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EDUCATION

1994-2000	University of California at Los Angeles (UCLA), Chemical Engineering, Ph.D.
1989-1992	Ege University, Chemical Engineering, M.Sc.
1984-1987	Ege University, Chemical Engineering, B.Sc.

ACADEMIC POSITIONS

02/2016-	Assoc. Prof. Dr., Chemical Engineering and Applied Chemistry Department, Atılım University, Ankara, Turkey
02/2015-02/2016	Part-time Assoc. Prof. Dr., Chemical Engineering and Applied Chemistry Department, Atılım University, Ankara, Turkey
04/2000-04/2014	Assist./Assoc. Prof. Dr., Chemical Engineering Department, Kocaeli University, Izmit, Turkey
09/2004-04/2005	Postdoctoral Research Fellow, Chemistry Department, Middle East Technical University (METU), Ankara, Turkey
06/2001-09/2001	Postdoctoral Research Associate, University of Southern California (USC), Aerospace and Mechanical Engineering Department, LA, CA, USA
01/1994-04/2000	Research Assistant, University of California at Los Angeles (UCLA), Chemical Engineering Department, LA, CA, USA
02/1989-10/1993	Research Assistant, Ege University, Chemical Engineering Department, Izmir, Turkey

ADMINISTRATIVE DUTIES

April 2019-	Vice Department Chair
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HONORS&AWARDS

1	Ph.D. Scholarship Award from Higher Educational Counsel of Turkey (YOK) (1994-1998)
2	2 year recipient of the Izmir Municipal-Higher Education Scholarship
3	1 st rank in class 1987 graduates, Chemical Engineering Department, Ege University, Izmir

RESEARCH INTERESTS

1	Nano-Material Synthesis by Flame Spray Pyrolysis and Applications
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2	Flame Aerosol Reactor Design, Control and Simulation for Continuous Production of Nanoparticles
3	Micro-Cogeneration System
4	Catalytic Combustion
6	Frontal Polymerization and its Similarities with Gas Phase Flame Fronts
7	Experimental investigation of Polycyclic Aromatic Hydrocarbon (PAH) in Flames

PROFESSIONAL SERVICE

1	6 th Framework Program (FP6), Expert Evaluator for Co-operative Research Under the Horizontal Research Activities Involving SME's, Brussels, Belgium
2	Reviwer for academic journals such as; International Journal of Hydrogen Energy, Applied Surface Science, Advanced Powder Technology, Journal of Material Chemistry A, Industrial and Engineering Chemistry Research, Fuel

PUBLICATIONS

1	Ataol, S., Pazarceviren, A.E., Keskin, D., Machin, N.E, Duygulu, O., Tezcaner, A., "Nanosized CaP-silk fibroin-PCL-PEG-PCL/PCL based Bilayer Membranes for Guided Bone Regeneration", Mat. Sci. Eng. C- Materials for Biological Applications, 80: 484-493, 2017.
2	Ataol, S., Tezcaner, A., Duygulu, O., Keskin, D., Machin, N.E., "Synthesis and Characterization of Nano-sized Calcium Phosphates by Flame Spray Pyrolysis, and their Effect on Osteogenic Differentiation of Stem Cells", J. of. Nanoparticle Res., DOI 10.1007/s11051-015-2901-0, 2015.
3	Sel, S., Duygulu, O., Kadiroglu, U., Machin, N.E., "Synthesis and Characterization of Nano-V ₂ O ₅ by Flame Spray Pyrolysis, and its Cathodic Performance in Li-ion Rechargeable Batteries", Appl. Surf. Sci., 318: 150-156, 2014.
4	Gaga, E.O., Ari, A., Döğeroğlu, T., Çakırca, E.E., Machin, N.E., "Atmospheric Polycyclic Aromatic Hydrocarbons in an Industrialized City, Kocaeli, Turkey: Study of Seasonal Variations, Influence of Meteorological Parameters and Health Risk Estimation", J. Environ Monit., 14 (8):2219-29, 2012.
5	Machin, N. E., Karakaya, C., Celepci, A. "Catalytic Combustion of Methane on La, Ce, and Co Based Mixed Oxides", Energy & Fuels, 22 (4): 2166-2171, 2008.
6	Binici, B., Leard, K. C., Molden, M., Olten, N., Popwell, S., Pojman, J. "Spherically-Propagating Thermal Polymerization Fronts", J. of Polymer Science A, 44, 1387-1395, 2006.
7	Granata, S., Faravelli, T., Ranzi, E., Olten, N., Senkan, S. "Kinetic Modeling of Counter Flow Diffusion Flames of Butadiene", Combustion and Flame, 131 (3): 273-284, 2002.
8	Olten, N. and Senkan, S.M., "Effect of O ₂ Addition on the Formation of Polycyclic Aromatic Hydrocarbons in Counter-Flow 1,3-Butadiene Flame", Combustion and Flame, 125: 1032-1039, 2001.
9	Olten, N. and Senkan, S.M., "On-Line Measurements of the Polycyclic Aromatic Hydrocarbons (PAH) in Counter-Flow Ethylene Diffusion Flame", Combustion Science and Technology, 159:1-16, 2000.
10	Olten, N. and Senkan, S.M., "Micro-Structure of the Counter-Flow Propylene Diffusion Flame", Reaction Engineering in Pollution Prevention, Martin A. Abraham and Robert P. Hesketh, Eds., Elsevier Science, 2000.

