

EFTF 2014 – LIST OF EXHIBITORS

A commercial exhibition will allow companies and institutes to promote their products and raise their visibility at the conference.

Location:	University of Neuchâtel
Date & Time:	Tue / Wed /Thurs, June 24-26, 08:30 - 18:00
Exhibitor presentations:	Thursday, June 26, 08:30 - 09:00, Main Aula
Chair:	Wolfgang Schäfer, TimeTech

Booth No 1 - Lange Electronic GmbH

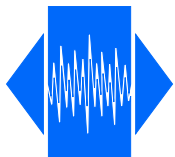


Lange Electronic GmbH, founded in 1977, develops, manufactures and distributes high precision time & frequency systems worldwide. Our systems, which can be designed redundantly if desired, are used in aerospace and on board of ships, in scientific experiments, in time laboratories and testing facilities e. g. the Aviation Gate in Braunschweig. All of our systems can have special ports tailored to our customers' specifications. The Airborne Time Code Generator product range is designed for operation in harsh environments and is used on aircraft and ships. We typically employ one or more GNSS time receiver as the basis of the signals we generate. Our precision exceeds +/- 15ns relative to UTC, and our most exact system to date even achieves +/- 2ns.

Our video time and data display inserts time unerasably into a video signal, thus making it tamper proof. Besides this we represent Spirent Positioning-Technology, the world leader in GNSS simulation equipment, Oktal-SE, a leading mathematical company doing 3D simulation via ray-tracing and several other methods and NavXperience - specialising in navigation and location technologies. Their product range covers high-precision GNSS antennas (GPS + GALILEO + GLONASS + COMPASS).

www.lange-electronic.de

Booth No 2 – QuartzCom AG



Product Portfolio: Piezoelectric components like crystal units, quartz oscillators (XO, VCXO, TCXO, VC-TCXO, OCXO), filter (quartz, SAW and ceramic), highly stable precision oscillators for wide operating temperature range in shock-proof and vibrational resistive version.

Company Alignment: QuartzCom AG uses its outstanding development and application know-how of its powerful engineering force to be able to understand and optimize the customer's circuit design already in an early stage. By means of service and customer orientation and by the help of a very broad product range QuartzCom AG wants to offer reliable solutions of high quality.

Services: Technical consulting with design support, training, development and manufacturing of standard components and customized crystal units, quartz oscillators and filter, fast service, test lab, security stock, logistics, worldwide sales in Europe, Asia and USA.

Target Markets: Telecommunications and data communications (wireline and wireless, infrastructure and terminal equipment), timing & synchronization, measurement equipment, instrumentation, avionics, satellite, navigation, COSPAS-SARSAT, digital audio / video broadcasting, automotive, railway, medical.

www.quartzcom.com

Booth No 4 – onefive GmbH



Onefive GmbH, located in Zurich / Switzerland, is a leading supplier of industry-proven, low-noise femtosecond and picosecond lasers for OEM and R&D. The Onefive portfolio contains compact air-cooled maintenance-free lasers and offers a wide choice: UV-IR wavelength range, sub-100fs to 2ns pulse duration, single-shot to GHz repetition rate and nJ to >250µJ pulse energy.

Onefive lasers are well known in research areas like synchrotrons/accelerators and frequency comb applications, where ultra stable pulse trains and/or very low noise synchronization are necessary.

In addition to Metrology and Timing applications Onefive laser systems also enhance procedures and results in Medical applications, Microprocessing, Microscopy and Laser/Optics research.

www.onefive.com

Booth No 5 - Piktime Systems sp. Z o.o / Elproma Elektronika Sp. Z.o.o



Piktime Systems sp. z o.o. - satellite techniques and precise time sector company, established in 2007. We are a worldwide leader in precise, long-

distance atomic clocks comparison.

