



# Swiss National Photonics Labs 28<sup>th</sup> March 2013, Burgdorf



**Dr. Christoph Harder**

**President Swiss Photonics and Laser Network (SLN), Schindellegi SZ**  
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Dr. Christoph Harder received the Electrical Engineering Diploma from the ETH in 1979 and the Master and PhD in Electrical Engineering in 1980 and 1983 from Caltech, Pasadena, USA. He is co-founder of the IBM Zurich Laser Diode Enterprise which pioneered the first 980nm high power pump laser for telecom optical amplifiers.

He has been managing during the last few years the high power laser diode R&D effort in Zurich expanding, working closely with a multitude of customers, the product range into 14xx pumps as well as 808 and 9xx multimode pumps for industrial applications. He has published more than 100 papers and 20 patents and has held a variety of staff and management positions at ETH, Caltech, IBM, Uniphase, JDS Uniphase, Nortel and Bookham.

**Introduction and Moderation**

**Presentation of results**



**Beat Lüscher**

**Institut für Produkt- und Produktionsengineering (IPPE) der FHNW, Windisch AG**  
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Maschineningenieurstudium an der HTL Brugg-Windisch. Einige Jahre als Projektleiter in der Maschinenindustrie. Technischer Leiter und Mitglied der Geschäftsleitung in einer mittelgrossen Unternehmung.

Seit 1996 an der Fachhochschule Nordwestschweiz, Dozent und Teamleiter des Kompetenzbereiches 3D-Laser Mikromaterialbearbeitung am Institut für Produkt- und Produktionsengineering

**Swiss National Applicaton Laboratory for Photonic tools and Photonic manufacturing (SNAPP)**

The SNAPP group was formed in 2009 and is primarily concerned with lasers and related materials processing. The reason for the merger was the pooling of skills and equipment. Each partner has its core competencies.

The group can provide extensive consulting and industry work and carry out in joint efforts demanding research projects .



**Prof. Dr. Valerio Romano**

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Valerio Romano was born in Italy and is Swiss citizen. He received the physics M.Sc. degree in 1989 and the Ph.D. degree in 1991 from the University of Bern, Switzerland.

His main research topics are microstructured fibers for laser applications and pulsed laser-materials interaction processes.

He holds two positions: one as a Professor for Applied Photonics at the Bern University of Applied Sciences (BFH-TI, Institute for Applied Lasers, Photonics and Surface Technologies) and one as a Lecturer and research group leader at the University of Bern. He is also coordinator of the SWISSPHOTONICS National Fiber Lab (SNFL), a joint laboratory in the field of optical fibers. He is managing director of the SWISSPHOTONICS National Thematic Network (NTN).

**Swiss National Fiber Lab (SNFL)**

The SNFL is one of the laboratory networks whose activities are coordinated by Swissphotonics NTN. Its research is oriented towards industrially relevant themes. Optical fibers are mainly correlated with communication and sensing applications; in the last years however, special fibers have opened up a wealth of additional applications in light generation, beam delivery, high power CW and pulsed lasers just to name a few.

With SNFL Swissphotonics intends to bring together research and industry in this field and generate synergies in order to increase the Swiss competitiveness. At the same time it can contribute to ensure continuity and protection of know how in an internationally competitive landscape.

The presentation gives some insight into the structure and into the plans of SNFL.



**Prof. Dr. Andreas Ettemeyer**

**NTB Interstaatliche Hochschule für Technik Buchs**  
**Institut für Produktionsmesstechnik, Werkstoffe und Optik (PWO)**  
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Andreas Ettemeyer studied Mechanical Engineering in Munich and Aachen and graduated on holographic interferometry in Stuttgart. During nearly 20 years in industry, he concentrated on optical measuring techniques such as holography and speckle interferometry. In 1989 he founded and managed a company for production of laser measuring systems until he moved back to academia in 2005. Today he is professor for Technical Optics at NTB Interstate University of Applied Sciences in Buchs, Switzerland.

**Swiss National Optics Platform (SNOP)**

The aim of this effort is to combine the different research activities in optics, from IZOT in the Swiss optics valley to the microoptics in western Switzerland OptEPFL. Contact for this activity is Prof. Dr. Andreas Ettemeyer

Main task of IZOT (Innovationszelle Optische Technologien) is to support the network activities within the Swiss Photonics industries.

Main goals are

- establishing a research center for optical high end coating
- supporting a Swiss Photonic training program
- providing expertise in classical optics and optical metrology technologies to industries.



