

VISIT Deliverable Report Cover Sheet

Workpackage: Deliverable number Deliverable name Lead beneficiary: Workpackage leader (name): Description writer (name): Date planned: Date finished:	WP1: Management, Reporting, and Dissemination D1.4 Organisation of a workshop TUB TUB Prof. Dr. Dieter Bimberg 30.11.2009 30.11.2009
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Deliverable description and summary of achieved results (max. 2400 char.):

This Deliverable Report D1.4 briefly describes the organization and selected intended goals of the International Nano-Optoelectronics Workshop 2009 (iNOW2009) held one week in Stockholm, Sweden and then continued the very next week in Berlin, Germany during the period 02-15 August 2009. The iNOW2009 was supported in part by the VISIT Project of the European Commission's Seventh Framework Programme (EC FP7). Additionally, several invited and contributed talks and poster presentations contained VISIT Project-generated results and were presented by active VISIT Project partners and affiliated graduate students.

The iNOW was initiated in 2006 by a group of United States of America researchers primarily from the University of California (UC) at Berkeley, the Leland Stanford Jr. University, and the University of Illinois at Urbana-Champaign. The iNOW brings together a group of about 150 of the world's top graduate students and up to about 60 of some of the world's most distinguished researchers from industry and academia, selected by an advisory committee, in the broad fields of nanotechnology and optoelectronics for what is essentially a summer school and at the same time an opportunity for mentoring, cultural learning and appreciation, and the building and strengthening of scientific collaborations. The distinguished researchers (lecturers) receive full coverage of their local expenses and in some cases also their travel expenses. The students pay fully for themselves through their universities and toward some of the expenses of the lecturers.

The selected students present a survey of their most recent research results via short oral presentations and during follow-on extended poster sessions wherein not more than 30 posters are presented in parallel thus leaving ample time for technical discussions, networking, and mentoring between the students and between the students and the distinguished researchers. Additionally these same distinguished researchers present a daily schedule of lectures covering the most fascinating and perplexing research topics of the day. Finally all participants take part in planned social events and excursions to fully acquaint themselves with the traditions and cultures of the host countries, and to facilitate new inter-group collaborations.

The iNOW2007 and iNOW2008 gatherings were held in China and in Japan, respectively, and received support from national research agencies and industrial partners and agencies. Prof. Dr. Dieter Bimberg of the Technical University Berlin, the Coordinator of the EC FP7 VISIT Project, and Prof. Dr. Lars Thylen of the Royal Institute of Technology (KTH) Stockholm, and Prof. Dr. Constance Chang-Hasnain of UC Berkeley, together organized the iNOW 2009. As a result the iNOW2009 was supported in part by the EC FP7 VISIT

Project, selected U.S. agencies, and also by German and Swedish national research agencies and industrial sponsors and organizations.

The iNOW2009 program included lectures on vertical cavity surface emitting lasers, tilted-wave lasers, and the development of high-speed short-reach optical communication systems – all priority topics of the EC FP7 VISIT Project. The distinguished lecturers for these subjects were recruited from among the many eminent scientists and scientific reviewers participating in the VISIT Project. Several students from VISIT Project partner universities also participated in the iNOW2009 event. The following is a list of the distinguished lectures and poster presentations given by VISIT Project participants:

VISIT Project-related iNOW2009 Distinguished Lectures and Student Poster Presentations

