



Stephen John André

2 The Beeches
Winterbourne Monkton
SWINDON
Wiltshire
SN4 9NL

Telephone: +44 [0]1672 539641
Mobile: +44 [0]7792 600426
Email: stephenjandre@alphecca.co.uk

Profile

- A resourceful and flexible engineer with over thirty year's experience of operations within the marine and oil/gas sector.
- An excellent team player with a flair for training.
- Technically skilled at both mechanical and electrical system repairs and maintenance.
- Experienced in many aspects of network and electronic installation.

Career History

Jun 2003 - 2015	Alphecca Systems (Self employed) Provided technical consultancy to many clients in the offshore and environmental measurement industry.
Jan 2005 - Dec 2012	GEMS Survey Ltd - Consulting MetOcean Scientist
Jun 2003 – Jan 2006	Private tutoring in mathematics and science subjects to GCSE and private school entry examination level.
Feb 1987-Jun 2003	Fugro GEOS Ltd - Principal Oceanographer Transferred to Fugro GEOS upon its formation Transferred to GEOS upon its formation Transferred to Wimpey Environmental upon its formation Joined Wimpol Ltd
Sep 1986 - Jan 1987	North Herts College Part time supply tutor
Oct 1985 - Aug 1986	Seismograph Service Ltd Assistant Observer (Marine).

Education/Qualifications

1982-1985	University College of North Wales, Bangor Hl BSc (Hons) in Oceanography and Electronics
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1981-1982	3 "A" levels in physics and mathematics 3 "O" levels
1979-1981	6 "O" levels (including Physics, Maths and English)

Training

December 2014	5-day Eiva navigation software, Eiva, Denmark
February 2011	1-day Advanced Industrial Climbing, Total Access Ltd 1-day Tower Rescue, Total Access Ltd
March 2008	2-day Advanced Industrial Climbing, Total Access Ltd
2004 - 2005	ADI Driving Instructor training
Various dates 1985-present	Offshore Survival Courses (incl BOSIET and HUET) RGIT Aberdeen, Warsash College, Fylde College Fleetwood Humberside Offshore Training Association Survivex Aberdeen

Personal Details

Nationality	British
Status	Married
Date of Birth	7 September 1963

Interests

Diverse interests include photography, model and musical instrument building, early and folk music, mechanics and family life.

Survey/Oceanographic Experience

I have many years' experience in the use of various oceanographic and meteorological techniques and instrumentation, ranging from the installation and service of simple sensors to the design and modification of complex multi-parameter logging systems.

Instrumentation with which I am familiar include the entire Aanderaa range of instruments, Vaisala optical sensors for measurement of cloud and visibility, the Nortek and RDI ranges of Doppler current profilers and a multitude of sensors for measurement of parameters such as turbidity, rainfall and pressure.

I have also put together many weather stations and other measurement systems using Campbell logging units and various combinations of sensors, and have written many and varied programs for these loggers that perform complicated conditional measurements sequences, as well as routinely recording basic parameters. Other Campbell programs I have written have ranged from dedicated test functions for other equipment to tidal prediction and simulation systems.

I have a very sound understanding of measurement techniques, from both the theoretical and practical sides, and have devised special rigs and procedures for validating the accuracy of measurement systems.

I have spent a lot of time over the last thirty years in the offshore petroleum environment, and have worked on many offshore installations including oil platforms and drilling rigs, heavy lift- and construction barges as well as numerous seismic survey vessels. The work has ranged from the installation of communication and measuring equipment and long cable runs to the operation, service and recovery of

subsea instruments. I am very experienced with the installation and repair of industrial wiring, and am familiar with the requirements of operation in hazardous environments, having designed, installed and repaired ATEX-compliant equipment at many different locations.

Much of my work involved the installation of weather stations and sensors at height on radio masts and jack-up oil rigs.

I have a very sound understanding of measurement techniques, from both the theoretical and practical sides, and have devised special rigs and procedures for validating the accuracy of measurement systems.

I have considerable experience in the scientific interpretation of data from instrumentation, in addition to the technical aspects of its use. My experience is particularly strong in the fields of meteorology and oceanography, and over the years I have written and technically-reviewed many reports and developed scientific techniques for different analyses.

I have worked in many parts of the world, including Argentina, China, Senegal, Nigeria, Cameroun, Angola, Republic of Guinea, Dubai, Yemen, Oman, Brunei, Singapore, the Philippines, Malaysia, Myanmar, Indonesia, Vietnam, USA and most European countries.

Management Experience

During my time with Fugro GEOS I was involved with the technical management of development projects, starting with the initial project plan at the tender stage, followed by detailed specification, design of algorithms, and test procedures. During the implementation stage I have been largely responsible for the supervision of programming staff, ensuring that software coding is performed to an adequate standard with appropriate testing applied throughout.

I was also responsible for the management of external contract programmers, providing specifications, advice and final testing and correction of completed software modules.

I was Project Manager of a number of Fugro GEOS' contracts, involving management of all aspects of the project, including initial proposal, Client liaison, shipping of equipment to foreign states, planning of installation and maintenance visits, reporting, and invoicing.

