

Curriculum Vitae

Vassiliki C. Belessi

I. Personal Data

Date/Place of Birth: October 2, 1971 / Athens
Office Address : Department of Graphic Design and Visual Communication, Section Technology of Graphic Arts, University of West Attica, Aigaleo Park Campus, Agiou Spyridonos Street, 12243, Egaleo Athens, Greece
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II. Education

2005-2007 Master of Science in Chemistry, University of Ioannina, Department of Chemistry. Thesis title: "Synthesis, characterization of TiO₂ nanocomposite catalysts and their applications in heterogeneous photocatalytic degradation of organic pollutants for development of antipolluting technologies".
1995 - 2000 PhD Thesis in Chemistry, University of Ioannina, Department of Chemistry. Thesis title: "Synthesis, characterization and catalytic action of perovskites containing iron".
1990 - 1995 Bachelor in Chemistry, University of Ioannina, Department of Chemistry.

III. Research and Teaching Appointments

2020- Associate Professor at the Department of Graphic Design and Visual Communication, Section Technology of Graphic Arts, University of West Attica. (Printing Substrates-Theory/Lab, Materials of Graphic Arts-Theory/Lab, Sustainability and Environmental Protection Technologies in Graphic Arts).
2010-2019 Assistant Professor at the Department of Graphic Design, Section Technology of Graphic Arts, Technological Educational Institution (TEI) of Athens.
2004-2010 and 2014-2018 Research Associate, Institute of Materials Science N.C.S.R "Demokritos". Adjunct Professor (General and Organic Chemistry/Lab) in the TEI of Athens, in the TEI of Pireus (Chemical Technology/Lab, Environment/Theory) and in ASPETE (Chemical Technology/Lab).
2002-2010

IV. Other Professional Experience

2005-2006 Chemist in the Research and Trading Company of nanotechnology products "Nanovive S.A."
2000-2003 Head of Production Process in the manufacturing industry of Printed Circuit Boards "METELCO S.A."

V. Participation in Scientific Projects

1. PENED 95 "Novel mesoporous materials for technological and environmental applications" 01/05/96-28/02/98 (General Secretariat for Research & Technology. Ministry of Development Greece (GRST)-Greece).
2. EAKE University of Ioannina "Development of novel microporous materials with pillaring of layered aluminosilicate materials with $\text{AlO}_x\text{-REO}_y$ " (01/10/96-30/09/97).
3. EOK (TMR Network: Contract ERB 4061-PL95-1357) "Mechanisms of the formation of ordered mesoporous inorganic materials from organized molecular assemblies" (01/10/98-31/08/99).
4. ΠΕΝΕΔ 99-5 "Development of novel composite ceramic materials for solid oxide fuel cells" 01/01/00-30/04/00 (GRST-Greece).
5. "Development of dimetallic nanocatalytic systems Ag-Pt and Ag-Rh for the reduction of NO and the decomposition of N_2O in low temperatures" (01/09/2004-30/11/04) (GRST-Greece).
6. "Novel applications of aluminosilicates for clean environment" (01/12/2004-30/04/05) (GRST-Greece).
7. "Synthesis, characterization and applications of graphene oxide and nanocomposite graphitic film for sensor" (01/10/2006-30/11/06) (GRST-Greece).
8. "Development of visible light active nanostructured photocatalysts for the cement industry" (01/05/07-31/03/2008) (GRST-Greece).
9. "Innovative clothes from peach textile with eco convention". Acronym "IBDPTEC". This research has been co-financed by the European Union and Greek national funds through the Operational Program Competitiveness, Entrepreneurship and Innovation, under the call RESEARCH – CREATE – INNOVATE (Project Code: T2EDK-00084).

VI. Coordinator in Scientific Projects

1. "Development of water based conductive inks based on graphene for gravure and flexography printing" Acronym "GRAPHEIN" (08/07/18-07/07/21) This research has been co-financed by the European Union and Greek national funds through the Operational Program Competitiveness, Entrepreneurship and Innovation, under the call RESEARCH – CREATE – INNOVATE (Project Code: T1EDK-02093).
2. "Development of water based conductive printing inks for Printed Electronics" (08/10/15-31/03/17) This research has been co-financed by the Special Account for Research Grants of the TEI of Athens, in the framework of the Internal Programme for the Support of the TEI of Athens Researchers for 2015.