1. J. Buus, "Optical Component Businesses; a Case Study on Tunable Lasers", (Invited) presented at the International Nano-Optoelectronics Workshop (iNOW), Stockholm (2-8) and Berlin (8-15), August 2009.
2. A. Larsson, P. Westbergh, J. S. Gustavsson, and Å. Haglund, "VCSELs for Broadband Access and Interconnects", (Invited) presented at the International Nano-Optoelectronics Workshop (iNOW), Stockholm (2-8) and Berlin (8-15), August 2009.
3. N. N. Ledentsov, J. A. Lott, V. A. Shchukin, A. Mutig, G. Fiol, D. Bimberg, S. A. Blokhin, L. Y. Karachinsky, and A. M. Nadtochiy, "Ultra-high speed components for data networks," (Invited) presented at the International Nano-Optoelectronics Workshop (iNOW), Stockholm (2-8) and Berlin (8-15), August 2009.
4. T. D. Germann, A. Strittmatter, A. Mutig, A. M. Nadtochiy, J. A. Lott, S. A. Blokhin, L. Ya. Karachinsky, V. A. Shchukin, N. N. Ledentsov, U. W. Pohl, and D. Bimberg, "Development of an electro-optically modulated vertical cavity surface emitting laser demonstrating 10 Gb/s open-eye operation," International Nano-Optoelectronics Workshop (iNOW), Stockholm (2-8) and Berlin (8-15), August 2009.
5. P. Moser, A. Mutig, G. Fiol, D. Arsenijević, V. A. Shchukin, N. N. Ledentsov, F. Hopfer and D. Bimberg, "High temperature stable 980 nm VCSEL: 20 Gbit/s operation at 120 °C", International Nano-Optoelectronics Workshop (iNOW), Stockholm (2-8) and Berlin (8-15), August 2009.
6. A. Mutig, G. Fiol, K. Pötschke, P. Moser, D. Arsenijević, V.A. Shchukin, N.N. Ledentsov, F. Hopfer and D. Bimberg, "Small signal analysis of high temperature stable 980 nm VCSELs", International Nano-Optoelectronics Workshop (iNOW), Stockholm (2-8) and Berlin (8-15), August 2009.
7. P. Westbergh, J. S. Gustavsson, Å. Haglund, and A. Larsson, "High speed large aperture 850 nm VCSELs", International Nano-Optoelectronics Workshop (iNOW), Stockholm (2-8) and Berlin (8-15), August 2009.
8. P. Wolf, S. A. Blokhin, J. A. Lott, A. Mutig, G. Fiol, N. N. Ledentsov, A. M. Nadtochiy, V. A. Shchukin and D. Bimberg, "40 Gb/s operation of 850 nm VCSELs", International Nano-Optoelectronics Workshop (iNOW), Stockholm (2-8) and Berlin (8-15), August 2009.

The iNOW2009 was an extreme success. As a result the workshop will again be held next year in China as iNOW2010. As in year 2009, the Coordinator of the EC FP7 VISIT Project Prof. Dr. Dieter Bimberg will actively serve on the iNOW2010 steering committee.

Contributors: TUB

Attachments:

Summary Program for the 2009 International Nano-Optoelectronics Workshop

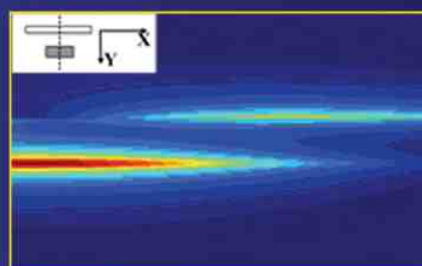
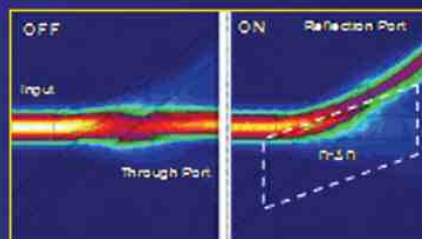
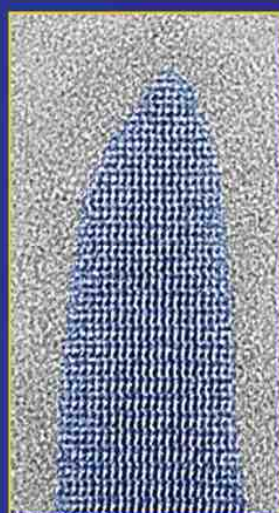
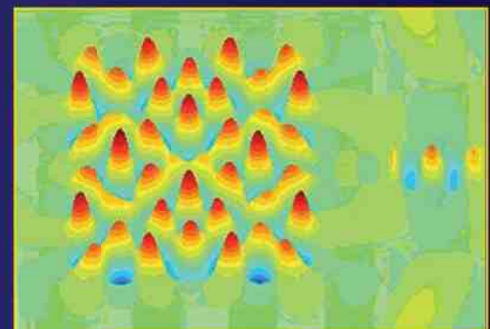
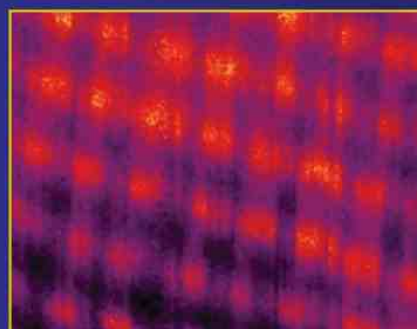
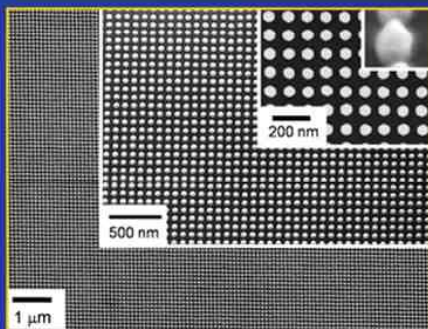
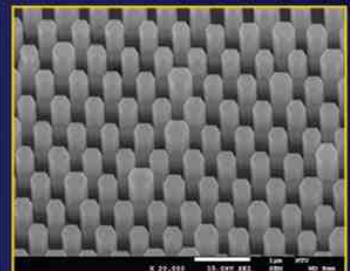
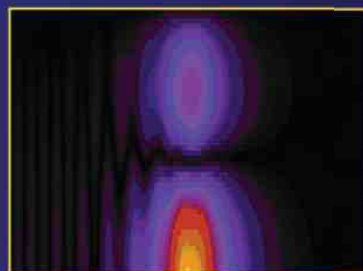
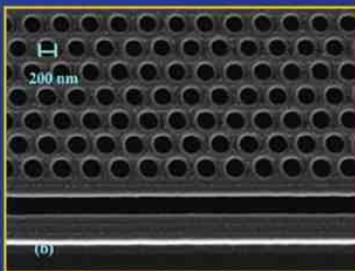
2009 International Nano-Optoelectronics Workshop

