

## Europass Curriculum Vitae

### Personal information

Surname(s) / First name(s) **Christodoulou Christodoulos**  
 Telephone(s) (357) 22431355  
 Fax(es) (357) 22438234  
 E-mail(s) eng.cc@fit.ac.cy  
 Website www.frederick.ac.cy  
 Nationality(-ies) Cypriot

### Education

Dates1	Sept 1987 – May 1990
Title of qualification awarded2	<b>Ph.D. in Metallurgical Engineering &amp; Materials Science</b>
Name of awarding institution3	<b>Carnegie-Mellon University, Pittsburgh, PA, USA</b>
Key features4	Advanced chemical thermodynamics in materials, Materials engineering & properties, Phase transformations, Structures, Preparation and characterisation of materials, Powder metallurgy, Rapid solidification, Hydrogen technologies (HDDR), Amorphous, nano-, micro-crystalline materials
Dates1	Jan 1985 – May 1987
Title of qualification awarded2	<b>M.Sc. Chemical Engineering</b>
Name of awarding institution3	<b>Kansas State University, Manhattan, KS, USA</b>
Key features4	Advanced momentum, heat and mass transfer, Binary and ternary phase diagrams, Metals, Ceramics and Composites, Semiconductors, Preparation and characterisation (XRD, VSM, TMA, Microscopy) of Magnetic materials, Processing of strong permanent magnets, Powder metallurgy
Dates1	Sep 1979 – July 1984
Title of qualification awarded2	<b>Diploma (5 year course of study) in Chemical Engineering (equivalent to M.Sc.)</b>
Name of awarding institution3	<b>Aristotle University of Thessaloniki, Polytechnic School of Thessaloniki, Thessaloniki, Greece</b>
Key features4	Physical and chemical thermodynamics, Momentum, heat and mass Transfer, Inorganic and organic chemistry, Reaction engineering, Unit operations (adsorption, distillation etc), Process and control optimisation, Techno-economical studies, Catalysts for hydrogen gasification of lignite

### Work experience

Dates	June 1995 – Present
Occupation or position(s) held6	<b>2007 –</b> : Dept. of Mechanical Engineering, Frederick University, Professor (INVPR) <b>2003 –</b> : Hystore Technologies, Senior Researcher Consultant <b>2000 – 2003:</b> Associate Professor, Department of Mechanical Engineering, FIT <b>1995 – 2000:</b> Adjunct Associate Professor, Department of Mechanical Engineering <b>1995 – 2003:</b> Frederick Research Center
Main activities and responsibilities7	Expert of Renewable Energy Sources & H <sub>2</sub> , Metal Hydrides. Lecturing in deferent universities. Teaching of Materials courses (Introduction to Materials, Materials Technology and Properties, Alternative Energy Sources, Introduction to Oil & Gas)