VII. Publications

23 articles in scientific journals and **1** Chapter in Book which have been cited more than 1000 times (excluding self citations), *h*-factor: **15** (Scopus). Mean journal impact factor: **5.264**
10 articles in conference proceedings.

A. Referred Publications in International Journals

1. V.C. Belessi, P.N. Trikalitis, A.K. Ladavos, T.V. Bakas and P.J. Pomonis "Structure and catalytic activity of $\text{La}_{1-x}\text{FeO}_3$ system ($x=0.00, 0.05, 0.10, 0.15, 0.20, 0.25, 0.35$) for the $\text{NO} + \text{CO}$ reaction" *Applied Catalysis A: General*, 177 (1) (1999) 53-68.
2. V.C. Belessi, C.N. Costa, T.V. Bakas, T. Anastasiadou, A.M. Efstathiou and P.J. Pomonis "Catalytic behavior of La-Sr-Ce-Fe-O mixed oxidic/perovskitic systems for the $\text{NO} + \text{CO}$ and $\text{NO} + \text{CH}_4 + \text{O}_2$ (lean NO_x) reactions" *Catalysis Today* 59 (3) (2000) 347-363.
3. V.C. Belessi, T.V. Bakas, C.N. Costa, A.M. Efstathiou and P.J. Pomonis "effects of crystal phases and mixed valences in La-Sr-Ce-Fe-O mixed oxidic/perovskitic solids on their catalytic activity for the $\text{NO} + \text{CO}$ reactions" *Applied Catalysis B: Environmental* 28 (1) (2000) 13-28.
4. V.N. Stathopoulos, V. Belessi, S. Neofytides, P. Falaras, C. Costa, A. Efstathiou and P.J. Pomonis "Catalytic activity of high surface area mesoporous Mn-based mixed oxides for the deep oxidation of methane and lean- NO_x reduction" *Stud.Surf.Sci.Catal.*, 130B (2000) 1529-1534.
5. V.C. Belessi, A.K. Ladavos and P.J. Pomonis "Methane combustion on La-Sr-Ce-Fe-O mixed oxides: bifunctional synergistic action of SrFeO_{3-x} and CeO_x phases" *Applied Catalysis B: Environmental* 31 (3) (2001) 183-194.
6. V. Stathopoulos, V.C. Belessi, A.K. Ladavos "Samarium based high surface area perovskite type oxides $\text{SmFe}_{1-x}\text{Al}_x\text{O}_3$ ($x=0.00, 0.5, 0.95$). Part I, Synthesis and characterization of materials" *React.Kinet.Catal.Lett.* 72 (2001) 43-48.
7. V. Stathopoulos, V. Belessi, A.K. Ladavos "Samarium based high surface area perovskite type oxides $\text{SmFe}_{1-x}\text{Al}_x\text{O}_3$ ($x=0.00, 0.5, 0.95$). Part II, Catalytic combustion of CH_4 " *React.Kinet.Catal.Lett.* 72 (2001) 49-55.
8. V.C. Belessi, A.K. Ladavos, G. Armatas and P.J. Pomonis "Kinetics of methane oxidation over La-Sr-Ce-Fe-O mixed oxide solids" *Phys.Chem.Chem.Phys.*, 3 (17) (2001) 3856-3862.
9. C.N. Costa, V.N. Stathopoulos, V. Belessi, and A. Efstathiou "An investigation of the $\text{NO}/\text{H}_2/\text{O}_2$ (lean-de NO_x) reaction on a highly active and selective $\text{Pt}/\text{La}_{0.5}\text{Ce}_{0.5}\text{MnO}_3$ catalyst" *J. of Catalysis* 197 (2) (2001) 350-364.
10. C.N. Costa, P.G. Savva, C. Andronikou, P.S. Lambrou, K. Polychronopoulou, V. C. Belessi, V.N. Stathopoulos, P.J. Pomonis and A. Efstathiou "An investigation of the $\text{NO}/\text{H}_2/\text{O}_2$ (Lean De- NO_x) Reaction on a Highly Active and Selective $\text{Pt}/\text{La}_{0.7}\text{Sr}_{0.2}\text{Ce}_{0.1}\text{FeO}_3$ Catalyst at Low Temperatures" *J. of Catalysis* 209 (2) (2002) 456-471.
11. D.S. Tsoukleris, I.M. Arabatzis, E. Chatzivasiloglou, A.I. Kontos, V. Belessi and P. Falaras "2-Ethyl-1-hexanol based screen printed titania thin films for dye sensitized solar cells" *Solar Energy* 79 (4) (2005) 422-430.
12. V. Belessi, D. Lambropoulou, I. Konstantinou, A. Katsoulidis, P. Pomonis, D. Petridis and T. Albanis "Structure and photocatalytic performance of TiO_2/clay nanocomposites for the degradation of dimethachlor as model organic pollutant" *Applied Catalysis B: Environmental* 73(3-4) (2007) 292-299.
13. V. Belessi, R. Zboril, J. Tucek, M. Mashlan, V. Tzitzios and D. Petridis "Ferrofluids from magnetic-chitosan hybrids" *Chemistry of Materials* 20(10) (2008) 3298-3305.