Co-Chairs:

Connie Chang-Hasnain
Dieter Bimberg
Lars Thylen

University of California, Berkeley
Technical University of Berlin
Royal Institute of Technology, Stockholm

USA
Germany
Sweden



Stockholm, Sweden and Berlin, Germany - August 2-15, 2009

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A MESSAGE FROM THE CO-CHAIRS

*Welcome - Välkommen - Willkommen - 欢迎 - 歡迎 - 歡迎 -
Bienvenue - Recepción - Добро пожаловать - 환영 - स्वागत !!!*



Professor
Connie Chang-Hasnain
University of California
Berkeley



Professor
Dieter Bimberg
Technical University of Berlin



Professor
Lars Thylen
Royal Institute of Technology
Stockholm

We warmly welcome you to the International Nano-Optoelectronics Workshop (iNOW) held in Stockholm, Sweden and Berlin, Germany. The primary objective of this workshop is to provide a forum for nano-photonics researchers from universities and institutes worldwide to present their latest results in nano-optoelectronics research, as well as a networking platform for the nano-optoelectronics community to develop a roadmap for future development in photonics.

The iNOW program features an outstanding series of lectures by internationally recognized scientists and industrial leaders as well as poster sessions for participating students to present and discuss their own research results. With 30 technical sessions (15 at Stockholm and 15 at Berlin), one business and career related rump session, two Nobel sessions (one at Stockholm and one at Berlin), and five poster sessions (2 at Stockholm and 3 at Berlin), iNOW covers an extraordinarily large scope of multidisciplinary research in nano-optoelectronics and their applications.

The iNOW mission is to establish bridging and networking opportunities for students, researchers and engineers from photonics industries. A unique part of iNOW is a schedule with ample amount of time for interaction, discussion and cultural experiences. The poster sessions at Stockholm and Berlin will enable the work of young scientists to reach an influential audience at international level. Special tours of Royal Institute of Technology and the Nobel and Wasa Museums of Stockholm have also been arranged for the participants. Excursions to unique Stockholm archipelago, an open air concert night at the castles of Potsdam and visit to the Pergamon Museum and Brandenburg Gate in Berlin will provide additional opportunities for interactions among attendees. The rump session will surely provide plenty of opportunities for close interactions with leaders in the field. We expect exhilarating discussions, invigorating debates and many interesting informal exchanges, which will hopefully stimulate future collaborations and spark new ideas for technology breakthroughs.

