

3D-OXIDES FOUNDERS



CHRISTIAN PETIT CEO

(Mechanics, vacuum and other production equipment)

Christian Petit is 3D-Oxides President and co-founder and “President Directeur Général” of Socrate Industrie, a SME founded in 2008 involved in design and mechanical assembly of equipment for production (thin-films bio-medical, etc...). He is actively collaborating with ABCD technology since 2007. Previously he has been project leader for thin film deposition vacuum equipment development and production for Adamant Technologies (2007-2008) and Vacotec (2004-2007). He has developed a wide experience for CVD, CBE, arc and magnetron sputtering and other PVD (Physical Vapor Deposition) equipment both for production and research. In 2003-2004 he has been responsible of the industrialization department for cost optimization and also has been involved in the R&D department of DIXI a company developing machining equipment production. He also has been involved in equipment development in SFOM a company developing special machining equipment from 1994 to 2003.



PhD GIACOMO BENVENUTI CTO

(CBE, thin films, business developer, conceptual modeling)

Dr. Giacomo Benvenuti is CTO of 3D-Oxides, the founder of ABCD Technology Sàrl (2006), co-founder of Socrate Industry (2008) companies. He also participated in building cases studies for entrepreneurship lectures to be used jointly by IMD and EPFL chair of entrepreneurship.

He received a diploma in experimental physics in 1996 at the Milan University of Physics, and accomplished his Ph.D. thesis at the Institute of Applied Optics in EPFL in 2003 where he developed the technologies of ABCD and 3D-Oxydes. He acted as the scientific internal coordination of 2 FP6 European projects as a consultant in ABCD Technology (2006-2009). Previously (2005-2007), he was involved as a scientist at R&B energy, a company involved in thermal solar panels development, where he was responsible of technology intelligence and panel efficiency measurements. He held a 50% position as a post-doc in EPFL (wettability modeling) for 1 year and in parallel was involved in technology Intelligence within an international consulting company in the field of materials (2003) as a consultant. Before carrying out his PhD he also has been involved as a scientific consultant for ST Microelectronics (Agrate) and SAES Getters (1996). His main interests are in thin film growth and relative equipment, business development, technology intelligence, and complex strategy and/or models/rule systems building whether applied to science or to business. He is today in charge of developing new teams and activities based on 3D-Oxides platform and results.



PhD ESTELLE WAGNER

(CVD and CBE, optics, chemistry, thin films, math. modeling)

Estelle graduated in 1997 with a Chemist Engineer Diploma from the « Ecole Nationale Supérieure de Chimie de Montpellier », France and a Master in chemistry with material science specialization from the « University of Kent at Canterbury », UK.

After a Master diploma from the “Institut Européen des Membranes” in 1998 where she worked on TiO₂ thin film deposition by plasma Chemical Vapour Deposition, she carried out her PhD diploma at the Ecole Polytechnique Fédérale de Lausanne, Switzerland, on thin film laser induced Chemical Vapour Deposition till 2002. She then worked as post-doc on thin Transparent Conductive Oxide thin film structuring and silanized SiO₂ structured film wettability. She joined ABCD Technology in 2006 as R&D engineer, working on Chemical Beam Vapor Deposition (CBVD) equipment development, and then 3D-Oxides in 2009 looking at CBVD process development.



PhD COSMIN SANDU

(Materials, thin films, CBE, lasers and plasma, characterizations techniques)

Silviu Cosmin SANDU is 41 years old and has a PhD in materials science. After finishing his graduate studies in Physics he obtained a masters degree in Optical Techniques and Laser and Plasma Technologies at the University of Bucharest in 1997. In 2003 he obtained a PhD degree in condensed matter at the University Lyon 1 in France. Since 2003 he has worked as a researcher in the Thin Films Laboratory and in the Ceramics Laboratory at Polytechnic School in Lausanne (EPFL). Since 2010 he has worked as an engineer for 3D-Oxides, a company oriented in developing processes for complex oxide thin films deposited by CBD. From 2012 he co-founded 3D-Laser, a start-up developing laser-beam structuring of thin films during CBD. He has acquired a great deal of experience in deposition techniques (Pulse Laser Deposition, Plasma Vapor Deposition, Sol-Gel and Chemical Beam deposition) and physical characterization of thin films (e.g. metallic carbides, nitrides and oxides), that has been his research field for more than 13 years. In particular, he has special abilities in the field of structural characterization (TEM, XRD) of complex materials at the nanoscale. He has published more than 60 papers in peer-reviewed scientific journals. In addition to his scientific qualities he is a good communicator and develops constructive relationships with his colleagues.



GILLES LINDECKER

(Management, finances)

Gilles Lindecker is the founder of GPS Ingenierie and Artemisia Perspectives SA and PDG of these companies (2005). He has also been member of the administration counsel and CTO of Systema SA (2007-2008). Previously Gilles has been PDG of Polysoft Consulting SA (1984-2006) while being the strategic director at CERN (1978-2005). With diploma in Statistics and mathematics, Gilles Lindecker has been involved also in teaching scientific laboratory management in US universities.