- 14.D. Stamopoulos, P. Bouziotis, D. Benaki, P. Ziropoulos, K. Kotsovassilis, V. Belessi, V. Dalamangas and K. Papadopoulos "Nanobiotechnology for the prevention of Dialysis-related amyloidosis" Therapeutic apheresis and dialysis 13(1) (2009) 34-41.
- 15.V. Belessi, D. Lambropoulou, I. Konstantinou, R. Zboril, J. Tucek, D. Jancik, T. Albanis and D. Petridis "Structure and photocatalytic performance of magnetically separable titania photocatalysts for the degradation of propachlor" Applied Catalysis B: Environmental 87 (3-4) (2009) 181–189.
- 16.K. Kluchova; R.Zboril; J. Tucek; M. Pecova, L. Zajoncova, I. Safarik; M. Mashlan; I. Markova, D. Jancik, M.Sebea; H. Bartonkova; V. Bellesi, P. Novak, D. Petridis "Superparamagnetic maghemite nanoparticles from solid-state synthesis as peroral MRI contrast agent and carrier for trypsin immobilization" Biomaterials 30 (2009) 2855–2863.
- 17.V. Belessi, G. Romanos, N. Boukos and C. Trapalis "Removal of Reactive Red 195 from aqueous solutions by adsorption on the surface of TiO₂ nanoparticles". Journal of Hazardous Materials 170 (2-3) (2009) 836-844.
- 18.V.N. Stathopoulos, V. C. Belessi, T. V. Bakas, S. G. Neophytides, C.N.Costa, P.J.Pomonis and A. Efsthathiou "Comparative Study of La-Sr-Fe-O perovskite-type oxides prepared by ceramic and surfactant methods over the CH₄ and H₂ lean-deNO_x" Applied Catalysis B: Environmental 93(1-2) (2009) 1-11.
- 19.N. Tzikalos, V. Belessi and D. Lambropoulou "Photocatalytic degradation of Reactive Red 195 using anatase/brookite TiO₂ mesoporous nanoparticles: Optimization using response surface methodology (RSM) and kinetic studies" Environmental Science and Pollution Research 20(4) (2013) 2305-2320.
- 20.A. Koutsoukis, V.Georgakilas, V. Belessi, R.Zboril "Highly conductive water based polymer/graphene nanocomposites for applications in printed electronics" Chemistry - A European Journal 23(34) (2017) 8268-8274.
- 21.F. Karamolegou, M. Dasenaki, V. Belessi, V. Georgakilas & N. Thomaidis "Multi-Residue Determination of 7 β -Agonists in Liver and Meat Using Gas Chromatography-Mass Spectrometry" Food Analytical Methods. DOI:10.1007/s12161-018-1278-y
- 22.Vassiliki Belessi, Vasilios Georgakilas, Dimitrios Petridis, Theodoros Steriotis, Konstantinos Spyrou, George Manolis, Vassilis Psycharis "Simultaneous reduction and surface functionalization of graphene oxide for highly conductive and water dispersible graphene derivatives" SN Applied Sciences (2019) 1:77. DOI: 10.1007/s12161-018-1278-y
- 23.A. Koutsouki, V. Belessi, V. Georgakilas "Fluorescent carbon dots ink for gravure printing" C 2019, 5, 12; This article belongs to the Special Issue "Recent Advances in Carbon Dots" doi:10.3390/c5010012.