**Dr. Roman Rudel**

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**Education**

1989 Master in Geography at the University of Fribourg (Switzerland)

1996 Dr. phil.lic. in Geography at the University of Fribourg (Switzerland)

Title: Krise der modernen Industriegesellschaft und ökologischer Wandel der Arbeitswelt. Eine empirische Untersuchung des Tessiner Arbeitsmarktes. Dissertation Universität Freiburg,

**Employment history**

2008 – present Director of the Institute of Applied Sustainability of the Built Environment. (ISAAC) of the University of Applied Sciences and Arts of Southern Switzerland

2006-07 Organisation of the Summer School in Humanitarian Logistics and preparation of the Executive Master in Humanitarian Logistics at the USI\_Lugano.

2007 INSEAD Fontainebleau - Executive Master Management in the Humanitarian Sector

1993 – 2008 Research assistant at the Economic Research Institute – University of Lugano-Switzerland

1989-1992 Research Assistant at the Department of Geography at the University of Fribourg (Switzerland); Member of the *Conseil du Développement Durable* of the Federal Office of Environment. Action Plan for Switzerland.



**Dr. Frank Nüesch**

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Dr. Frank Nüesch graduated in physics in 1989 at the ETH Zurich. In 1995 he earned his Ph.D. at the EPFL in the Laboratory of Prof. M. Grätzel, the inventor of the dye sensitized solar cell. Since April 2004 he is heading the Laboratory for Functional Polymers at Empa Dübendorf. He is a lecturer at EPFL, teaching thermodynamics and organic semiconductors.

**Swiss PV Research Platform (SPVR)**

Switzerland has a worldclass research effort towards harvesting solar energy by photovoltaic devices, e.g. by groups at BFH, CSEM, EMPA, EPFL and SUPSI, as well as strong industrial efforts (with core activities in the range of 1 to 2 Billion CHF/year).

This Swiss PV Research Platform supports interaction between research groups and the industry. It is coordinated by Prof. Dr. Frank Alain Nüesch and Dr. Roman Rudel

**Dr. Christoph Harder**



**Dr. Christian Bosshard**

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Dr. Christian Bosshard is managing the Thin Film Optics Division of CSEM in Muttenz. He received his degree in Physics (1986) and his doctorate (1991, Silver medal award) from ETH. Christian Bosshard is a Fellow of the Optical Society of America (OSA), board member of the Swisslaser Net and coordinator for CSEM in the Heterogeneous Technology Alliance (HTA).

**Swiss Photonic Packaging Laboratory (SPPL)**

The Swiss Photonic Packaging Laboratory (SPPL) aims to be a one stop shop contact for the Swiss industries for Photonic Packaging. It is planned to build up a network with all interested research organisations within Switzerland. CSEM will serve as entrance point for customer request which will be discussed within the SPPL to ensure the best solution for the customer



**Prof. Dr. Christophe Moser**

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Christophe Moser is currently associate professor of Optics in the Microengineering department at EPFL. He obtained his PhD at the California Institute of Technology in optical information processing in 2000. He co-founded and was the CEO of Ondax Inc, Monrovia California for 10 years before joining EPFL in 2010. His interests are analog and digital holography for imaging, endoscopy, display and optincs for solar concentration.

**Swiss Photonics Master Education (SPME)**

I will present specific efforts at EPFL towards a master in Photonics and show the landscape of photonics masters in other institutions in Switzerland. A global strategy will be outlined which consists of matching industrial short and long term needs in the Swiss photonics industry needs with photonics master education efforts at all level ETH - UNI - HES (UAS).



**Dr. Rolando Ferrini**

**Section Head, Integrated Light Management, Thin Films Optics, CSEM SA, Muttenz BL**  
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Dr. Rolando Ferrini is heading the Integrated Light Management Section of CSEM in Muttenz. He obtained his PhD degree in 1999 at the University of Pavia, Italy. From 2000 to 2011, he worked as Research Associate at the EPFL. From 2004 to 2011, he was in charge of an EPFL pilot project with ILFORD Imaging Switzerland GmbH for the development of lighting applications.

**Swiss National Lab for Solid State Lighting (SSSL)**

The Swiss National Laboratory for Solid State Lighting (SSSL) plans to be a reference for Swiss companies involved in the *solid-state lighting revolution*. Aim will be to build a network connecting Swiss companies and research centers along the entire value chain, from material suppliers to system developers and integrators, till end-users. CSEM will act as contact point to address specific industrial requests within the SSSL.