11	Olten, N. and Senkan, S.M., "Formation of Polycyclic Aromatic Hydrocarbons in an Atmospheric Pressure Ethylene Diffusion Flame", Combustion and Flame, 118: 500-507, 1999.
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PROJECTS

1	Experimental investigation of Polycyclic Aromatic Hydrocarbon (PAH) formation in counterflow diffusion flames, DPT Grant , Principal Investigator, 2002.
2	In-situ fabrication and repair by using Trimethylolpropane Triacrylate frontal polymerization, University of Southern Mississippi (USM), Chemistry and Biochemistry Department, MI, USA, NASA Project collaboration, 2004-2005.
3	Catalytic combustion of methane with focus on reduction of NO _x by-products, Tubitak Grant 1002 , Project No: 106M314, Principal Investigator, July 2006- December 2006.
4	Elimination of hydrocarbons, CO and NO _x in automobile three way exhaust catalysts, Santez Grant , Project No: 00207.STZ.2007-2, Co-investigator, December 2007-December 2009.
5	Nano-material synthesis by flame hydrolysis, characterization and performance tests for catalytic combustion, Tubitak Grant 1001 (MAG) , Project No: 106M232, Principal Investigator, September 2007-September 2011 (2 years break due to pregnancy and birth).
6	Micro-Cogen: Development of a Micro-Cogeneration system using PEM fuel cells and catalytic burner, TUBITAK Grant 1007 (KAMAG) , Project No: 105G127, Principal Investigator from KOU in project consortium, July 2006- December 2010.
7	Production of Nano-V ₂ O ₅ by Flame Spray Pyrolysis for Li-ion Batteries, TUBITAK Grant 2009a , Advisor, June 2012-June 2013.
8	Development and in-vitro characterization of nano-hydroxyapatite supported Pectin and Fibroin carriers for bone regeneration, ODTU-BAP Grant , Co-investigator, January 2013-September 2014.
9	Flame Aerosol Reactor Design, Control and Simulation for Continuous Production of Nanoparticles, Tubitak Grant 1001 (MAG) , Project No: 117M165, Principal Investigator, October 2017-October 2020.
10	Lead-Free New Generation Primer Explosive Design, Synthesis and Characterization Tubitak Grant 1001 (MAG) , Project No: 117Z391, Co-Investigator, October 2017-October 2020.

CONFERENCE PRESENTATIONS

1	Olten, N. and Senkan, S.M., "Micro-Structure of the Counter-Flow Ethylene Diffusion Flame" Proceedings of the 1997 AIChE Annual Meeting, Los Angeles, CA, USA, 1997.
2	Olten, N. and Senkan, S.M., "A Study on Ethylene Diffusion Flame Structure in Counter-Flow Configuration" Western States Section of Combustion Meeting, Diamond Bar, CA, USA, 1997.
3	Olten, N. and Senkan, S.M., "Effects of Strain Rate on the Structure of Diffusion Flames," Western States Section of Combustion Meeting, UC Berkeley, CA, 1998.
4	Olten, N. and Senkan, S.M., "Formation of Polycyclic Aromatic Hydrocarbons in Counter-flow Ethylene Diffusion Flame" 27th International Symposium on Combustion, Boulder, CO, USA, 1998.

