



# Compumedics Education Program

# Profiles of educators and trainers

- Neuroscan
- Sleep



## Dr. Curtis Ponton •

Curtis Ponton, Ph.D., leads the Neuroscan division of Compumedics as Vice President and Chief Scientist. He joined Neuroscan in 2000 after spending 11 years at a research institute in Los Angeles, California. During this tenure, his work focused on the maturation of human cortical evoked potentials specifically focusing on profound deafness and the restoration of auditory sensation on plasticity in the central auditory system. Curtis maintains active collaborations for both basic research and scientific product development.



## Dr. Ross Apparies •

Ross Apparies, Ph.D., has been part of Neuroscan for over 7 years. He has held many positions in the company including Technical Support Manager, International Sales Manager and is currently the Sales Manager for Research Products in the Americas. As part of the Neuroscan team, Ross' extensive product knowledge has resulted from years of use in his research collaborations as well as through his role in the development of the Neuroscan systems. Ross has extensive experience working with MRI systems as well as cardiovascular measures. His primary area of study focuses on the effects of exercise and activity on cognitive function across the lifespan. Having taught both undergraduates and graduates at the university level, Ross is also an experienced teacher.



## Tina Jukich •

Tina Jukich holds registries in both EEG as well as Evoked Potentials. Tina's clinical background includes Neurodiagnostic testing procedures such as EEG, LTM EEG, clinical Evoked Potentials as well as Intraoperative monitoring of EEG and Evoked Potentials. She worked in a clinical setting for 13 years prior to coming on board at Compumedics. She has been an Applications Specialist with Compumedics for 5 years becoming the Applications Specialist Manager in 2005.



## Dr. Michael Wagner •

Michael Wagner, Ph.D., is Senior Scientist with Compumedics Neuroscan. Michael is in charge of the Curry source reconstruction software products, where he is involved with project management, research, software development, training, and helpdesk. Michael studied electrical engineering and philosophy in Munich, Germany. In 1992, his interest in medical applications led him to the Philips Research Labs in Hamburg, Germany. In collaboration with Hamburg's Technical University, he worked on the combination of functional (EEG, MEG) and image (MRI) modalities and received his Ph.D. in 1998. Since the year 2000, he has worked for Neuroscan, now a division of Compumedics. He lives in Hamburg, Germany.



## Miguel Rodríguez •

Miguel Rodríguez studied Biomedical Engineering at the Universidad Autónoma Metropolitana in Mexico City and his graduate studies at the University of Tokyo's Department of Biomedical Engineering – Bioimaging and Biomagnetics Laboratory. He has been collaborating with Neuroscan, now a division of Compumedics, since the early 90's. Miguel started with Neuroscan providing support for distributors in Mexico and Japan and then managed the Neuroscan European operations out of Germany. He is now based in the United Kingdom and is one of Compumedics most experienced Neuroscan technical support specialists in the field.



## Dr. Ken Whitton •

Ken Whitton, Ph.D., completed his Bachelor of Electronics (honours) from Macquarie University, and his Ph.D. in Pure Mathematics (honours) from the University of New South Wales. In the late 1980's Ken worked with Prof. Colin Sullivan on the installation of the first clinical sleep system for the Royal Prince Alfred Hospital. Having studied the application and implementation of sleep medicine under Prof Colin Sullivan and his associates, Ken has taken part in a variety of research projects involving both adults and children. Ken was selected by the US Government to assist in the Japanese aging Heart study in Hawaii and also assisted in the protocol and implementation of the world's largest sleep study, the Sleep Heart Health Study (SHHS). Ken has extensive experience lecturing in the area of sleep disorders in the Asian and European sectors.



## Dr. Manfred Fuchs •

Manfred Fuchs received his M.S. and Ph.D. degrees in Physics from the University Goettingen, Germany, in 1982 and 1985 respectively. He later joined the Philips Research Laboratories in Hamburg, Germany in 1986, where he advanced to the role of Senior Scientist and Project Group Leader of the CURRY (CURrent Reconstruction and Imaging) software project. In 2000, he joined Neuroscan, now a division of Compumedics, where he is responsible for the research and development of the EEG and MEG source reconstruction packages – SOURCE and CURRY.



## Marjie Cummings •

After attending the University of Wisconsin, Marjie began her career in EEG and Polysomnography at the University Hospital in Madison, WI. She also worked at Shands Hospital at the University of Florida from 1990 to 1997 where she served as the coordinator of the Neurodiagnostic training program and taught EEG, Evoked Potential, OR Monitoring, LTM, and sleep technology. Marjie is registered in EEG, PSG and EP. She began working with Compumedics equipment in 1998 as an application specialist. Marjie's current position is Educational Services Coordinator for Compumedics USA.