Our area of expertise:

- Designing and manufacturing equipment for long-distance precise atomic clocks comparison (time transfer systems),
- Development of time based products and services (navigation, security, data and document exchange, time stamping),
- Advisory on precise time and time scales,
- Time & frequency software and algorithms,
- Time & frequency counters and generators,
- Designing and execution of complete time laboratories on a turn-key basis.

www.piktime.com



Clepsydra Time Systems is a new Time & Frequency brand name from **ELPROMA Electronics** - the specialist in design and manufacturing of professional **NTP/PTP Time Servers** and time synchronization systems since 1992. This expertise is a result of over

than 20 years' experience in: metrology, scientific, telecom, power distribution and financial industry. Elproma takes pride in placing emphasis on three critical factors: Versatility, Compatibility, Reliability. The key to Elproma continued growth and success is its ability to stay at the leading edge of technological innovation paying full attention to the needs of all our customers. Elproma direct caesium time server is one of the most popular products in metrology community today.

www.elproma.com.pl

Booth No 6 - GuideTech



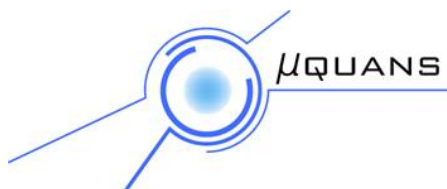
Since 1988, **GuideTech** has been the leading innovator of TIA and CTIA [Continuous Time Interval Analyzer](#) and high-precision frequency counter instruments, delivering superior performance at over a thousand ATE installations worldwide.

GuideTech's high performance Computer-based Time & Frequency Instruments, [GT210 TIC](#) and [GT668 CTIA](#) are available in PCI, PCIe, PXI and PXIe bus and can scale-up to 34 channels in one PXI/PXIe chassis.

GuideTech's [Femto-Family](#) of multi-channel measurement products are the fastest direct timing analysis systems available with distributed CTIA architecture. Our products are quickly becoming the de facto standard on ATE platforms around the world due to their ability to dramatically reduce test time while improving the quality of critical timing tests in ATE and other critical, high-precision environments.

www.guidetech.com

Booth No 7 - Muquans



Muquans is a young start-up company whose project consists in developing a new generation of high precision instruments based on laser trapping/cooling/manipulation of cold atoms.

Muquans is working on the development of the following products :

- An absolute quantum gravimeter capable of measuring gravity with a relative accuracy of 10^{-9} , dedicated to various applications in geophysics.
- An atomic clock, which provides a time reference signal offering relative stability and accuracy close to 10^{-15} and dedicated to time metrology applications.
- integrated laser systems dedicated to trapping/cooling/manipulation of Rubidium atoms.

Muquans is a spin-off from two academic laboratories (LP2N and SYRTE) specialized in high precision measurements based on quantum manipulation of cold atoms. The technology developed by Muquans therefore benefits from all the experience and know-how resulting from more than 15 years of academic research.

After two years of activity, μQuaS now has 11 employees and plans a commercial launch of its first products in 2015

www.muquans.com

Booth No 8 - Microsemi



Microsemi®, the world leader in precise time solutions, sets the world's standard for time by offering solutions to generate, distribute and apply precise time for the communications, aerospace/defense, IT infrastructure

and metrology industries. Customers use Microsemi's advanced timing algorithms, atomic clocks and frequency reference technologies to build more reliable and highly efficient networks.

Learn more at www.microsemi.com/time

www.microsemi.com

Booth No 9 - M Squared Lasers Ltd



M Squared Lasers is a scientific laser specialist, developing and manufacturing innovative laser sources for the most demanding applications. Sources span the entire performance spectrum, from continuous wave to ultrafast, and from deep ultraviolet to terahertz wavelengths.

With many decades of experience the M Squared team have re-designed the cw Ti:S from first principles with the requirements of scientific users in mind. The resulting SolsTiS cw Ti:S laser is the most advanced source available with hands-free control combined with the lowest noise, narrow linewidth and high stability. Wavelength extension to shorter wavelengths is accomplished by highly efficient second or fourth harmonic generation using the ECD-X or ECD-X-Q

resonant cavities.

A fast growing install base means that many of our systems can be found in leading national and academic laboratories worldwide.

The company works hard to foster a collaborative approach and has strong links and collaborative projects with a number of local and international research groups, institutions and blue chip partners.

Based in Glasgow, UK, M Squared Lasers provides close sales and service support to its worldwide customer base via a global network of distributors, representatives, and local offices including its subsidiary M Squared Inc in the US.

www.m2lasers.com

Booth No 10 - Menlo Systems GmbH



Menlo Systems, a leading developer and global supplier of instrumentation for high-precision metrology, was founded 2001 as spin-off of the Max-Planck-Institute of Quantum Optics. Pioneers of the Nobel-Prize-winning Optical Frequency Comb technology, the Munich based company offers complete solutions based on ultrafast lasers, synchronization electronics and THz systems for applications in industry and research

www.menlosystems.com

Booth No 11 - Femto Engineering



FEMTO Engineering is a technology center located in Besançon – France. It undertakes technological developments in 4 areas of innovation, from lab validation to prototype in operating environment:

- Time & Frequency: ultra-stable oscillators, services in embedded digital systems and ultra-low noise electronic
- Energy: electrical, magnetic, thermal modeling
- Optics: micro and nanomachining with femtosecond laser
- Hybrid microfabrication in clean room facilities (1400 m²): coating, etching, lithography, characterization.