5	Olten, N. and Senkan, S.M., "Polycyclic Aromatic Hydrocarbon (PAH) Formation in Counter-Flow Propylene Diffusion Flame" AICHE Annual Meeting, Miami Beach, Florida, USA, 1998.
6	Olten, N. and Senkan, S.M., "On-Line Measurements of the Polycyclic Aromatic Hydrocarbons (PAH) in Counter-Flow Ethylene Diffusion Flame" Mediterranean Symposium on Combustion, Antalya, Turkey, 1999.
7	Olten, N. and Senkan, S.M., "Comparison of the Detailed Chemical Structures of Propylene and Ethylene Counter-Flow Diffusion Flames," 6th International Symposium on Toxic Combustion by-products" Karlsruhe, Germany, 1999.
8	Olten, N., Yamamoto, M. and Senkan, S., "Formation of Polycyclic Aromatic Hydrocarbons in C ₂ H ₂ Flame" Western States Section of Combustion Meeting, Irvine, CA, USA, 1999.
9	Goldaniga, A., Granata, S., Rivolta, E., Dente, M., Faravelli, T., Ranzi, E., Olten, N., Senkan, S., Puri, I., "Hydrocarbon Oxidation in Non-premixed Counter-flow Flames" Italian Symposium on Combustion, Ischia, Italy, 2000.
10	Olten, N. and Senkan, S.M., "Effect of O ₂ addition on the formation of Polycyclic Aromatic Hydrocarbons in Counter-Flow 1,3 Butadiene Flame", 28th International Symposium on Combustion, University of Edinburg, Scotland, UK, 2000.
11	Olten N., Kraigsley A., Ronney, P.D., Meiburg E., "Self-Propagating Frontal Polymerization in Water at Ambient Pressure", NASA Microgravity Materials Science Conference, Von-Braun Center, Huntsville, AL, USA, 2002.
12	Çelebi, F., Kraigsley, A., Ronney, P., Olten, N., "Self Propagating Frontal Polymerization in Water at Ambient Pressure", European Combustion Meeting, Orleans, France, 2003.
13	Olten, N., "PAH Formation in Diffusion Flames", 1st International Conference on Air Pollution and Combustion, Ankara, Turkey, 2005.
14	Olten, N., "Chemical Reaction Engineering and Combustion Research Laboratory" Institutional Presentation, 1st Annual Conference of Turkish American Scientists and Scholars Association, George Washington University, Washington DC, USA, 2005.
15	Celepçi, A., Karakaya, C., Kayan, A., Olten, N., "Catalytic Combustion of Methane over La _{1-x} Ce _x Co(2- δ - δ')O _{3±δ} Perovskite Catalysts", European Combustion Meeting, ECM2007, Crete, Greece, 2007.
16	Olten, N., "Nano Material Synthesis, Characterization and Performance Tests for Catalytic Combustion and SOFC Applications", GeT Univation- German Turkish University Conference and Project Marketplace on Applied Research and Innovation, Braunschweig, Germany, 2007.
17	Ozer, E., Karakaya, C., Machin, N., "Nano-catalysis production for Auto-exhaust Applications", Fuels and Combustion in Engines (FCE'08), Istanbul, 2008.
18	Karakaya, C., Ozer, E., Machin, N., "Exhaust Gas Cleaning by Three Way Catalytic Converters", Fuels and Combustion in Engines (FCE'08), Istanbul, 2008.
19	Machin, N., Koylu, O.U., "Flame Synthesis of Nanomaterials", 4th Nanoscience and Nanotechnology Conference (Nano TRIV), Istanbul, 2008.
20	Machin, N., Karakaya, C., Ozer, E., "Catalytic Combustion of Methane on Silver Added Perovskite-like Mixed Oxides", 7th International Workshop on Catalytic Combustion (IWCC7), Zurich/Pfäffikon, Switzerland, 2008.