I was responsible on a day-to-day basis for providing technical support to a team of programming staff, working mainly with SQL, Visual Basic and Visual C++; and also to a large team of field staff working with electronic measuring equipment offshore.

Recent Major Project Experience

1991	Seychelles	Fugro GEOS	Large, multidisciplinary environmental baseline study. Development of spectral analysis system on datawell wave buoy with satellite telemetry.
1994	Oman	Fugro GEOS Oman LNG	Managed a long-term metocean project ahead of building an LNG export facility. Development of several bespoke instrument systems
1995	UK	Fugro GEOS BMT	Complete responsibility for a 3-month project on South coast to install and operate an array of current-measuring radars.
1999	Brunei	Fugro GEOS Shell BSP	Complete responsibility for design, management and installation of the first network-enabled real time weather station system on offshore oil platforms.
2001	Khazakstan	Fugro GEOS OKIOC	Design, management and installation of a real time weather station on the first offshore oil platform in Northern Caspian. Development of automatic data handling facilities.
2006	Nigeria	GEMS Survey OKLNG	Management of a two-year metocean, bathymetric and beach profile survey. This involved vessels, local survey crew and UK staff.

2009	Yemen	GEMS Survey Yemen LNG	Development, installation and management of a real time weather and oceanographic measurement system involving vessels, local labourers and interfacing with numerous international weather forecasting companies.
2009-2014	UK	GEMS Survey Dredging International Partrac	Design and technical management of the Worlds' largest real time environmental monitoring program during construction of the London Gateway port.
2011-2016	Nigeria	GEMS Survey Shell Nigeria	Maintenance of legacy real time network of weather stations. Design of state-of-the-art replacement system
2011	Khazakstan	GEMS Survey AGIP	Provision of technical expertise during redesign and upgrade of real time weather station network in Northern Caspian region.
2014	Myanmar	UTEC CNOOC	Client's Representative during deepwater mooring service, deployment and subsequent recovery in Bay of Bengal.
2014-2015	China	UTEC Technip	Development, implementation and management of real time, automatic soliton detection system operating during subsea construction and repair project.
2015	Republic of Guinea	Titan Environmental Survey GAC	Field management, sitework and reporting for a long-term metocean measurement program, prior to development of a new aluminium ore export facility.
2015	NW Atlantic, Canada	Mg3	Marine geochemist on board geophysical survey vessel.
2016	Indonesia	Blue Ocean Monitoring	Planning and management of long-term oceanographic project for sites separated by hundreds of kilometers.
2017	Southern North Sea	Mg3	Survey engineer on board geophysical survey vessel.
2018	Senegal	Gardline Environmental	Service and recovery of multiple moorings for large, offshore Metocean project.

Software Skills

Skilled in several different programming languages, including Fortran, Basic, Forth, Java, Algol and Pascal. I am also trained in C++ and have experience programming in Perl, Matlab and many other scripting languages.

I have experience of relational databases including SQL Server 6.5, MySQL and Oracle, both as an administrator and system designer.

I have considerable experience of using assembly language to write low-level programs for microprocessors in the 6502-family, Intel 80- series family and also Harvard architecture PIC devices.

Java:

I have more than eighteen years' experience of programming in Java, using J2EE technologies such as JDBC database API, Servlet API, Image handling and Swing GUI libraries.

I have considerable experience of programming using AWT, Swing and Servlet APIs and of using serialised objects to store scientific data.

I am experienced in the use of JDBC with relational databases including MySQL and Oracle, as well as the ODBC Bridge with Microsoft SQL Server.

I designed and implemented an advanced web server-based real time environmental measurement system called ARTEMeS which features interactive and animated graphical Applets for the display of real-time environmental data.

ARTEMeS makes extensive use of many of the J2EE technologies, including Servlets and JDBC, as well as web technologies such as HTML and JSP.

I have made much use of J2ME, having used CLDC and MIDP devices to provide smart, web-aware instrumentation to interact with my own ARTEMeS servers remotely, enabling immediate global access to measurements.

I have also developed a web-based automatic documentation system for the management of a network of weather stations in the Caspian Sea. This system was based around an XML storage model and made extensive use of XSLT technology.

Web technologies

I have considerable experience of producing web sites using both HTML and JSP, having designed and written both my own site which makes extensive use of Java servlets to provide dynamic HTML content and access to data within a relational database.

I am experienced in writing plug-in components for the Apache Tomcat web server, and of many aspects of the HTTP protocol.

My own web site makes extensive use of JSP and JSTL, and includes a number of Tag components of my own writing that allow graphical Java applets to be executed within the server environment.

I have also used FTP extensively, writing scripts to automatically copy data to/from offshore sites, and provide remote control of networked machines using command-line NT administration tools.

XML technologies

In recent years I have acquired experience in the use of many XML-related technologies including XSLT and the dynamic generation of XML content using a web server.