Our scientific backup comes from FEMTO-ST, the largest French public research lab for engineering sciences with 700 people.

Markets: watchmaking, energy, transport, telecoms, security and defense, health, space navigation, geodesy...

www.femto-engineering.fr

Booth No 12 - Huber+Suhner



The global Swiss company **HUBER+SUHNER** develops and manufactures components and system solutions for electrical and optical transportation of data and energy. The company serves customers in the Communication, Transportation and Industrial markets with cables,

connectors, cable systems, antennas and other passive components relying on its expertise in radio frequency, fiber optics and low frequency technologies.

The products stand out due to their exceptional quality, reliability and durability – even under harsh environmental conditions. HUBER+SUHNER maintains close relationships with its customers in more than 60 countries as the result of its global production network, own group companies and sales offices, as well as numerous distributors. The company captures promising markets with its ground-breaking developments.

www.hubersuhner.com

Booth No 13 - Noise XT



Noise XT is a Test and Measurement company focusing on Low Phase Noise devices. Our 22 years of continuous Research and Development gave us a worldwide technical leadership in Ultra Low Phase Noise Analyzers. Capable of all measurement techniques, our products performance can reach about -198 dBc/Hz.

The DCNTS is the State of the Art analyzer from 2 MHz to 140 GHz and the NXA Series bring this high performance into production where ease of use and small footprint matters.

Today, Noise XT also offers low phase noise synthesizers that can be compact and affordable or better in performance than any other commercially available signal generator. An amazing -132 dBc/Hz at 10kHz offset on a 10 GHz signal can be obtained with the LNS-18 and small PXI size 7 GHz dual clock synthesizers can always find room on a crowded R&D bench while offering -170 dBc/Hz noise floor. Traditional PN9000 systems are now available with -140 dBc spurious specification, and Frequency stability (Allan Variance) up to 1000 seconds is available in single and dual counter configuration. With 4 Service centers in the world, Noise XT can locally assist you in China, USA, Europe or India.

www.noisext.com

Booth No 14 - TimeTech



TimeTech GmbH was set up in 1990 as a spin off from the University of Stuttgart's Institute for Navigation. The team here is specialized in intercontinental time transfer and very precise satellite positioning services. TimeTech is a reliable provider of high-tech space systems and ground stations equipment and instruments for precise frequency and time transfer. TimeTech is mainly export-oriented with customers in Europe, North America, Asia and Australia. TimeTech's business areas are subdivided into Project Business and Products.

Since November 2012, TimeTech has embarked upon providing systematic and regular two-way link calibration service to our customers primarily the national metrological laboratories.

Project business encompasses scientific studies as well as hardware projects, related to Galileo, Aces, Rosetta, Venus Express and other space projects and ground stations. The Product Business takes care of development, production, testing and installing equipment and complex systems for orbit determination and positioning as well as high precision synchronization and transmission of time and frequency.

Facts & Figures :

Employees: 22

Projects: Ground Station for Frequency and Timing in Kourou (French Guiana);

Atomic Clock Ensemble in Space (ACES) – Microwave Link to ISS;

Telemetry, Tracking and Command System for ISTRAC (India);

Frequency and Timing Systems for ESA (Europe)

www.timetech.de

Booth No 15 - T4Science SA / Orolia Switzerland SA (Spectratime)



T4science was founded in 2006 in Neuchâtel, Switzerland, T4Science is a leading designer and manufacturer of a full range of advanced, cost-effective and high-performance maser clock solutions. Its products are used in a wide variety of scientific applications and in the time and frequency industry: Frequency Reference

Source, VLBI, SLR, Deep Space Tracking & Navigation, Timekeeping, Navigation, GNSS Satellite Monitoring.

Products

The iMaser is a high-performance, compact active hydrogen Maser. It features advanced phase noise and short term stability for high-precision frequency & timing applications. Passive hydrogen maser offers long term reference with excellent stability and price.