21	Cakırca, E., Machin, N., “Methane Catalytic Combustion on $\text{La}_{x}\text{Ce}_{y}\text{Co}_{[2-x-y]}\text{O}_3$ and $\text{La}_{x}\text{Ag}_{y}\text{Co}_{[2-x-y]}\text{O}_3$ Perovskite Structures”, 9th National Chemical Engineering Congress, (UKMK 2010), Ankara, 2010.
22	Karakaya, C., Machin, N., “Comparison of the Activities of $\text{La}_{0.7}\text{Ag}_{0.3}\text{BO}_3$ (B: Mn, Co, Ni) Perovskite Catalysts in Methane Catalytic Combustion” 9th National Chemical Engineering Congress (UKMK 2010), Ankara, 2010.
23	Machin, N., Çakırca, E., Ateş, A. “Catalytic Combustion of Methane”, 6th International Advanced Technologies Symposium (IATS’11), Elazığ, 2011.
24	Machin, N., Çakırca, E., “Nano-catalyst Synthesis by Flame Spray Pyrolysis”, 6th International Advanced Technologies Symposium (IATS’11), Elazığ, 2011.
25	Machin, N., Duygulu, O., “Synthesis of LaMnO_3 by Flame Spray Pyrolysis”, 7th Nanoscience and Nanotechnology Conference (NanoTRVII), Istanbul, 2011.
26	Machin, N., “Catalytic Combustion of Methane as a Way to Reduce Emissions”, 2nd International Conference on Air Pollution and Control (CAPAC-II), Antalya, 2011.
27	Machin, N., Duygulu, O., “HRTEM Study of Perovskites”, 20th National Electron Microscopy Conference, Antalya, 2011.
28	Duygulu, O., Machin, N., Portillo, J., Rauch, E.F., Nicolopoulos, S., “HRTEM Investigation of Nano $\text{La}_{1-x}\text{Ce}_x\text{CoO}_3$ Catalyst”, 20th National Electron Microscopy Conference, Antalya, 2011.
29	Parlar, O., Ersoz, A., Machin, N., “Fuel Processing System and Design Alternatives for Fuel Cell Technologies”, 4th National Catalysis Conference (NCC-4), Kocaeli, 2012.
30	Coskuner, S., Duygulu, O., Machin, N., “Production of La-Ce-Co based Nano-catalysts by Flame Spray Pyrolysis and Investigation of their Activity in Catalytic Combustion of Methane”, 4th National Catalysis Conference (NCC-4), Kocaeli, 2012.
31	Parlar, O., Ersoz, A., Machin, N., “Simulation of Hydrogen Production System by ASPEN HYSIS for Fuel Cell Technologies”, 12th International Combustion Symposium, Kocaeli, 2012.
32	Coskuner, S., Machin, N., Duygulu, O., “Investigation of Catalytic Combustion of Methane on La-Mn and La-Co Perovskite type Nano-catalysts” 12th International Combustion Symposium, Kocaeli, 2012.
33	Coskuner, S., Machin, N.E., Duygulu, O., Parlar, “Synthesis of Co_3O_4 Nano-catalysts by Flame Spray Pyrolysis”, 8th Nanoscience and Nanotechnology Congress (NanoTRVIII), Ankara, 2012.
34	Coskuner, S., Machin, N.E., Duygulu, Sen, N., “ Synthesis of La-Ce-Mn type Nano-catalysts by Flame Spray Pyrolysis and Investigation of their Activity in Methane Catalytic Combustion”, 10th National Chemical Engineering Congress, (UKMK 2012), Istanbul, 2012.
35	Coskuner, S., Duygulu, O., Machin, N.E., “Flame Spray Pyrolysis (FSP) Synthesis of Pd and Rh Doped Co_3O_4 Nano-catalysts and Their Catalytic Activity in Methane Combustion”, Advanced Materials World Congress 2013, Izmir, 2013.
36	Sel, S., Fidan, G., Duygulu, O., Kadiroglu, U., Machin, N.E., “Can Nano-Vanadium Oxide Improve Lithium Battery Cathode Properties?”, 9th Nanoscience and Nanotechnology Congress (NanoTR IX), Erzurum, 2013.
37	Unlu, K.C., Engin, F., Duygulu, O., Sozeri, H., Machin, N.E., “Magnetocaloric Nature of Ca and Sr Doped La-Mn Perovskite Nano-