## Academic Profile

Dates	April 2006 – April 2008
Occupation or position(s) held <sup>6</sup>	University of Western Macedonia, Kozani, Greece
Main activities and responsibilities <sup>7</sup>	Visiting Senior Researcher Performing research, lecturing and Transferring of Knowledge on metal hydrides, modelling and simulation of hydrogen absorption/desorption in Metal Hydride Tanks (MHT)
Dates	Sept 1990 – May 1995
Employer Name <sup>5</sup>	Central Research Institute of Mitsubishi Materials Corporation, Omiya, Saitama, JAPAN
Occupation or position(s) held <sup>6</sup>	Lecturer & Research Associate in the Central Research Institute of Mitsubishi Materials Corporation
Main activities and responsibilities <sup>7</sup>	Lecturing on experimental techniques, materials science and processing, Supervision of new researchers, Setting materials research laboratories, Research on new magnetic materials (Sm-Fe-N, Nd-Fe-B) and processing (Hydrogen technologies, HDDR, Rapid solidification, Powder metallurgy), Metal hydrides for hydrogen storage and Ni-MH rechargeable batteries, Producing over 20 scientific publications and 10 patents
Dates	Jan 1987 – May 1990
Employer Name <sup>5</sup>	Department of Metallurgical Engineering & Materials Science, Carnegie Mellon University, Pittsburgh, PA, USA
Occupation or position(s) held <sup>6</sup>	Teaching and Research Assistant
Main activities and responsibilities <sup>7</sup>	Thermodynamics, Physical Metallurgy, Materials science, Laboratories and Supervision of students, Homework and test grading, Research on magnetic materials, Materials processing and characterisation, Experimental techniques (XRD, VSM, TMA, SEM)
Dates	Jan 1985 – May 1987
Employer Name <sup>5</sup>	Department of Chemical Engineering/Physics, Kansas State University, Manhattan, KS, USA
Occupation or position(s) held <sup>6</sup>	Teaching and Research Assistant
Main activities and responsibilities <sup>7</sup>	Thermodynamics, Laboratories and Supervision of students, Homework and test grading, Research on magnetic materials, Materials processing and characterisation, Experimental techniques (XRD, VSM, TMA Optical Microscopy)
Dates	Jan 1981 – May 1984
Employer Name <sup>5</sup>	"TITAN" Cement Industry, Thessaloniki, Greece Hellenic Sugar Industry, Thessaloniki, Greece "SODAP" Wine Industry, Paphos, Cyprus
Occupation or position(s) held <sup>6</sup>	Practicing engineer
Main activities and responsibilities <sup>7</sup>	Daily Chemical Analysis of Cement, Production of crystalline sugar, grape sampling and characterisation