Services

T4Science offers a complete set of first-class services over the product lifecycle for total customer satisfaction. These services, through not limited, include the following: supply and installation, training, remote & on-site maintenance, on-site support.

www.t4science.com



Founded in 1995 in Neuchâtel, Switzerland, **Spectratime** designs, manufactures and markets a full range of high-performance, low-cost crystal, rubidium and maser sources, smart integrated GPS or GNSS reference clocks, and clock

testing systems. Its products are used in a wide variety of applications, including telecommunications, defense, navigation, instrument, broadcasting, and space.

The company is a recognized leader in the industries it serves and distributes its products globally through Spectratime's sales offices in Europe, Asia, and United States.

www.spectratime.com

Booth No 16 - SpectraDynamics, Inc



SPECTRADYNAMICS, INC.

SpectraDynamics, Inc. (SDI) was founded in 1994 as a company specializing in high performance time and frequency distribution systems. The company is involved in the research and development of low noise and ultra-stable electronics to support atomic frequency standards and time scales.

SpectraDynamics has developed and patented novel frequency synthesis architectures and time and frequency methods some of which have resulted in products that the company offers. Our main products are Time and Frequency Distribution Amplifiers, Low Noise Frequency Synthesizers and Noise Measurement Systems.

Our featured items are the HROG-5RM a high performance frequency and phase micro-stepper with under 1 fs resolution and the HPDA-15RMi-C an ultra-low noise frequency distribution amplifier. In addition to the standard products we also provide custom-engineered solutions. Our customers include the National Time and Frequency Laboratories, Government Agencies, Universities, Department of Defense Contractors and Telecommunications companies.

www.spectradynamics.com

Booth No 17 - Morion, Inc.



QUARTZ OSCILLATORS, FILTERS, CRYSTALS AND BLANKS

MORION, INC.

Morion, Inc. is well-known both in Russia and as a worldwide designer and manufacturer of quartz frequency control products (FCP) - quartz oscillators, filters and crystals dedicated for various applications such as

telecommunications, navigation, test & measurement, digital broadcasting, search and rescue systems, etc.

You are welcome to view our existing and newly developed products of our company at our booth #17.

morion.com.ru

Booth No 18 - Oscilloquartz SA



Oscilloquartz is a pioneer in time and frequency synchronization. We design, manufacture and deploy end-to-end synchronization systems that ensure the delivery and assurance of highly precise timing information over next-generation packet and legacy networks. As an ADVA

Optical Networking company, we're creating new opportunities for tomorrow's networks. For more information, please visit us at: www.oscilloquartz.com and www.advaoptical.com.

www.oscilloquartz.com

Booth No 19 - NEL Frequency Controls, Inc.



NEL Frequency Controls is 'Your Silent Partner' for Ultra Low Phase Noise Crystal Oscillators and Synthesizers. NEL specializes in the design and manufacture of lowest phase noise frequency control products in the smallest form factors possible. Provided is a sampling of ultra low phase noise frequency control offering-

- ULPN Synthesizers- 10GHz+
- ULPN OCXO in SMD package- 10MHz and 100 MHz
- ULPN OCXO up to 1 GHz
- Multi Frequency OCXO Reference Module 10MHz/ 100MHz/ 1000MHz
- ULPN XO, VCXO, TCXO up to 2.0 GHz
- Whitepaper on Phase Noise Testing ULPN OCXO's

Visit the NEL Booth for technical support for your application.

www.nelfc.com

Booth No 20 - Terada Co. Ltd and MAXIS 01



TERADA is a manufacturer of industrial adhesive which can be used in indoor and outdoor applications. We also produce functional and processing materials for device and parts manufacturers. Also, a natural-light LED lamp system can be exhibited this time which has been developed by TERADA.