B. Referred Proceedings of International Conferences

1. Vassiliki Belessi, Dimitra Lambropoulou, Ioannis Konstantinou, Radek Zboril, Jiri Tucek, Dalibor Jancik, Triantafyllos Albanis and Dimitris Petridis. "Structure and photocatalytic performance of magnetically separable titania photocatalysts for the degradation of propachlor". 5th European Conference on Pesticides and Related Organic Micropollutants in

- the Environment and the 11th Symposium on Chemistry and Fate of Modern Pesticides, Marseille, 22 -25 October 2008.
2. V. Belessi, V. Georgakilas, D. Petridis, S. Nomikos "Graphene, a new class of materials for printing inks" Conference Proceedings, 46th Annual International Conference on Graphic Arts and Media Technology Management and Education, Athens and Corinthia, Editors A. Politis and C. Gatsou, p. 227-235, 2014.
 3. V. Belessi, D. Petridis, M. Baikousi, V. Georgakilas and Th. Steriotis "Reduction of Graphene Oxide with aliphatic and aromatic amines for electrically conductive materials" International Conference 'Science in Technology' SCinTE 2015, November 5-7, 2015, Athens Greece.
 4. Stamatina Theohari, Diana Tsimis, Ainta Michailidou, Vassiliki Belessi, Spyridon Nomikos "Development of new printing inks for flexible packaging applications" 4th CIDAG – International Conference in Design and Graphic Arts, October 26-28, 2016 Barcelona, Spain.
 5. Vassiliki Belessi, Niki Karouta, Eleni Thomou, Apostolis Koutsioukis, Giorgos Vlahopoulos, Apostolos Enotiadis, Konstantinos Spyrou, Theodore Steriotis and Vasilis Georgakilas "Development of special inks for advanced printing applications" 5th CIDAG –International Conference in Design and Graphic Arts, October 24-26, 2018 Lisboa, Portugal.
 6. Vassiliki Belessi, Vasilios Georgakilas, Dimitrios Petridis, Theodoros Steriotis, Spyridon Nomikos "Conductive inks with applications to functional printing" Hyphen 2018.
 7. Spyridon Nomikos, Vassiliki Belessi, Athina Moutzouri, Maria-Georgia Nomikou, Agape Papageorge "Printed communication. Near Field Communication (NFC) technology as a new dynamic medium for graphic communication". Hyphen 2018.
 8. A. Koutsioukis, G. Bakali, V. Belessi, V. Georgakilas "Printing with carbon nanohybrids" 13th PAINTS SYMPOSIUM, Research and Technology of Paints, Varnishes & Inks. Building a lasting Future, N.T.U.A., 15-16 Μαΐου 2018.
 9. A. Koutsioukis, V. Belessi, V. Georgakilas "Ag–Graphene Hybrid Conductive Ink for Printed Electronics" accepted for publication in proceedings book of 3rd International Printing Technology Symposium (PrintIstanbul) 2019, 10 – 12 October 2019, Istanbul, Turkey.
 10. V. Belessi, G.K. Manolis, G. Vlahopoulos, Th. Philippakopoulou, Th. Steriotis, A. Koutsioukis, V. Georgakilas "Gravure and flexography printing of highly conductive reduced graphene oxide inks" Proceedings book of 3rd International Printing Technology Symposium (PrintIstanbul) 2019, 10 – 12 October 2019, Istanbul, Turkey.

C. Chapters in Books

1. V. Belessi and D. Petridis "Modified and non-modified TiO₂ nanoparticles for environmental applications" Chapter 13 in "The role of colloidal systems in environmental protection", under the editorship of M. Farnum, 1st edition, Elsevier, 2014.

D. Selected Presentations in Conferences

1. V.C. Belessi and P.J.Pomonis. "Catalytic activity of La_{1-x}FeO_{3±λ} perovskites for the NO + CO reaction" page 382. EUROPACAT-III Congress, Kraków, Poland, 31.VIII.- 6.IX. 1997.