	<p><b>Professional Organisations<sup>8</sup></b></p> <p>Member of the Technical Chamber of Cyprus (ETEK)  Member of "The Minerals, Metals and Materials Society" (TMS)  Member of the "Hellenic Hydrogen Association"  Full member of "The Scientific Research Society" Sigma Xi</p>
<p><b>Awards<sup>9</sup></b></p>	<p>2001 Appreciation Award for significant contribution in R&amp;D, FIT, Cyprus  2000 Appreciation Award for significant contribution to the successful accreditation of FIT, Cyprus  2000 Major contribution to Frederick Research Center in obtaining the prestigious "Innovation &amp; Creativity Award 2000" by the Employers and Industrialists Federation of Cyprus (OEB), Cyprus  1987-1990 Scholarship for graduate studies at Carnegie-Mellon University, USA  1985-1997 Scholarship for graduate studies at Kansas State University, USA  1980-1984 Award from the Labor Ministry of Greece, for excellent university student performance</p>
<p><b>Professional Contribution<sup>10</sup></b></p>	<p>EU Expert Evaluator  Reviewer of papers for International Scientific Journals: Journal of Materials Science, Journal of Physics D: Applied Physics  Coordinator of GRMAGNET (GReek MAGnetic NETwork) in Cyprus</p>
<p><b>Service to the Community<sup>11</sup></b></p>	<p>Human Resource Development Authority of Cyprus, Responsible person  "The Cyprus Journal of Science and Technology", Member of the Editorial Board  Frederick Research Center, Member of Research Committee  Presentation about RES&amp;H<sub>2</sub> to the Sixth Elementary School of Saint Stylianos, Lakatamia, October 18, 2007  Presentation about RES&amp;H<sub>2</sub> to the Panagia Faneromeni Elementary School in Nicosia, December 3, 2007  Presentation on "Energy and Alternative Sources", School of Cyprus Consumers Association, University of Nicosia, February 7, 2012</p>
<p><b>Publications</b></p> <p>Doctoral Dissertation</p> <p>M.Sc. Thesis</p> <p>Diploma Thesis</p> <p>Refereed Publications</p>	<p>"Magnetic and Metallurgical Characteristics of the Pr-Co-B Ternary System", Department of Metallurgical Engineering &amp; Materials Science, Carnegie-Institute Of Technology, Carnegie-Mellon University, Pittsburgh, PA, USA, 1990</p> <p>"Fabrication of Mm(Dy)-Fe-B Sintered Permanent Magnets", Department of Chemical Engineering, Kansas State University, Manhattan, KS, USA, 1987</p> <p>"Catalysts for the Hydrogen-Gasification of Lignite", Department of Chemical Engineering, Polytechnic School of Thessaloniki, Aristotle University of Thessaloniki, Greece, 1984</p> <ol style="list-style-type: none"> <li>1. N.G. Anagnostou, S.S. Makridis, E. S. Kikkinides, <u>C.N. Christodoulou</u> and A.K. Stubos, "Synthesis and Characterization of TiFe<sub>0.7-x</sub>Mn<sub>0.3</sub>V<sub>x</sub> (x=0.05, and 0.1) and Ti<sub>1-y</sub>Ta<sub>y</sub>Fe<sub>0.7</sub>Mn<sub>0.3</sub> (y=0.2, and 0.4) Nanostructured Metal Hydrides for Low Temperature Applications" accepted for publication in the <i>Journal of Nanoscience and Nanotechnology</i>, 2013</li> <li>2. Marios Odysseos, Patricia De Rango, <u>Chris N. Christodoulou</u>, El Kebir Hlil, Theodore Steriotis, George Karagiorgis, Georgia Charalambopoulou, Theodoros Papapanagiotou, Asem Ampoumogli, Vassilis Psycharis, Evangelos Koultoukis, Daniel Fruchart and Athanassios Stubos, "The Effect of Compositional Changes in the Structural and Hydrogen Storage Properties of (La-Ce)Ni<sub>5</sub> Type Intermetallics towards compounds suitable for Metal Hydride Hydrogen Compression", accepted for publication in the <i>J. Alloys Comp.</i>, 2013</li> <li>3. Chasos, C. A., Karagiorgis G. N. and <u>Christodoulou, C. N.</u> "Diesel internal combustion engine emissions measurements for methanol-based and ethanol-based biodiesel blends". Proceedings of the Power Options for the Eastern Mediterranean Region POEM 2012 Conference, 19-21 November 2012, Limassol, Cyprus</li> </ol>
<p>Page 3</p>	<p>For more information go to <a href="http://europass.cedefop.eu.int">http://europass.cedefop.eu.int</a>  © European Communities, 2003</p>