We would like to express our gratitude to all invited speakers, students and researchers for their participation and contributions. We want to acknowledge the generosity of Laytec GmbH, Osram Opto Semiconductors GmbH, PBC Lasers GmbH, SENTECH GmbH and u2t AG for their support of the Best Poster Awards. Finally, we thank the support and sponsorship of National Science Foundation, DARPA, University of California Berkeley's Nanoscience and Nanoengineering Institute (BNNI), DFG via SFB 787 "Semiconductor NanoPhotonics" and its integrated graduate school, EU via its FP 7 STREP "VISIT", the Technical University of Berlin, ECOC 2004 Foundation, KTH, Acreo, Vinnova, the Swedish Foundation for Strategic Research as well as the Swedish Scientific Council.

We hope you will enjoy the lectures and the social events, and take advantage of the unique workshop format to establish collaboration and exchange ideas with colleagues from all over the world. Have a great time at this workshop in Stockholm and Berlin!

Connie Chang-Hasnain University of California Berkeley, USA
Dieter Bimberg Technical University of Berlin, Germany
Lars Thylen Royal Institute of Technology (KTH), Sweden

International Nano-Optoelectronics Workshop

iNOW 2009

Stockholm (2-8 Aug 2009) and Berlin (8-15 Aug 2009)

Program Overview

Sunday, August 2 (Grand Hotel, Saltsjöbaden, Stockholm)

18:00-20:00 Registration and Reception (Grand Hotel, Saltsjöbaden, Stockholm)

Monday, August 3 (Grand Hotel, Saltsjöbaden, Stockholm)

08:00-08:45 Registration

09:00-09:15 **Opening Ceremony, Stockholm**
(Chairs: Lars Thylen and Dieter Bimberg)

Connie Chang-Hasnain: welcome

09:15-10:00 **Nobel Session**
Sune Svanberg (University of Lund)

10:00-10:30 Tea & Coffee Break

10:30-12:00 Session **MoA1**: Q-Dot-based devices I (Chair: Dieter Bimberg)

Yasuhiro Arakawa (University of Tokyo)

Pallab Bhattacharya (University of Michigan)

12:00-13:00 Lunch

13:00-14:30 Session **MoA2**: Nanostructures I (Chair: Günther Bauer)

Lars Samuelson (University of Lund)

Connie Chang-Hasnain (UC Berkeley)

14:30-15:00 Tea & Coffee Break

15:00-16:30 **Poster Session 1** (Chair: Yasuhiko Arakawa, 30P x 3min)

16:30-18:00 Poster Viewing

19:00-21:00 Dinner

Tuesday, August 4 (Grand Hotel, Saltsjöbaden, Stockholm)

08:00-08:30 Registration

08:30-10:00 Session **TuA1**: Applications I (Chair: Peter Delfyett)

Tingye Li (ATT Labs, retired)
Alan Willner (U Southern California)

10:00-10:30 Tea & Coffee Break

10:30-12:00 Session **TuA2**: Plasmonics (Chair: Min Qiu)

Alex Bratkovski (Hewlett-Packard Laboratories)

Thomas Ebbesen (Université de Strasbourg)

12:00-13:00 Lunch

13:00-14:30 Session **TuA3**: High Speed Devices I (Chair: Pallab Bhattacharya)

Yi Luo (Tsinghua University)
Urban Westgren (KTH Stockholm)

14:30-15:00 Tea & Coffee Break

15:00-16:30 Session **TuA4**: Commercialization of Photonics (Chair: Ivan Kaminow)

Norbert Lichtenstein (Bookham Zürich)
Carsten Schmidt-Langhorst (Heinrich Hertz Institut Berlin)

- 16:30-18:00 Session **TuA5**: Future Development in Photonics (Chair: Shun-Lien Chuang)
Eli Yablonovich (UC Berkeley)
David Payne (University of Southampton)
- 19:00-21:00 Barbeque dinner at Saltsjöbaden

Wednesday, August 5 (Grand Hotel, Saltsjöbaden, Stockholm)