www.trd.co.jp/en/



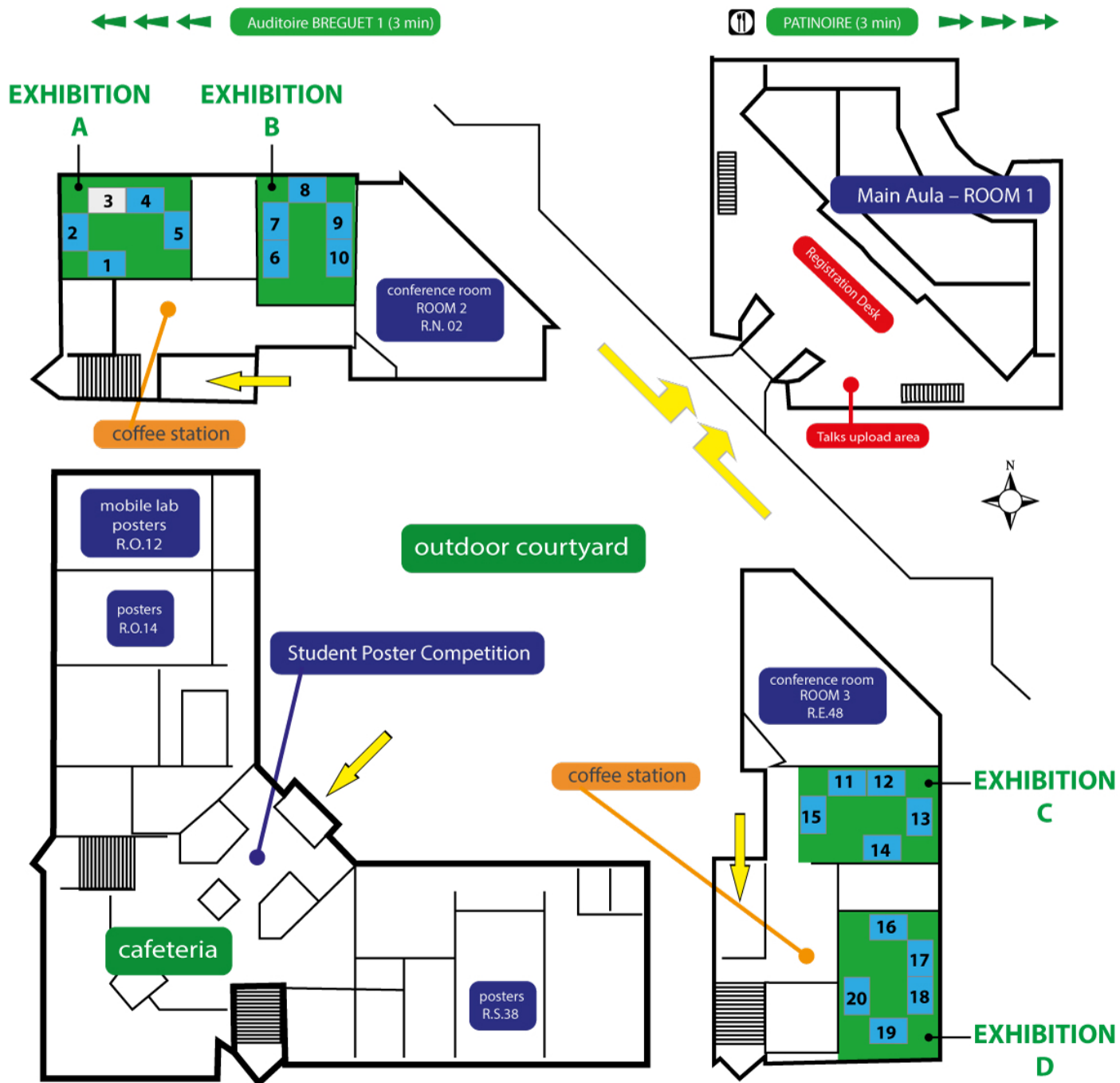
MAXIS 01 is a manufacturer of Crystal Simulation System and crystal blank measuring systems. Regarding beveling shape and dimension measured by special lens which is used in exposing system.

MAXIS 01 has succeeded to establish his own software technology with FEM/Multiple calculation and other mechanical information coming from Model CA-11 and CA-13 and CA-17. Everybody now can see the streaming of energy and spurious in his imaged picture which can provide all of engineers. What is what and what should be in the design of crystal devices.

www.maxis-01.co.jp

Venue Map

Aula des Jeune Rives University of Neuchâtel



Drawing not to scale, for visualisation only.

Booth Number	Exhibitor
1	Lange Electronic GmbH
2	QuartzCom AG
3	available
4	onefive GmbH
5	Piktime Systems sp. Z o.o / Elproma Elektronika Sp. Z.o.o
6	GuideTech
7	Muquans
8	Microsemi
9	M Squared Lasers Ltd
10	Menlo Systems GmbH
11	Femto Engineering
12	Huber+Suhner
13	Noise XT
14	TimeTech
15	T4Science
16	SpectraDynamics, Inc
17	Morion, Inc.
18	Oscilloquartz
19	NEL Frequency Controls, Inc.
20	Terada Co. Ltd and MAXIS 01