4. C. A. Chasos, C. N. Christodoulou and G. N. Karagiorgis, "CFD simulations of multi-hole Diesel injector nozzle flow and sprays for various biodiesel blends". Proceedings of ICLASS 2012, 12th Triennial International Conference on Liquid Atomization and Spray Systems, September 2-6, 2012, Heidelberg, Germany.
5. C. A. Chasos, E. I. Ioannou, A. E. Kouroufexis, Chris N. Christodoulou, P. M. Artemi and G. N. Karagiorgis, "Biofuels production and testing in Internal Combustion Engines", The 3<sup>rd</sup> International Conference on Renewable Energy Sources and Energy Efficiency, May 19-20, 2011, Nicosia, Cyprus.
6. Nikos D. Hatziargyriou, Antonis G. Tsikalakis, Evaggelos Karfopoulos, Thomai K. Tomtsi, George Karagiorgis, Christodoulos Christodoulou and Andreas Poullikkas, "Evaluation of virtual power plant (VPP) operation Based On Actual Measurements", Proceedings of the 7th Mediterranean Conference and Exhibition on Power Generation, Transmission, Distribution and Energy Conversion, MedPower 2010, November 7-10, 2010, Adams Hotel, Agia Napa, Cyprus.
7. Charalambos A. Chasos, George N. Karagiorgis, Chris N. Christodoulou "Utilisation of solar thermal power plants for hydrogen production and application in the transportation sector", Proceedings of the 7th Mediterranean Conference and Exhibition on Power Generation, Transmission, Distribution and Energy Conversion, MedPower 2010, November 7-10, 2010, Adams Hotel, Agia Napa, Cyprus.
8. Chris N. Christodoulou, George N. Karagiorgis, Andreas Poullikkas and Nikos Karagiorgis, "'Green' Hydrogen Production, Purification and Storage from Renewable Energy Sources (RES) with the use of a Stand-alone PV/Wind system", Proceedings of the Conference on the promotion of Distributed Renewable Energy Sources in the Mediterranean region (DISTRES 2009), December 11-12, 2009, Hilton, Nicosia-Cyprus
9. Charalambos Chasos, George N. Karagiorgis and Chris N. Christodoulou, "Solar/thermal power plants: Thermodynamics, efficiency, technical and economical feasibility of combined thermal and solar power systems at Mediterranean areas", Proceedings of the Conference on the promotion of Distributed Renewable Energy Sources in the Mediterranean region (DISTRES 2009), December 11-12, 2009, Hilton, Nicosia-Cyprus
10. Chasos, C. A., Karagiorgis G. and Christodoulou, C., "Utilisation of solar/thermal power plants considered as the heart of the production of hydrogen - the renewable fuel of the future". Proceedings of the Conference on the promotion of Distributed Renewable Energy Sources in the Mediterranean region (DISTRES 2009), December 11-12, 2009, Hilton, Nicosia-Cyprus.
11. Chris N. Christodoulou, George N. Karagiorgis, Andreas Poullikkas and Nikos Karagiorgis, "Renewable Energy Sources (RES) electricity storage in the form of "green" hydrogen", Proceedings of Deregulated Electricity Markets Issues in South-Eastern Europe (DEMSEE 2008), September 22-23, 2008, Hilton, Nicosia-Cyprus
12. A. Pervez, Chris N. Christodoulou, G. Karagiorgis, A. Poullikkas and S. S. Makridis, "Fuel Cell Technologies and H<sub>2</sub>/Fuel Cell Automobiles", *TCJST*, **5(1)** (2006) 46-79
13. S. S. Makridis, Ch. Christodoulou, Th. A. Steriotis, M. Konstantakou, M. Daniil, E. S. Kikkinides and A. K. Stubos, "Intermetallic hydrides based on (Zr-Ti)(Fe-Cr)<sub>2</sub> type of compounds", Trans Tech Publications Ltd., Switzerland, Materials Science Forum **Vols. 514-516** (2006), pp. 666-671
14. E. Varkaraki, N. Lymberopoulos, E. Zoulias, E. Kalyvas, Chris N. Christodoulou, G. Karagiorgis, and K. Stolzenburg, "Experiences from the operation of a wind-hydrogen pilot unit", Proceedings of the 16<sup>th</sup> World Hydrogen Energy Conference, Lyon, France, June 13-16, 2006
15. S. S. Makridis, Ch. Christodoulou, M. Konstantakou, Th. A. Steriotis, M. Daniil, A. Ioannidou, E. S. Kikkinides and A. K. Stubos, "Composite intermetallic AB<sub>2</sub>-type and AB<sub>5</sub>-type of compounds for hydrogen absorption/desorption", to be published in the Proceedings of the 16<sup>th</sup> World Hydrogen Energy Conference, Lyon, France, June 13-16, 2006 (only abstract)