CRISTOFORO BENVENUTI
(Materials, vacuum, cryogenics, energy)

Cristoforo Benvenuti graduated in Physics in 1963 with a thesis in the field of elementary particles. After a fellowship at the Joint Research Center of Ispira, he joined CERN in 1966 to work in the field of Vacuum Technology. Until 1980 he carried out various studies on different subjects, such as condensation cryo-pumping, UHV and XHV pressure measurements, getter pumping. In the early 70s he developed an interest for Solar Energy applications which materialized in the construction of an evacuated flat solar panel prototype which was extensively and successfully tested over about 9 years. After the approval of the Large Electron Positron collider (LEP) project at CERN, he proposed and implemented the pumping system of this machine, based on non-evaporable getter technology. This solution was since widely adopted for particle accelerators. During the same period he took care of the innovative development of the radiofrequency superconducting accelerating cavities (made of copper and internally sputter-coated with a thin film of niobium) which have been used in the second phase of the project for the energy upgrade of this machine to over 100 GeV. These contributions to the LEP project were acknowledged by the award of the 1998 European Prize for Achievement and Innovation in the Accelerator Field, of the European Physical Society. After the approval of the Large Hadron Collider (LHC) project at CERN, he proposed and developed a new pumping technique which relies on non-evaporable getter thin films sputter-coated on the inner walls of a vacuum chamber. This technique, protected by patents, was adopted for the room temperature long straight sections of this machine, for a total length of about 7 Km. For these achievements, C. Benvenuti was honored, in 2002, by the attribution of the “Gaede-Langmuir Award”, the most prestigious prize of the American Vacuum Society. After retiring from CERN, in 2005, he launched a private Company aimed at commercializing the solar panel developed 30 years before now under commercialization.



Paul Muralt,
Swiss Federal Institute of Technology EPFL, Lausanne, Switzerland

Paul Muralt is currently adjunct Professor at Swiss Federal Institute of Technology EPFL at Lausanne, Switzerland. He leads a group in piezoelectric thin film, MEMS, and nanotechnology activities at the Ceramics Laboratory of the Materials Science Institute. He has studied solid-state physics and accomplished a PhD work in incommensurate structures at the Swiss Federal Institute of Technology ETH in Zurich. From 1984 to 1986, he was post-doctoral fellow at the IBM Research Laboratory in Zurich, where he pioneered the application of scanning tunneling microscopy to the imaging of the electrical surface potential (STP). After a stay at the Free University of Berlin, and several years as manager in a thin film coating tool company, he joined EPFL in 1993. His main competences are in piezoelectric thin film processing of perovskite ferroelectrics and polar films such as AlN, in combination with piezoelectric micro and nano devices, covering particularly ultrasonic applications in the MHz to GHz range. More recent works also deal with oxygen ion conductors for micro solid oxide fuel cells. As teacher, he gives lectures in thin film deposition, micro and nanotechnology, surface analysis and basic ceramics for engineers. He authored or co-authored more than 200 scientific articles, which are cited over 5'000 times in total. He is IEEE Fellow, and member of the Materials Research Society, and the American Ceramic Society. He was co-chair of the MRS spring meeting 2008, co-organized three MRS or E-MRS symposia, and was also member of program committees of the specialized ferroelectric meetings ISAF 2007, ISIF 2008, and IFCS 2010.

GIAN CARLO TORRE



(Medecine, surgery, physiopathology)

Gian-Carlo Torre is the director of a simulation medicine centre in Genova. He was full professor in surgery in the Genova University (1992-2012) where he is teaching General Surgery, Pediatric and Gynecological surgery, Endocrine-surgery, Medicine of Work, and Digestive apparatus surgery. He has been president of the Medecine faculty in Genova (2008-2012) and was previously vice-president (1994 and 2002). He is also director of the teaching boards of Medecine and surgery departments since 2002 and of the operative unit of surgery of San Martino Hospital, one of the largest in Europe. Gian Carlo Torre has also been vice president of the “Società Italiana di Endocrinochirurgia”, member of the executive board of the “Società Italiana di Fisiopatologia Chirurgica” and President of the “Società Ligure di Chirurgia”. Gian Carlo Torre is author of more than 300 publications many of them in the field of physiopathology, diagnosis and therapy of endocrine diseases and participated as chairman in more than 300 congresses.



ANGELA TESTI

(Health economics)

Full time Associate Professor of Political Economy (SECS P02) in the School of Economics, University of Genova, Italy, Department of Economics and Business Sciences. Main Current Teaching Activity is held in the University of Genova, where Prof Testi holds classes of Microeconomics and Health Economics and Policy in the School of Economics & Social Science, School of Medicine and School of Bioengineering. Her main academic appointments are: Regional Committee for the Health Technology Assessment Network; Board of Fondazione Carige (Bank Trust); Managerial Formation for National Health System Directors, University of Genova and Regione Liguria; Academic Senate, University of Genova (until 2010); National Commission for the Genetics in the National Health Service, Health Ministry; National Observatory for e-care, Health Ministry (until 2009); Committee for Social Development, Municipality of the City of Genova (until 2008); Committee for Health Research Funding, Italian Ministry of Health (until 2002).

In last ten years, she was national or local responsible of many research projects about Estimating costs and public expenditure for elderly people; Appropriateness of drug prescription and e-prescribing; Optimization of the logistic processes of patients in the Operating Rooms; Copayment: equity and efficiency issues; Clinical pathways: new patient centered organizational and management models; Identifying tariffs based on casemix for Emergency Medical Services; Payment models of hospital activity; Swalis, Surgery Waiting List Info System; Market mechanism for healthcare delivery. She is member of many scientific Italian and international scientific societies and member of the editorial committee and referee of Journal of Health economics and Operational Research. Since 2000, her main research area is health economics, with particular reference to quantitative empirical applications, prioritization and equity issues (waiting list, resource allocation), efficiency and quality in healthcare delivery, mainly referred to surgical facilities, nursing homes and home care. In the last 5 years she is author of about 90 publications in the field of Health Economics, most of them of international relevance.