, Oxon)**, design and analysis for high-energy plasma physics research.

## EDUCATION

- 1997-2001* University of Bath, UK. PhD in Diesel Engine Transient Optimisation  
**EPSRC** and **Ford Motor Company** funded research into diesel engine turbocharging and exhaust gas recirculation control for improved fuel consumption, emissions and driveability. Key research areas included co-ordinated EGR-VGT control, UEGO feedback and exhaust pressure based control.
- 1993-1997* University of Bath, UK. 1<sup>st</sup> class honours degree BEng in Mechanical Engineering with French.
- 1993-1997* Windsor Fellowship management and personal skills development programme  
Skills development programme running concurrently with university degree. Sponsored by United Kingdom Atomic Energy Authority (UKAEA)
- 1991-1993* Woodhouse College, London, UK.  
**A-Levels** in Maths(A), Physics(A), Design(A), **S-Level** Physics(1).

## RELEVANT SKILLS

- Considerable hands-on experience of engine and vehicle systems both on road and on test bed, including:  
***Gasoline and Diesel, turbo-systems, control system design, hybrid powertrains, vehicle electronics and electrical systems, direct injection fuel systems, aftertreatment.***
- Fluency with computers, programming and industry standard hardware and software such as:  
***MATLAB / Simulink, dSpace, ETAS, ATI Vision, Kleinknecht.***
- Analytical and mathematical modelling skills, including modelling of engine systems.
- Extensive experience of methods and procedures used in the design, testing and calibration of automotive control systems, including:  
***Rapid prototyping, autocoding, DoE, HIL, desktop calibration***
- Excellent communication skills, with a wealth of experience of presenting technical information at conferences, lectures and business meetings at an international level.

## LANGUAGES SPOKEN

- ENGLISH – Maternal language
- FRENCH – Very good working knowledge (Technical and Conversational)
- CASTILIAN SPANISH – Good working knowledge
- CATALAN – Basic comprehension

## PATENTS

- “Control system for an internal combustion engine boosted with an electronically controlled compressor”  
U.S. Patent No. 6,684,863

## PUBLICATIONS

- “Application of Alternative EGR VGT strategies to a Diesel Engine”, SAE paper 2004-01-0899, presented at SAE 2004
- “An Exhaust Pressure Control Strategy for a Diesel Engine”, 2004 ImechE Journal of Automotive Engineering Part D Vol. 218 (Awarded **ImechE Crompton-Lanchester Medal**)
- “Comparative Performance of Boosting Systems for a High Output, Small Capacity Diesel Engine”, presented at FISITA 2004, Barcelona, Spain
- “Retaining Drivability in Aggressively Downsized Diesel Engines”, presented at ImechE Turbocharging Conference 2004
- “Transient Optimisation of a Diesel Engine”, PhD Thesis, University of Bath 2001
- “Fuzzy Logic Control of Diesel Engine Turbocharging and Exhaust Gas Recirculation”, presented at *UKACC Control 2000, 4-7<sup>th</sup> September 2000, University of Cambridge, UK.*
- “The Dynamic Behaviour of a High Speed Direct Injection Diesel Engine”, *SAE paper 1999-01-0829, presented at SAE 1999.*
- “Transient Investigation of Two Variable Geometry Turbochargers for Passenger Vehicle Diesel Engines”, *SAE paper 1999-01-1241, presented at SAE 1999.*

## INTERESTS

- Experienced musician, playing double bass and electric bass in a variety of styles from jazz to folk. Involved in several groups, as well as recording and teaching activities. Studied intensively 2005-2006 in the renowned Taller de Musics school of modern music in Barcelona, Spain

Excellent references available upon request