	particles Produced by Flame Spray Pyrolysis”, 9th Nanoscience and Nanotechnology Congress (NanoTR IX), Erzurum, 2013.
38	Sel, S., Fidan, G., Duygulu, O., Machin, N.E., Kadiroglu, U., “Characterization and Investigation of Electrochemical Properties of Lithium Doped Nanoparticle V ₂ O ₅ Cathode Material for Lithium Polymer Batteries”, 10th International Electrochemistry Meeting, Konya, 2013.
39	Ataol, S., Tezcaner, A., Duygulu, O., Keskin, D., Machin, N.E.,” The Synthesis, Characterization and Bioactivity Study of Nano-sized Calcium Phosphates by Flame Spray Pyrolysis”, 10th Nanoscience and Nanotechnology Congress (NanoTR X), Istanbul, 2014.
40	Coskuner, S., Machin, N.E., Duygulu, O., Ateş, A., Yasar, G.”The Synthesis and Characterization of nano-CeO ₂ for Decomposition of Formaldehyde in SCW”, 11th Nanoscience and Nanotechnology Congress (NanoTR11), Ankara 2015.
41	Ataol, S., Machin, N.E, Pazarceviren, A.E., Keskin, D., Duygulu, O., Tezcaner, A., “Development of Nano Sized CaP-Silk Fibroin-PCL-PEG-PCL/PCL Based Biphasic Constructs for Guided Bone Regeneration” 11th Nanoscience and Nanotechnology Congress (NanoTR11), Ankara 2015
42	Ataol, S., Pazarçeviren, A.E., Machin, N.E., Keskin, D., Duygulu, O., Tezcaner, A., “Development of PCEC/Silk Fibroin/CaP-PCL Based Bilayered Constructs for Guided Tissue Regeneration”, 12th Nanoscience and Nanotechnology Congress (NanoTR XI), Gebze, 2016.
43	Machin, N.E., “Issues Related to the Large Scale Production of Nano-Oxides by Flame Spray Pyrolysis”, 12th Nanoscience and Nanotechnology Congress (NanoTR XI), Gebze, 2016.
44	Machin, N.E., Alhaleeb, M., “Alev Spray Piroiliz Yönteminin Endüstriyel Ölçekli Nanomalzeme Üretim Süreci Potansiyelinin Değerlendirilmesi”, 12th National Chemical Engineering Congress, (UKMK 2016), Izmir, 2016.
45	Ateş A., Hatipoğlu, A., Yaşar, G., Machin, N.E., Duygulu, O., “Süperkritik Suda Formaldehitin Dekompozisyonu Üzerine Katalizör Morfolojisinin Etkisi”, 12th National Chemical Engineering Congress, (UKMK 2016), Izmir, 2016.
46	Machin, N.E., “Flame Aerosol Synthesis of Oxides and Salts”, 7th International Conference on Innovative Technologies (IN-TECH), Prague, Czech Republic, 2016.
47	Alhaleeb, M., Machin, N.E.,” Simulation of Flame Spray Pyrolysis Process for Nanomaterial Production”, International Advanced Technologies Symposium (IATS17), Elazığ, 2017.
48	Alhaleeb, M., Machin, N.E., “Effect of Burner Configuration on Flame Spray Pyrolysis Process Parameters”, 1st International Eurasian Conference on Science, Engineering and Technology (EurasianSciEnTech 2018), Ankara, 2018.
49	Alhaleeb, M., Machin, N.E., “Simulation of Nanoparticle Formation in Flame Spray Pyrolysis Process”, 7th International Conference on Fuels, Combustion, Engines and Fire, Antalya, 2019.

THESES SUPERVISED

1	M.Sc. Thesis, Celebi, F., “Investigation of Stability and Extinction Mechanism of Acrylic Acid Reaction with Ammonium Peroxydisulfate”, Kocaeli University, 2004.
2	M.Sc. Thesis, Celepci, A., “Preparation and Characterization of Perovskite type $\text{La}_x\text{Ce}_y\text{Co}_{2-x-y}\text{O}_{3\pm\delta}$ Catalysts and Investigation of their Activity in Catalytic Combustion of Methane” Kocaeli University, 2007.
3	M.Sc. Thesis, Özer, E.E., “Investigation of the Ce and Ag Substitution in $\text{La}_x\text{A}'_y\text{Co}_{2-x-y}\text{O}_{3\pm\delta}$ type Perovskite Catalysts on the Catalyst Structure and their Performance on Catalytic Combustion of Methane”, Kocaeli University, 2008.
4	M.Sc. Thesis, Karakaya, C., “Activity and Kinetic Research on $\text{La}_{1-x}\text{Ag}_x\text{B}_{1-y}\text{B}'_y\text{O}_{3\pm\delta}$ type Perovskite Catalysts for Methane Combustion”, Kocaeli University, 2008.
5	M.Sc. Thesis, Coşkuner, S., “Synthesis of Nano-catalysts by Flame Spray Pyrolysis and Investigation of their Activity on Methane Catalytic Combustion”, Kocaeli University, 2013.
6	M.Sc. Thesis, Yaşar, G., "Catalytic Gasification of Formaldehyde in Super Critical Water" Co-Supervisor Cumhuriyet Üniversitesi, 2016.
7	M.Sc. Thesis, Haitham, R. “Simulation of Fluid Catalytic Cracking Unit (FCCU) for Different Feedstock Qualities Using Aspen HYSYS (V.10), Atilim University, 2019.
8	Ph.D. Thesis, Alhaleeb, M. “Modeling and Optimization of Nanoparticle Production by Flame Spray Pyrolysis Method” 2016-continuing.