- 08:00-08:30 Registration
- 08:30-10:00 Session **WeA1**: GaN- Based Devices (Chair: Jürgen Christen)
Oliver Ambacher (Fraunhofer IAF Freiburg)
Nicolas Grandjean (EPF Lausanne)
- 10:00-10:30 Tea & Coffee Break
- 10:30-12:00 Session **WeA2**: Microcavity I (Chair: Gunnar Björk)
Alfred Forchel (University of Würzburg)
Yasuo Kokubun (Yokohama National University)
- 12:00-13:00 Lunch
- 13:00-14:30 Session **WeA3**: Applications II (Chair: Yasuo Kokubun)
Gunnar Björk (KTH Stockholm)
Jens Buus (Gayton Photonics Ltd)
- 14:30-16:00 **Poster Session 2** (Chair: Yi Luo, 30P x 3min)
- 16:00-17:30 Poster Viewing
- 18:00-21:30 Dinner and boat tour
- 21:30-22:00 Transportation to Stayat Hotel in Kista

Thursday, August 6 (KTH, Kista)

- 08:00-08:30 Registration
- 08:30-10:00 Session **ThA1**: Nanostructures II (Chair: Lars Thylen)
Peter Delfyett (University of Central Florida)
Günther Bauer (University of Linz)
- 10:00-10:30 Tea & Coffee Break
- 10:30-12:00 Session **ThA2**: Lasers I (Chair: Yi-Dong Huang)
Fumio Koyama (Tokyo Institute of Technology)
Markus Amann (TU Munich)
- 12:00-13:00 Lunch
- 13:00-17:00 Visit to Royal Institute of Technology (KTH)
- 17:30-21:00 Visit to the Nobel Museum and dinner in the Old Town

Friday, August 7 (KTH, Kista)

- 08:00-08:30 Registration
- 08:30-10:00 Session **FrA1**: Photonic Crystals I (Chair: T. P. Lee)
Toshihiko Baba (Yokohama National University)
Min Qiu (KTH Stockholm)
- 10:00-10:30 Tea & Coffee Break
- 10:30-12:00 Session **FrA2**: Physics I (Chair: Yong-Hee Lee)
Gadi Eisenstein (Technion Haifa)
Shun-Lien Chuang (University of Illinois)
- 12:00-13:00 Lunch
- 13:00-14:30 Session **FrA3**: Photonic Crystals II (Chair: Toshihiko Baba)
Yi-Dong Huang (Tsinghua University)
Yong-Hee Lee (KAIST, Seoul)
- 14:30-16:30 **Rump Session 1**: Key elements for success

Organizers:

Ivan Kaminow (UC Berkeley)
Tien Pei Lee (Bellcore, retired)
Tingye Li – Chair (AT&T, retired)

18:00-22:00 Exhibition of the world famous 17th century warship Vasa, with a buffet at the museum

Saturday, August 8

06:30 Bus transfer to Arlanda airport
06:30-16:00 Flight to Berlin (departure 08:25 Stockholm / Arlanda; arrival 10:00 Berlin)
18:00-22:00 Welcome party in the Eugene Wigner building of the TU-Berlin

Sunday, August 9

10:00-18:00 Boat tour to Lakes and Castles in Brandenburg and Berlin,
Grill party at Schwielowsee, Visit of Castle Cecilienhof, Potsdam
20:00-22:00 Dinner

Monday, August 10 (Berlin)

08:00-08:45 Registration
08:45-09:00 **Opening Ceremony, Berlin** (Chair: Dieter Bimberg and Lars Thylen)
Johann Köppel, Vice President for Research: Welcome
09:00-10:30 **Nobel Session** (Chair: Dieter Bimberg)
Klaus von Klitzing (MPIF Stuttgart)
10:30-11:00 Tea & Coffee Break
11:00-12:30 Session **MoB1: Q-Dot-based devices II** (Chair: Nicolas Grandjean)
Dieter Bimberg (TU Berlin)
Dennis Deppe (University of Central Florida)
12:30-13:30 Lunch
13:30-15:00 Session **MoB2: Physics II** (Chair: Connie Chang-Hasnain)
Eli Yablonovitch (UC Berkeley)
Oliver Benson (Humboldt University Berlin)
15:00-16:30 **Poster Session 3** (Chair: Axel Hoffmann 30P x 3min)
16:30-18:00 Poster Viewing
20:00-22:00 Dinner

Tuesday, August 11 (Berlin)