16. E. Varkaraki, N. Lymberopoulos, E. Zoulias, E. Kalyvas, Chris N. Christodoulou, P. Vionis and P. Chaviaropoulos, "Integrated wind-hydrogen systems for wind parks", to be published in the Proceedings of the EWEC, Athens, Greece, February 27 - March 2, 2006
17. S. Hadjiyiannis, Chris N. Christodoulou, G. N. Karagiorgis, O. Kalogirou, Ch.. Sarafides, D. Niarchos, M. Gjoka, K. Michaelides, A. Kasoli-Fourmaraki, S. S. Makridis and E. Pavlidou, "Metal-bonded magnets for high temperature applications", *TCJST*, **5(1)** (2006) 104-136
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- developers", EHEC 2005 '2nd European Hydrogen Energy Conference', Zaragoza, Spain, 22-25 November 2005
20. S. S. Makridis, Chris N. Christodoulou, E. Pavlidou, M. Konstantakou, Th. A. Steriotis, M. Daniil, A. Ioannidou, E. S. Kikkinides, and A. K. Stubos, "Structural, microstructural, magnetic and hydrogenation properties of the intermetallic materials  $Zr(Fe_{1.6}Cr_{0.4})$  και  $Zr_{0.95}Ti_{0.05}(Fe_{1.6}Cr_{0.4})$ ", *Proceedings of the 2<sup>st</sup> National Conference on Hydrogen Technologies*, October 20-22, 2005, EKETA, Thessaloniki-Greece
  21. E. Varkaraki, E. Zoulias, N. Lymberopoulos, G. Karagiorgis, Chris N. Christodoulou and E. Kalyvas, "First results on the production of hydrogen from wind energy", *Proceedings of the 2<sup>st</sup> National Conference on Hydrogen Technologies*, October 20-22, 2005, EKETA, Thessaloniki-Greece
  22. S. S. Makridis\*, Chris N. Christodoulou, M. Konstantakou, Th. A. Steriotis, M. Daniil, A. Ioannidou, E. S. Kikkinides, E. Pavlidou and A. K. Stubos, "Hydrogen storage material based on  $LaNi_5$  type of compounds", *Proceedings of the XXI Panhellenic Conference in Solid State Physics and Materials Science*, August 28-31, 2005, Nicosia-Cyprus (only abstract)
  23. E. Kalyvas, N. Lymberopoulos, E. Varkaraki, E. Zoulias and Chris N. Christodoulou, "Hydrogen as an alternative product of Wind Energy Technologies", *Proceedings on the 3<sup>rd</sup> National Conference on RES Applications-Perspectives and Priorities towards the goal of 2010*, February 23-25, 2005, Athens-Greece
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  29. N. Lymberopoulos, E. Varkaraki, E. Zoulias, G. Karagiorgis, Chris N. Christodoulou and E. Kalyvas, "Hydrogen production from RES" *Proceedings of the 1<sup>st</sup> National Conference on Hydrogen Technologies*, September 30-October 2, 2004, Athens-Greece
  30. Chris N. Christodoulou, G. Karagiorgis, M. Menikou, A. Poullikkas and N. Karagiorgis, "Green hydrogen production, storage and  $H_2$ /fuel cell electricity production: On-going projects in the island of Cyprus", *Proceedings of the International conference on (RES) Renewable Energy Resources for islands*, Larnaca, Cyprus, 30-31 August. 2004
  31. K. Stolzenburg, R. Stenberger-Wilckens, E. Varkaraki, N. Lymberopoulos, E. Zoulias, E. Kalyvas, Chris N. Christodoulou and G. Karagiorgis, "Integration of Intermittent Renewable Energy Sources using Hydrogen: System Development and Market Opportunities", *The International German Hydrogen Energy Congress 2004*, February 11-12, 2004, Essen-Germany
  32. N. Lymberopoulos, E. Varkaraki, E. Zoulias, E. Kalyvas, Chris N. Christodoulou and G. Karagiorgis, K. Stolzenburg and A. Poullikkas, "Integration of Renewable Energy Sources (RES) into isolated energy systems using hydrogen", Poster presentation in the 14<sup>th</sup> World Hydrogen Energy Conference, June 9-13, 2002, Montreal, Canada
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- of Zr-Al Alloys", *Proceedings of the Advanced Materials for Industrial Applications*, Aristotle University of Thessaloniki, 20-27 June 1999, Kavalla, Greece, p.313-319
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