2. V.C. Belessi, T.V. Bakas, C.N. Costa, T. Anastasiadou, A. M.Efstathiou and P.J. Pomonis. "Catalytic Behaviour of La-Sr-Ce-Fe-O Perovskites for the NO +CO and NO + CH₄ + O₂ Reactions".EUROPACAT-IV Congress, Rimini, Italy, 5-10 /9/1999.
3. V.C. Belessi, G. Armatas, A. Ladavos and P.J. Pomonis. "Methane combustion on La-Sr-Ce-Fe-O mixed oxidic/perovskitic solids: Effect of catalyst composition on the kinetic parameters and the catalytic activity" 2nd International Conference 6-9 June 2000, Halkidiki, Greece.
4. V. Stathopoulos, V.C. Belessi, S. Neofytides, P. Falaras, C. Costa, A. Efstathiou and P.J. Pomonis. "Catalytic activity of high surface area Mn-based mixed oxides for the deep oxidation of methane and lean NO_x reduction". V. Stathopoulos,12th International Congress on Catalysis, 9-14 July 2000, Granada, Spain.
5. V.C. Belessi, T.V. Bakas, S. Neofytides, P.J. Pomonis and A. Efstathiou. "Highly Active and Selective Pt/ La-Ce-Mn-O and Pt/ La-Sr-Ce-Fe-O Catalysts for the NO/H₂/O₂ (Lean-deNOx) reaction in 100-400 °C. C. Costa, V. Stathopoulos, EUROPACAT-V Congress, Limerick, 2-9 September 2001.
6. V.C. Belessi, V. Stathopoulos, T.V. Bakas, C. Costa, P.J. Pomonis and A. Efstathiou. "Comparative catalytic study of NO/CH₄/O₂ and NO/H₂/O₂ lean deNOx reactions over La-Sr-Fe- O perovskite-type oxides prepared by ceramic and surfactant methods", EUROPACAT-VII, 7th European Congress on Catalysis, 28 August-1 September 2005, Sofia, Bulgaria.
7. V. Belessi, D. Lambropoulou, I. Konstantinou, A. Katsoulidis, D. Petridis, T. Albanis, "Photocatalytic degradation of herbicide dimethachlor over TiO₂ nanocomposites", p.71, 1st European Conference on Environmental Applications of Advanced Oxidation Processes (EAAOP), Chania, 7-9 September 2006.
8. V. Belessi, D. Lambropoulou, I. Konstantinou, V. Tzitzios, T. Albanis "Photocatalytic oxidation of dimethachlor herbicide over polyethylene glycol (PEG)-metal-modified TiO₂ photocatalysts", 4th European Conference on Pesticides and Related Organic Micropollutants in the Environment and 10th Symposium on the Chemistry and Fate of Modern Pesticides, p.125, 26-29 November 2006, Almeria, Spain.
9. V. Belessi, R. Zboril, J. Tucek, M. Mashlan, V. Tzitzios and D. Petridis "Ferrofluids from magnetic-chitosan hybrids" 4th International Workshop on Nanosciences & Nanotechnologies - NN07, p. 108, 16-18 July 2007, Thessaloniki.
10. Vassiliki Belessi, Dimitra Lambropoulou, Radek Zboril, Vassilis Tzitzios, T. Albanis, D. Petridis, "Structure and photocatalytic performance of magnetic TiO₂-Fe₃O₄ composites for the degradation of propachlor" 3rd INTERNATIONAL CONFERENCE on Micro-Nanoelectronics, Nanotechnology & MEMs, Athens, Greece, 18 – 21 November 2007, Micro&Nano, p.69.
11. V. Belessi, G. Romanos, N. Boukos, A. Bourlinos and C. Trapalis, "Preparation, Characterization and Photocatalytic Degradation of an Azo-Dye over Ag/TiO₂ Nanoparticles", NN08, 4 July 2008,Thessaloniki.
12. Vassiliki Belessi, Dimitra Lambropoulou, Ioannis Konstantinou, Radek Zboril, Jiri Tucek, Dalibor Jancik, Triantafyllos Albanis and Dimitris Petridis. "Structure and photocatalytic performance of magnetically separable titania photocatalysts for the degradation of propachlor". 5th European Conference on Pesticides and Related Organic Micropollutants in