08:00-08:30 Registration
08:30-10:00 Session **TuB1: Solar Cells I** (Chair: Hans Queisser)
Lars Podlowski (Solon AG Berlin)
James Harris (Stanford University)
10:00-10:30 Tea & Coffee Break
10:30-12:00 Session **TuB2: Photonics** (Chair: Dennis G. Deppe)
Chih-Chung Yang (National Taiwan University)
Ming Wu (UC Berkeley)
12:00-13:00 Lunch
13:00-14:30 Session **TuB3: Novel Devices I** (Chair: Ming Wu)
Yoshiaki Nakano (University of Tokyo)
Eckehard Schöll (TU Berlin)
14:30-15:00 Tea & Coffee Break
15:00-15:45 Session **TuB4: Novel Devices II** (Chair: Michael Kneissl)
Cun-Zheng Ning (Arizona State University)

15:45-17:15 **Poster Session 4** (Chair: Ivan Kaminow, 30P x 3min)
17:15-19:00 Poster Viewing
20:00-22:00 Dinner

Wednesday, August 12 (Berlin)

08:00-08:30 Registration
08:30-10:00 Session **WeB1**: GaN-Based Devices II (Chair: Günther Tränkle)
Bo Monemar (Linköping University)
Michael Kneissl (TU Berlin)
10:00-10:30 Tea & Coffee Break
10:30-12:00 **Poster Session 5** (Chair: T. Li, 30P x 3min)
12:00-13:00 Lunch
13:00-14:30 Poster Viewing
14:30-15:15 **Hermann Parzinger**: Short introduction to German History and the History of Museum Island
15:15-18:30 Visit of Reichstag, Museum Island, Pergamon Museum, Brandenburg Gate
18:30-22:00 Free evening in the scenic parts of Berlin and free Dinner

Thursday, August 13 (Berlin)

08:00-08:30 Registration
08:30-10:00 Session **ThB1**: Nanostructures III (Chair: Markus Weyers)
Vladimir Dubrovskii (Ioffe Institut St. Petersburg)
Pei-Cheng Ku (University of Michigan)
10:00-10:30 Tea & Coffee Break
10:30-12:00 Session **ThB2**: Applications III (Chair: Yongzhen Huang)
Dave Miller (Stanford University)
Harald Rohde (Nokia Siemens Networks Munich)
12:00-13:00 Lunch
13:00-14:30 Session **ThB3**: High Speed Devices II (Chair: Chih-Chung Yang)
Anders Larsson (Chalmers University Göteborg)
Zhangyuan Chen (Peking University)
14:30-15:00 Break
15:00-16:30 Session **ThB4**: Laser II (Chair: Yoshi Nakano)
Nikolai Ledentsov (VIS GmbH Berlin)
Jesper Mork (Technical University of Denmark)
17:30-22:00 Visit of and Banquet at the Wasserwerk Berlin - Best Poster Award Ceremony

Friday, August 14 (Berlin)

08:00-08:30 Registration
08:30-10:00 Session **FrB1**: Industry Forum I: The future of lighting and short wavelength lasers (Chair: Jürgen Christen)
Christian Fricke (OsramOS Regensburg)
Mike Krames (Philips Lumileds San Jose)
Alois Krost (University of Magdeburg)
10:00-10:30 Tea & Coffee Break
10:30-12:00 Session **FrB2**: Solar Cells II (Chair: James Harris)
Hans Queisser (MPIF Stuttgart)
Antonio Luque (Universidad Politécnica de Madrid)
12:00-13:00 Lunch
13:00-14:30 Session **FrB3**: Microcavity II (Chair: Anders Larsson)
Yongzhen Huang (Institute of Semiconductors CAS)

Lars Thylen (KTH Stockholm)
14:30-15:00 Break
15:00-16:30 Session **FrB4**: Modelling (Chair: Dieter Bimberg)
Vitali Shchukin (PBC GmbH Berlin)
Uwe Bandelow (Weierstrass Institute Berlin)
17:30-23:30 Night of the Castles at Potsdam and symphony concert - Adam Fischer and the Austrian-Hungarian Haydn Orchestra - soloist: Sol Gabetta (violoncellist) - (departure sharp)

Saturday, August 15 (Berlin)

08:00-11:00 Departure