Mathematical Skills

I have considerable experience of writing software and deriving algorithms for diverse and complex mathematical processes. These include frequency- and time-domain operations, such as discrete and continuous Fourier/Fast Fourier transforms, inverse Fourier transforms, correlation and digital filtering; also spatial transforms, rotations and complex number calculations.

I have worked with many numerical algorithms such as interpolation, curve fitting and numerical calculus.

I also have experience of programming map projections, and of producing three-dimensional models of global projections for use in a military geodetic training course.

I have a good understanding of scientific statistical techniques, and their implementation in software, using either floating point or integer arithmetic when necessary.

Electronic Skills

During my career I have migrated from electronics and low-level software design to the high-level languages such as Java. I am experienced in the design and building of analogue and digital electronic systems, mainly for the processing of raw sensor signals. Previous projects have often been integrated with a Forth-based microcontroller, and involved instrumentation amplifiers, filters (both linear and switched capacitor), Digital/Analogue conversion and a variety of signal-processing components such as analogue multipliers and RMS voltage conversion. I am also experienced in the design of medium scale systems using discrete CMOS logic.

I have very considerable experience of interfacing electronic sensors and transducers for the measurement of a variety of environmental parameters, including strain-gauge bridge sensors for pressure and force; infra-red sensors for the measurement of transmission and optical back scatter to determine turbidity and visibility and resonant quartz sensors for pressure. I am also very familiar with most of the standard sensors used for oceanographic and meteorological measurements.

Projects that I designed and built include a nuclear density probe for in-situ sediment density measurement; a mechanical wave simulator that recreated sea surface motion using a microprocessor-controlled, motor-driven trolley; a down-hole seismic source for shear-wave generation and a plethora of meteorological and oceanographic measurement systems.

I also have considerable experience in the design and implementation of data telemetry systems, using UHF radio and satellites.

Recent Employment Roles

For seventeen years I worked with Fugro GEOS and its predecessor companies, starting out as an oceanographic engineer in 1986 and progressing to a Principle Oceanographer. I was made redundant from Fugro GEOS in June 2003.

Since that time I have set up my own company, called Alphecca Systems, to provide both oceanographic consultancy and a flexible, web-based service for the measurement, acquisition and display of environmental parameters known as ARTEMeS.

At the same time as developing and managing my ARTEMeS service, I have worked as a consultant with a number of companies, including the former GEMS Survey Ltd.

Since 2006 I worked as a consulting MetOcean Scientist, bringing my experience to a young company and allowing GEMS to build up a dynamic and successful metocean team of more than twenty personnel. Much of my time with GEMS was spent in an advisory and multi-disciplinary training capacity, with opportunities to train staff in GEMS' regional offices in London, Nigeria and Kazakhstan.

I performed metocean fieldwork for GEMS in countries such as France, Nigeria, Kazakhstan and Yemen, I also managed and advised on other projects in many other regions. In addition to fieldwork, I was responsible for the data processing and reporting of recovered data sets until new staff had been trained.

I worked with GEMS in an advisory capacity during the tendering processes for other prospective projects and a number of other large metocean projects.

Other companies with whom I have worked in the last ten years include Gardline, Muir Matheson, EGS, Nortek, UTEC, MG3, Titan Environmental, Planet Ocean and the former Compass Hydrographic in fields ranging from storm-water monitoring and real time weather stations to the design of specialist boat wake measurement systems.

In recent years I have been worked as a Consulting MetOcean Scientist to both the UTEC group of companies, working closely with Geomarine Ltd in Bath; and also MG3 in Warminster. As a Geomarine consultant I worked as a client representative, supervising mooring recovery and redeployment operations off the coast of Myanmar.

Most recently I have been working as an experienced field engineer for Gardline Environmental Ltd, servicing moorings in offshore wind farms and off the West coast of Africa.

Training and Teaching Experience

A large part of my work with all of my clients has involved training other staff on a variety of topics, from electrical engineering skills; tidal analysis techniques; basic geodesy and map projections to the safe use of knots offshore.

This has taken the form of both classroom-based teaching to large groups of employees and colleagues and small, informal practical groups. Subjects covered have ranged from the theoretical, such as the principles of tidal analysis and forecasting; to the purely practical such as instruction in soldering techniques.

While working abroad for some of my more regular clients I have acquired a good reputation for helping local staff to develop skills that they lacked. This has been particularly true in Nigeria, Kazakhstan and the Far East as well as a major six-year project on the River Thames.

I trained as a driving instructor during 2004-2005 and completed all the training. I did not, however, pursue a career as an ADI as better opportunities arose at that time.

In the past I have worked as a teacher in a further education college, teaching basic electronics and the mathematics of computing to mainly school leavers and day-release apprentices.

I also work as a part time private tutor, teaching mathematics and physics to a number of GCSE students who need additional tuition in the run-up to their exams. I have also tutored two pupils ahead of private school entry exams and coached my own son through his GCSE mathematics, probably pulling his result up by several grades.

Other Experience

In addition to teaching, I have also written and presented a handful of papers to the metrocean measurement industry at various conferences over the last ten years. These have mostly been on my own novel uses and technical developments of instrumentation.