# Sleep Schools

# Neuroscan Schools

# DWL Courses

Compumedics Neuroscan is pleased to offer a full range of training courses covering all Neuroscan software and hardware products. Courses offered cover basic and advanced instruction of all aspects of electrophysiology. In addition, we offer regional courses in which the content can be tailored specifically to match the interest of the attendees.

## ProFusion Proficiency

ProFusion Proficiency is a series of training and education courses designed to enhance the efficiency and proficiency of sleep laboratories.

The course content varies to suit demand in different regions, but will always typically include training on new features of the software, use of basic and advanced tools that optimise the usage and customisation of the software and trouble shooting guidelines. Additional topics covered may also include the following areas.

### Somté

This session is designed to cover everything needed to use the Somté system including:

- Preparation of the system and patient for recording
- Data download and analysis
- Report generation

### Profusion PSG

These sessions will vary depending on local demand, and typically may cover everyday or more advanced use of the software.

Everyday Usage includes data acquisition, analysis, reporting and archiving.

Advanced Usage provides more detailed knowledge including such topics as:

- Customization of Recording Configurations
- Creating and Editing Report Templates
- Optimization of Automatic Analysis
- Digital Video
- Advanced Troubleshooting

### ProFusion neXus Users course

This session is designed to maximise efficiency with neXus and introduce new features in the suite of software.

Topics will include:

- Managing Patient Data
- Scheduling and Resource Management
- Service Details including study information and treatment planning
- Query tools – and database mining
- Lab Activity Reports

### ProFusion neXus Administrators course

Designed for neXus administrators and covering specific topics unique to this role, including:

- Security considerations and HIPAA
- Network configurations
- neXus configuration tool
- Data storage management
- Archiving
- Troubleshooting

## Regional Scan School

Regional Scan School is a two day overview covering basic features of data acquisition and analysis, targeted at individuals with minimal to moderate levels of experience with Neuroscan products. The Regional school content is flexible and can be adapted to focus on the needs / levels of the attendees.

### Day 1

- Begins with a live recording using SynAmps2 and Stim2 demonstrating "how-to" principles of data acquisition with an emphasis on techniques to optimize data quality.
- This is followed by tutorials detailing the steps of preparing a stimulus sequence for presentation with Stim2, followed by data acquisition setup in the Scan Software.
- Concludes with an introduction to data processing, including basic artifact reduction and removal.

### Day 2

- Continues with data processing including epoching, averaging, mapping and an introduction to source reconstruction with both Source and Curry.
- As a hands-on interactive review, students use all the Neuroscan products with ample opportunity for questions.

## Comprehensive Scan School

Comprehensive Scan School is a five day course covering theoretical and practical aspects of data acquisition, analysis, and source reconstruction. It is targeted at individuals with minimal to moderate levels of experience with Neuroscan products. The first three days focus on the hardware and software used for experimental presentation and data acquisition.

### Days 1 & 2

- This course begins with a basic EEG amplifier tutorial followed by a tutorial reviewing basic experimental setup, data collection and analysis. This includes:
  - Demonstration of tools available for online, real-time estimation of data quality.
  - Experimental sequence generation for sensory and cognitive paradigms using Stim2.
  - Basic and some advanced topics of data processing in the time and frequency domain.
  - Introduction to methods for automated bulk data processing.

### Day 3

- Focuses on live demonstrations of stimulus presentation and data acquisition.

### Days 4 & 5

- Focus on and introduction to dipole modeling and source reconstruction using Source and Curry.
- On Day 5, students are encouraged to bring their own data for analysis.

## Advanced Scan School

Advanced Scan School is a five day course for individuals with moderate to advanced levels of expertise with Neuroscan products. Basic knowledge of data acquisition and experiment creation is assumed. This advanced course covers the design of more complex data acquisition paradigms including input from other devices into the Synamps2 data stream.

### Days 1 & 2

- Online, real-time averaging and spectral mapping, data decomposition, and source reconstruction are emphasized.
- The construction of advanced experimental protocols using Stim2 is described, including the generation and editing of auditory and visual stimulus presentation paradigms.
- Other topics include:
  - Advanced techniques for eyeblink, and Cardiac artifact removal.
- Methods of spectral domain analysis including event-related synchronization/desynchronization and coherence as well as automated data processing are discussed.

### Day 3

- Focuses on live data acquisition and student-directed topics.

### Days 4 & 5

- Focus on dipole modeling and source reconstruction using SOURCE and CURRY.
- On Day 5, students are encouraged to bring their own data for analysis.

## fMRI (Boot Camp) Scan School

The fMRI boot camp is a five day course for individuals with moderate to advanced levels of expertise with the Neuroscan products, but with a specific interest in simultaneous acquisition of EEG and fMRI. Basic knowledge of data acquisition and experiment creation is assumed.

