**CURRICULUM VITAE**

**Dr. Nikolaos Vourdas**

**Dipl. Chemical Engineer, MSc, Ph.D.**

**Dipl. Economist**

**General Information-Education**

Nikolaos Vourdas (NV) is a formally trained chemical engineer, with expertise in materials and processes engineering. Most of his research and work experience serves surface engineering, materials processing and micro/nano fabrication for various applications. Now, as a senior Research Associate he is more focused on tasks related to Technology Transfer and Project Managment.

NV holds a M.Eng. in Chemical Engineering (2001), a MSc in Materials Science and Technology (2003), **as first in his class**, both from [National Technical University of Athens (NTUA)](http://www.chemeng.ntua.gr/). He also holds a B.Eng. in Economics (2009) from [University of Athens (UoA)](http://www.econ.uoa.gr/). He completed his PhD Thesis (2007) in [National Center for Scientific Research Demokritos (NCSR D)](http://www.demokritos.gr/) and [NTUA](http://www.chemeng.ntua.gr/), **as a 4-year NCSR D PhD fellow** on plasma processing of polymers for micro-fabrication and surface modification. **His PhD won the Best Doctoral Thesis award in NTUA for 2007**.

**Research Interests**

NV research interests are within the field of Materials and Processes Engineering. During the last period he has worked on:

* Study and control of wetting phenomena on porous surfaces and membranes for oil-water separations, novel fluidic devices, viscous fluid transportation, and ice-accretion protection.
* Environmentally friendly, sustainable surface processing methods, including plasma processing, chemical and physical vapor deposition, towards reaching an enhanced performance of the above-mentioned applications.
* Two major energy-related activities: (i) Materials and testing for thermal protection of blades, namely Thermal Barrier Coatings, at high temperatures for energy production and (ii) Materials and coatings for sustainable heat recovery and energy conversion; in particular for corrosion protection of metallic surfaces for phase-change heat exchange at low temperatures and at extremely corrosive environments.
* Ultra-thin metal oxides and sulphides films or decorations, with controlled stoichiometry and porosity for various application including catalysis, optoelectronics, and tribology and energy production.
* Development of environmentally friendly, REACH compliant, special processes for aircraft technology, and for surface preparation and corrosion protection of new generation Al-alloys.

**Professional Experience – Research, Industrial**

He has worked in many research projects in the field of thin films, surface engineering, and micro/nano technology, as well as in industrial research projects in the field of Aluminum surface processing for painting and adhesive bonding.

After the end of his doctoral studies and compulsory military service NV joined [Hellenic Aerospace Industry (HAI)](http://www.haicorp.com/) for 15 months as on-contract Research Engineer. He developed Super-Hydrophobic coatings as self-anti-icing passive medium and he completed full lab-scale experimental studies on chromate-free anodizing of Al substrates. After that he has completed additional research projects with [HAI](http://www.haicorp.com/) for the development of environmentally friendly anodizing processes complying to REACH.

From 2002 he is working, also, in the field of metallic constuctions (steel and aluminum) as trainee in vocational programs for Aluminum Construction Technicians with more than 2000h of teaching and as cerification engineer for CE-marking. From 2015 and forth he is a member of the [Scientific committee](https://issuu.com/profilnet/docs/profil-98/62) of [Panhellenic Federation of Craftsmen in Aluminium & Metal Constructions (POVAS)](http://povas.gr/). During 2019, he is working on the development of the updated Occupational Profile of the Aluminum Construction Technician and the respective curriculum to reach [EQF](https://ec.europa.eu/ploteus/el/node/1440) 5, within the European Project [METVET](https://www.metvet.eu/).

He has earned a **fellowship from**[**State Scholarship Foundation**](https://www.iky.gr/en/) in 2010 and conducted his PostDoc studies in [NCSR D](http://www.demokritos.gr/). From 2010 to 2011 he also participated a research project for the development and testing of a Lab-On-Chip platform for DNA multiplication by polymerase chain reaction (PCR) and analysis, towards Point-of-Care diagnostics.

