

Alain Chardon

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EDUCATION

Executive Education Advanced Certificate Program: July 2013
Management of a Business Unit / Profit Centre
HEC School of Management, HEC Paris, France.

Ph.D. in Physics, University of Rennes, Lannion, France. December 1996

D.E.A. (Master of Science) in Electronics and Optronics, September 1993
University of Rennes, Lannion, France.

EXPERIENCE

MECAWAVE, Lannion, France October 2012 to July 2013
Project developer
Aborted start-up project, mainly due to lack of finances

- Follow-up of Ideoptics developments for “on the fly” and fast laser marking and engraving of « dotmatrix » traceability codes and laser micro-perforation of thin films and packagings.
- Development of new concepts for wireless communicating low power consumption sensors applications.
- Technology and competition watch; Market research.

IDEOPTICS S.A.S., Lannion, France January 2010 to August 2012
CEO | CTO | Co-founder
Young Innovative SME, created in 2010 and liquidated in July 2012 due to lack of access to finance, in order to pursue the industrialization of the technology

✓ Technologies: - Multi-Dot-Scan™ high-speed laser scanhead; elected “best photonic innovation” by the professional visitors at OPTO 2011; 3 patents;
- proprietary 2D traceability codes and reader (co- development with sylde.net (<http://cv.sylde.net/fr/>))

- Project initiator and leader within Emergys, Brittany regional business incubator (2010 to 2012).
- Co-inventor of the Multi-Dot-Scan™ scanning technology (3 patents).
- Operational management (financial accounting and administrative co-management).
- Business financing.
- Management charts, business plans, prospective budgets, monitoring and control; P&L responsibility.
- Technical Management.
- Development and management of the technological roadmaps.
- Suppliers management (Europe, Canada).
- Management of preliminary collaborative development projects with German and Swiss companies in the area of high speed laser material processing applications.
- Management of the IP; Technology maturation and Patent writing.
- Technology and competition watch; Market research.
- Marketing and Sales Management.
- Company branding (logos, trademarks, visual identity).
- Writing of Marketing and Sales documentation, Press release (trade fairs, media), Executive Summaries.
- Organization of trade fairs (OPTO, Laser World of Photonics) and commercial prospecting (Europe).
- Built a strong expertise in scan head technology and laser material processing technologies.

BREIZHTECH S.A.S., Lannion, France

December 2008 to October 2009

R&D Director

Young Innovative SME, created in 2005 and liquidated in October 2009.

✓ Technologies: Innovative laser video projector

- Management of a multidisciplinary team (mechanics, electronics, optics, laser engineering and software).
- Scientific and technical monitoring of R&D programs as well as supervising new products developments.
- Management of a collaborative project with CEA [<http://www.cea.fr/>] (development of a LIBS scanner).
- Development of OEM components (with the aim to put them rapidly to the market, rather than putting more money in costly and less mature integrated systems).
- Development and management of the technological roadmaps.
- Writing of activity and progress reports within Futurim@ge project framework (pôle Images & Réseaux).
- Submission of projects in response to call for proposals from French ANR [<http://www.agence-nationale-recherche.fr/en/>] and RAPID financing system [<http://www.ixarm.com/Projets-d-innovation-duale-RAPID>].
- Market analysis; Intellectual Property watch.
- Writing of Marketing and Sales documentation, Press release (trade fairs), Executive Summaries.
- Seek of industrial and sales partnerships as well as private investors.
- Undertaken steps to gather investors to resume the company activity after its liquidation (Sept. to Nov. 2009).

GENEWAVE S.A.S. Palaiseau, France

February 2003 to November 2008

(today subsidiary of **Mobidiag Oy/Ltd**), <http://www.genewave.com/>

Industrialization and Production Manager | Quality Assurance Manager

Biotech company created in 2001

✓ Technologies: innovative microarray instruments and consumables for life science and molecular diagnostics in different fields

Industrialization and Production Activity

- Research, audit, validation and control of the suppliers panel (Europe, USA) - mechanics, electronics, plastics processing, design, microscope slides, surface chemistry, thin-film coating, integrators.
- Negotiation and control of industrialization and production costs, delays, quality, continuous improvements and correctives actions.
- Internal and external planning of the production.
- Quality Control of products: set up and realization of means of controls and instrumentations for the qualification, certification and manufacturing control of products.
- Implementation of microarray substrates production facility (clean room).
- Product traceability, inventory management, logistic: set-up and administration of the supply-chain management system.
- Regulation of products; 61000, 61326-1, 61326-2 EMC standards, 61010-1, 61010-2-101 safety standards and 60825-1 laser standard; MIL-O-13830 optical glass specifications; IEC 60601-1 medical electric equipment safety requirements.
- Direct purchasing for prototypes and pre-production series manufacturing and supervision of integrators supply chain.
- Writing, in both French and English, of all technical documents related to products (design, definition, qualification, certification, industrialization, manufacturing, quality control,...; instruction handbooks, user manuals, operating instructions and technical instructions).
- Recruitment of the production staff.
- Training of engineering and technicians apprentices.

Quality Assurance Activity

- Set-up of quality assurance plans for R&D/industrialization/production programs in the context of ISO 9000-2001 certification.

R&D Activity

- Development of dielectric and metallic mirrors on glass and silicon surfaces, as well as surface chemistry (silanization) on dielectric and metallic surfaces (amplifying microarrays manufacturing process).

Other Activities

- Technology and competition watch.
- Implementation of company's first web site (2003 to 2006).