### Days 1 to 3

- The first three days focus on data acquisition principles including simulated data acquisition using data previously recorded in MRI environments. This includes description of techniques used to minimize ballistocardiogram and other artifacts specific to the MRI environment.
- Experimental sequence control using Stim2 is also described including functions specifically incorporated for triggering or receiving triggers from the scanner.
- This section of the course concludes with a live recording using the MagLink system.

### Days 4 & 5

- The last two days review dipole modeling and source reconstruction using SOURCE and CURRY.
- Emphasis is placed on importing structural and functional MRI data in CURRY.
- On Day 5, students are encouraged to bring their own data for analysis.

## TCD End user training

This training is specifically designed for users who are working with DWL equipment, to get both detailed application training on their equipment as well as basic medical application training for:

- Doppler Basic and Signal Processing
- Extracranial examination technique
- Transcranial examination technique
- Doppler-Monitoring and Special Function Tests
- Clinical case studies

### 1st day

Routine examination      Application/theory

### 2nd day

Monitoring      Application/theory

### 3rd day

Clinical case studies      Examples/Q&A

The first two days will be held by our Application Specialist, for the last day we invite a highly qualified TCD Specialist (Neurologist)

Please contact us for the next upcoming training event.

Please note that there is an upper limit of 8 attendees per seminar, if there are less than 3 attendees registered by the dead line the end-user training will be cancelled. All registered attendees will be automatically registered for the next event.

### For information on the course:

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# Compumedics C.E.T - Clinical Edge Training Programme

World Class Clinical training on Sleep and EEG is now within your easy reach! Compumedics is delighted to offer our new comprehensive Clinical Edge Training programme (we call it CET for short). This exciting new innovation - only from Compumedics - will use our very latest technologies and techniques to examine the world of Sleep and Clinical EEG. Under the tutelage of our specialist trainers the students will emerge with a full understanding of running Compumedics World Leading Systems to your lab's best advantage. This training program will be held every two months at Compumedics headquarters in Melbourne, Australia. The program is targeted at the clinical user who is seeking "The Edge" by updating their knowledge and increasing their proficiency with the latest Compumedics technologies.

Learn the tips and shortcuts together with useful trouble-shooting techniques from patient and system setup to recording, editing, reporting and archiving.

There are two modules to the CET programme - the CET-Sleep module and CET-EEG module. Each module will run for 3 days. The first day will be for Basic and Everyday Sleep and EEG applications with subsequent days leading into Advanced usage.

Please contact us for prices and availability.

## CET - Sleep Module

### Part 1 - Everyday Usage

#### Session 1:

- Recording Sleep Studies with PSG Online 3
- My Workspace™
- Getting started
- Device calibration
- Patient Biocalibration
- Decision Assist™
- Observation Charts
- Trends
- Konno-Mead Loops
- Pageback

#### Session 2:

- Scoring and Reporting Sleep Studies with ProFusion PSG 3
- My Workspace™
- Getting started
- Patient Biocalibration File
- Staging and scoring events - automatic and manual
- Observation Charts
- Trends
- Flow-volume loops
- Konno-Mead Loops
- Summary Statistics

### Part 2 - Advanced Usage

#### Session 1:

- Customising PSG Online 3
- PSG Configuration
- Customising Patient Cal Routine
- Customising Configurations
- Customising Decision Assist
- Customising Observation Charts
- Customising audio/visual alerts
- Customising hot keys

#### Session 2:

- Customising ProFusion PSG 3
- Trends
- Staging and scoring comparison
- Optimising automatic analysis
- Adding fields to report with Report Wizard
- Adding Recommendations to Reports
- Adding Interpretations to Report

## CET - EEG Module

#### Session 1:

- **Introduction to Amplifier**
- Overview of Amplifier hardware
- DC vs. AC design
- Introduction to Modular design

#### Session 2:

- **Introduction to Software Design and Layout for basic use**
- Recording EEG study right away
- Setting display filters, sensitivities, singularly globally
- Navigating through study
- Digital Video playback
- Selecting montages

#### Session 3:

- **Basic Acquisition**
- Change or select parameters for standard EEG recording in routine and Long term monitoring
- Navigate around impedance testing
- Recording/ setting multiple screens during record/ review mode
- Pausing, recording and restarting acquisition
- Deleting studies not required or accidentally started
- Setting special channels

#### Session 4:

- **Basic Reviewing/ Editing**
- Overview of tools for editing EEG
- Annotations and marking sections of data
- Searching tools
- Review and editing Video

#### Session 5:

- **Advanced Acquisition**
- Setting brain mapping and spectral analysis in windows
- Configuring and customising the software
- Setting up and creating montages
- Configuring and storing screen layouts
- Customising report template
- Setting up ambulatory device (Siesta/ Safiro)

#### Session 6:

- **Advanced review**
- Using brain mapping and spectral analysis
- Exporting reviewed studies
- Archiving tips
- Review database structure
- Modify fields for storage of information
- Spike and seizure detection



## Contact Us:



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Contact us for further information on dates