Then he moved to [Technological Education Institute of Sterea Ellada (TEISTE)](http://lcmt.teiste.gr/) and worked for the FP7-funded research project ["THEBARCODE"](http://www.cordis.europa.eu/project/rcn/106457_en.html), towards the development of Thermal Barrier Coatings. Being in the same Institute he earned a **Grant from**[**John S. Latsis Public Benefit Foundation**](http://www.latsis-foundation.org/eng/education-science-culture/science/grants/all/2015/fabrication-and-characterization-of-integrated-pneumatic-component-for-liquid-flow-control-in-microfluidics), to develop low cost valves for porous microfluidics. From 2016 until today he participates to the H2020-funded research project ["I-ThERM"](http://cordis.europa.eu/project/rcn/198373_en.html) as a research associate.

In 2017 he earned a **Grant from**[**Stavros Niarchos Foundation**](http://www.snf.org/) and has joined [NCSR D](http://www.demokritos.gr/) as an Industrial Adjunct Researcher.

**Teaching Experience**

[2016-2019] PostGraduate Course “Integrated systems for energy production and storage”, [DESMES MSc Program](http://desmes-ee.teiste.gr/), [TEISTE](http://www.lcmt.teiste.gr/).

[2016-2019] UnderGraduate Course “Electronics”, [Dept. of Electrical Engineering](http://ee.teiste.gr/), [TEISTE](http://www.lcmt.teiste.gr/).

[2016-2017] UnderGraduate Course “Applications of Materials for Electrical Engineers”, [Dept. of Electrical Engineering](http://ee.teiste.gr/), [TEISTE](http://www.lcmt.teiste.gr/).

[2010-2014] UnderGraduate Course “Materials Technology”, [Dept. of Aircraft Technology](http://aero.teiste.gr/), [TEISTE](http://www.lcmt.teiste.gr/).

[2010-2014] UnderGraduate Course “Chemistry and Materials Technology”, [Dept. of Mechanical Engineering](http://www.teihal.gr/mec/), [TEISTE](http://www.lcmt.teiste.gr/).

**Distinctions**

[2017] Grant from the [Stavros Niarchos Foundation](http://www.snf.org/)

[2014] Grant from the [John S. Latsis Public Benefit Foundation](http://www.latsis-foundation.org/eng/education-science-culture/science/grants/all/2015/fabrication-and-characterization-of-integrated-pneumatic-component-for-liquid-flow-control-in-microfluidics).

[2013] [Second prize in Applied Research of the competition](http://www.demokritos.gr/Contents.aspx?lang=gr&CatId=975&View=18) "Greece innovates (I Ellada kainotomei)", from [SEV (Hellenic Federation of Enterprises)](http://www.sev.org.gr/).

[2010] Fellowship for Post Doctoral studies, from the [State Scholarships Foundation](http://www.iky.gr/).

[2007] [Best Doctoral Thesis Award](http://www.chemeng.ntua.gr/dep/boudouvis/2010-05-26_477914_SX_AP_12.pdf) of the year 2007 in [NTUA](http://www.ntua.gr/).

[2003] First among the graduating class (45 students) of 2003 in [MSc](http://mse.ntua.gr/) ([NTUA](http://www.ntua.gr/)).

[2002-2006] Fellowship for PhD studies ([NCSR D](http://www.demokritos.gr/)).

**Published work**

He has authored/co-authored 40 peer-reviewed articles in scientific journals, 1 book chapter, and more than 100 conference papers. He earns totally more than [1500 citations](http://scholar.google.com/citations?user=OzRQnPYAAAAJ&hl=en). His [h-index is 20](http://scholar.google.com/citations?user=OzRQnPYAAAAJ&hl=en). He has also filed two international patents.