- the Environment and the 11th Symposium on Chemistry and Fate of Modern Pesticides, Marseille, 22-25 October 2008.
13. V. Belessi, D. Lambropoulou, I. Konstantinou, R. Zboril, J. Tucek, D. Jancik, T. Albanis and D. Petridis, Structure and Photocatalytic Performance of Magnetically Separable Titania Photocatalysts for the Degradation of Propachlor", 5th International Conference on Nanosciences & Nanotechnologies - NN08 (14-16 July 2008), Thessaloniki.
 14. V. Belessi and D. Lambropoulou, "TiO₂ Nanomaterials as Photocatalysts", Nanotextology 2011, International Exhibition & Conferences on Nanotechnologies & Organic Electronics, 9-16 July 2011, Thessaloniki, Greece.
 15. S. Nomikos, S. Theochari, V. Belessi, E. Pagani, T. Philippakopoulou "Digital printed circuits for children's board games" Workshop "Commercializing Organic Electronics in Greece-I", Thessaloniki 27 April 2012.
 16. Vassiliki Belessi, Apostolos Koutsoukis, Vasilios Georgakilas "Gravure printing of highly conductive ink made by Graphene/MWNTs nanohybrids in polyacrylic resins" XXXII Panhellenic Conference on Solid State Physics and Materials Science, Conference Center "Carolos Papoulias", 18-21 September 2016, Ioannina, Greece.
 17. V. Belessi, V. Georgakilas, Th. Steriotis, S. Nomikos "Conductive inks with applications in functional printing " 6th International Conference on Typography & Visual Communication, 5-9 July 2016, Thessaloniki.
 18. S. Nomikos, V. Belessi, A. Mountzouri, M. Nomikou, A. Papageorgiou, A. Karkazi, S. Benia "Εντυπη επικοινωνία. Η Τεχνολογία κοντινού πεδίου (NFC) ως νέο δυναμικό μέσο στην γραφική επικοινωνία". 6th International Conference on Typography & Visual Communication, 5-9 July 2016, Thessaloniki.
 19. V. Belessi, D. Petridis, V. Georgakilas, M. Baikousi, K. Spyrou, V. Psycharis, D. Gournis and Th. Steriotis "Reduction of Graphene Oxide with various aromatic diamines for electrically conductive materials" 13th International Conference on Nanosciences & Nanotechnologies (NN16) 5-8 July 2016.
 20. George Manolis, Vasilios Georgakilas, Dimitrios Petridis, Theodoros Steriotis, Konstantinos Spyrou, Vassilis Psycharis, Vassiliki Belessi "Raman spectroscopy as a link technique at simultaneously reduced and functionalized graphene oxide characterization" 33rd annual Panhellenic Conference on Solid State Physics and Materials Science, Nicosia, September 17th-19th, 2018.
 21. V. Belessi "The impact of Nanotechnology in Graphic Arts Technology" 7th International Conference on Typography & Visual Communication, ICTVC 2019, 19- 21 June 2019, Patras, Greece.
 22. A. Koutsoukis, V. Belessi, V. Georgakilas "Photoluminescent CDs Inks: a new approach for the printing industry" 7th International Conference on Typography & Visual Communication, ICTVC 2019, 19- 21 June 2019, Patras, Greece.
 23. G. Vlahopoulos, D. Medesidou, V. Belessi, V. Georgakilas "Flexography printing trial for printing electronics with graphene ink: Studies on printing parameters" 7th International Conference on Typography & Visual Communication, ICTVC 2019, 19- 21 June 2019, Patras, Greece.

VIII. Supervision activities

Supervisor of 7 MSc projects, 1 PhD Thesis and member of the supervising team of 3 PhD Thesis.

IX. Research Interests

- **Synthesis and characterization of materials** (perovskites, clay-based materials, graphenic derivatives, conductive, magnetic, photocatalytic, nanocomposite materials)
- **Development and quality control of functional printing inks**
- **Printing substrates**
- **Printed electronics, Smart Packaging**
- **Printing technologies**
- **Catalytic, photocatalytic processes, Environmental Protection Technologies**