OPTOELECTRONICS RESEARCH CENTER

June 2000 to January 2003

University of Southampton, Southampton, UK

<http://www.orc.soton.ac.uk>*Researcher*

One of the world's leading institutes for photonics research

- Developed laser sources for spectroscopy applications (public and military contracts).
- Responsible for the spectroscopy and materials characterization laboratory (visible, IR and mid-IR spectra).
- VIS-IR spectroscopy of rare-earth ions in LaF₃, Ga:La:S materials.
- Characterization of Ga:La:S fibers for sensor applications.
- Developed a large bandwidth IR spectroscopy, HPVee controlled instrument.
- Developed and mastered following laser technologies: waveguide lasers, high power fiber lasers using passively Q-switches and OPOs.
- Mastered spectroscopy techniques such as Judd-Ofelt analysis, lifetimes and gain measurements; developed Mathcad libraries dedicated to the calculations of these parameters.
- Supervision of PhD students.

F.E.E. GmbH, Idar-Oberstein, Germany

December 1998 to December 1999

<http://www.fee-io.de/>*Laser Scientist*

Manufacturer of laser crystals and nonlinear optical crystals

- Initiated and led a research and development program on CW and passively Q-switched compact solid-state lasers emitting in the infrared, visible and UV spectrum (Marie-Curie Research Funding).
- First designed and developed efficient 946 nm Q-switched Nd:YAG/Cr:YAG microchip lasers using a Monolithic Crystal Assembly (MCA).
- First designed and developed 236.5 nm compact pulsed laser source from a passively Q-switched 473 nm microchip laser (SHG via a BBO crystal) (application: detection of real diamonds from fake diamonds).
- Collaborated with other optoelectronic organizations, designing and developing new diode-pumped compact solid-state lasers for material processing (plastic marking of traceability codes), and instrumentation (spectroscopy in agronomy and diamond industry).
- Set up and realized means of controls and instrumentations for quality control tests (optical characterization) of produced laser and non-linear crystals sold to laser manufacturers and research institutions.
- Manufactured Monolithic Crystal Assemblies using optical contact techniques.
- Commercial activity (participation in trade fairs such as Laser World in Photonics, Munich).
- Started to build a business project in the field of compact diode-pumped solid state lasers for biomedical instrumentation, metrology and physical analysis (January 2000 to May 2000).

SWANSON SCHOOL of ENGINEERING, Pittsburgh, USA

August 1997 to November 1998

<http://www.engineering.pitt.edu/>*Researcher*

- Performed an experimental study on laser diode-pumped Er-Yb glass laser range finders for Contraves Brashear Systems LP (today L-3com, <http://www2.l-3com.com/ios/>), Pittsburgh, PA, U.S.A. (work funded by the National Network for Electro-Optics Manufacturing Technology (NNEOMT), an American defense program).
- Evaluated performances of porro-prism, BBO electro-optic and U:CaF₂ passive Q-switches, and optimized the detection system, allowing the company to reduce manufacturing costs of their laser range finders and to choose the Q-switch technology of the next lasers generation.
- Advised the company on new technologies for compact high repetition rate, high average power, eye-safe laser using diode-pumped crystals.
- First demonstrated BBO electro-optical Q-switching of a diode-pumped Er-Yb glass laser with a voltage reduction by a factor of five to eight below the full hold-off voltage with comparable output performances, and explained this behavior as the seeding of the Q-switched laser pulse by low-level long-mode lasing.

UNIVERSITY of RENNES, E.N.S.S.A.T., Lannion, France

December 1996 to August 1997

<http://www.enssat.fr/>

Assistant lecturer

- Developed and completed an experimental study on the optimization of blue/green CW Nd:YAG/KNbO₃ microchip lasers in collaboration with F.E.E. GmbH, Germany (<http://www.fee-io.de/>).
- Advised F.E.E. GmbH on the manufacturing of a demonstration CW blue fiber coupled diode-pumped microchip laser prototype.
- Developed a training course on Fiber Optics Communications for Electronics and Computer engineers.
- Organized and taught lectures in Optics and Physics for Optronics engineers.

C.N.R.S., E.N.S.S.A.T., FOTON Laboratory, Lannion, France

January 1994 to November 1996

<http://foton.cnrs.fr/v2012/>

Research Assistant

- Initiated and performed theoretical and experimental research on diode-pumped solid-state microchip lasers.
- First demonstrated bipolarization and multi-wavelength operation in a diode pumped Nd:YVO₄ microchip laser.
- Developed theoretical calculations on transverse mode formation and pump size optimization in microchip lasers.
- First demonstrated that pump saturation effects have to be taken into account in the optimization of the output power in microchip lasers.
- First demonstrated polarization switching of a diode-pumped Er-Yb glass microchip laser submitted to a polarized optical feedback (work funded by France Telecom, France).
- Completed a study on polarization dynamics in erbium-doped fiber lasers.

UNIVERSITY of RENNES, E.N.S.S.A.T., Lannion, France

September 1995 to June 1996

Graduate Teacher

- Taught lectures in Wave Propagation in Guiding Media for Optronics engineers.
- Organized and taught Optics-related Experiments for Optronics engineers.

ALCATEL OPTRONICS, Lannion, France

March 1993 to June 1993

Product Development Engineer

- Assisted the technical team responsible of fiber products manufacturing.
- Completed an experimental study on the optimization of optical coupling between semiconductor laser and pigtailed fibers used in terrestrial and submarine long distance networks.
- Built microlenses on fibers and built thin-film anti-reflection coatings on these microlenses (PVD process).

AFFILIATION

Photonics Bretagne Cluster

January 2011 to present

<http://photonics-bretagne.com/en/>

German-French Business Club Rennes Bretagne

Coming up

http://www.themavision.fr/jcms/rw_246052/cafa-rennes-bretagne-deutsch

PUBLICATIONS

List of publications, conference presentations and technical reports available at <http://bit.ly/14e390X>.

PATENTS

Reflective System, France WO2012069707A1

Optical System, France 1254204

Optical System, France 1254205