

Assoc.Prof. Solen KINAYYIGIT

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RESEARCH AREA

Nanocatalysis, Clean Energy Applications, Electrochemistry and Photophysics, Nanoparticle Synthesis and Characterization, Green Chemistry

EDUCATION

2007, Ph.D., Photochemical Sciences and Chemistry, Center for Photochemical Sciences, Bowling Green State University, USA. (Thesis title: Mononuclear Platinum(II) Chromophores: Electrochemistry, Photophysics, and Vapochromic Sensing Applications, Supervisor: Prof.Dr. Felix N. Castellano)

2002, M.S, Organic Chemistry, Middle East Technical University, Ankara, TURKEY (Thesis title: Design and Synthesis of a Novel Calixpyrrole-Based Anion Sensor, Supervisor: Prof.Dr. Engin U. Akkaya)

1999, B.S, Chemistry (biochemistry optional program certificate), Middle East Technical University, Ankara, TURKEY, 1999 (Graduation Research Project: Synthesis of Functionalized Cyclodextrins)

1994, Kadıköy Anatolian High School Alumni

WORK EXPERIENCE

2020-... : Associate Professor - Gebze Technical University, Institute of Nanotechnology, Kocaeli, Türkiye

- 2018-ÜAK- Assoc. Prof. title (Doçent Dr.)
- 15.01.2018-15.01.2019 Affiliated Part-Time Researcher, Sabancı University SUNUM

2016-2020: Assistant Professor - Gebze Technical University, Institute of Nanotechnology, Kocaeli, Türkiye

2014-2016: TÜBİTAK Fellow Researcher - Sabancı University, Nanotechnology Research and Application Center (SUNUM), İstanbul, Türkiye

2011-2013 Postdoctoral Researcher (Ingénieur de Recherche) - CNRS, Laboratoire de Chimie de Coordination, Toulouse, Fransa

2009-2012 Senior Researcher- Energy Institute of TÜBİTAK Marmara Research Center, Kocaeli, Türkiye

- **2010-2014 Turkish Representative as an Expert (Assigned by TUBITAK)** - European Cooperation in Science and Technology (COST, EU), Chemistry and Molecular Sciences and Technologies Domain.

01/2008-05/2008 Visiting Assistant Professor - Albion College, Department of Chemistry, MI, USA.

08/2007-12/2007 Adjunct Faculty Member- Monroe County Community College, Math & Science Division, MI, USA.

2001-2007 Research Assistant – Center for Photochemical Sciences (2003-2007) and Chemistry Department (2001-2003), Bowling Green State University, OH, USA.

06/1998 – 07/1998 Intern - La Roche Limited, İstanbul, Turkey.

CITATIONS AND SELECTED AWARDS

Total Citations: 704 (google scholar), h-index: 11

Recipient of TUBİTAK 2232- Return to the Country Fellowship

Recipient of Katip Çelebi-Newton Fund

Bowling Green State University, ABD- full scholarship

Springer best poster prize, 18th International Symposium on Homogeneous Catalysis, France, 2012.

Outstanding Teaching Assistant Award, Bowling Green State University

2002 Katzner and University Katzner Bookstore Fund (Excellence in Research fellowship, 2007)

Bowling Green State University Travel Fund (2006, 2007)

SELECTED PROJECTS

1. New Vision Catalysts for Amine Production: Development of Bimetallic Rhenium Based Nanoclusters Encapsulated in Porous Materials for Selective Amide Hydrogenation”, *Principle Investigator*, Newton Funding, British Council-TUBİTAK (216Z124)

2. FP7 European Research Council (ERC) Advanced Project- NANOSONWINGS “A New Vision on Nanocatalysts”, *P.Researcher*
3. TARAL 1007-TRIJEN- Diesel Production from Biomass and Coal Blends, *Researcher*
4. Development of Graphene Supported Bimetallic Electrocatalysts with High Catalytic Activity for Pem Fuel Cells, *Principle Investigator*, BAP-GTU-SU-004
5. Development of Fuel Cell Electrodes Based on Platinum Nanoparticles Supported with Carbon Black and Graphene, *Principle Investigator*, TUBITAK 2232
6. Synthesis, Characterization and PEMFC Electrocatalysis of PtCu Nanoparticles supported on Graphene based Support Materials, *Principle Investigator*, 2019-A-101-17
7. Preparation of Composite Support Materials Containing Graphene Nanoplatelets, Their Use in PtNi Nanocatalyst Production and Their Performance Studies in a PEM Fuel Cell, *Principle Investigator*, 2019-A-105-30

SELECTED PUBLICATIONS

1. MG Hosseini, PY Sefidi, **S Kinayyigit**. “Modification of polyaniline-WO₃ as a noble metal-free photoelectrocatalyst with (6, 6) - Phenyl-C61- butyric acid methyl ester for solar photoelectrochemical water splitting” *Materials Science in Semiconductor Processing*, 2021, 121:105440, DOI: 10.1016/j.mssp.2020.105440.
2. MG Hosseini, PY Sefidi, Z Aydin, **S Kinayyigit**. “Toward enhancing the photoelectrochemical water splitting efficiency of organic acid doped polyaniline-WO₃ photoanode by photo-assisted electrochemically reduced graphene oxide” *Electrochimica Acta*, 2020, 333, 1354759
3. MG Hosseini, PY Sefidi, AM Mert, **S Kinayyigit**. “Investigation of solar-induced photoelectrochemical water splitting and photocatalytic dye removal activities of camphor sulfonic acid doped polyaniline-WO₃-MWCNT ternary nanocomposite”, *J. Mater. Sci. & Tech.*, 2020, 38, 7-18
4. Arici, E.; Yayar Kaplan, B.; Mert, A. M.; Alkan Gursel, S., **Kinayyigit, S.** “An effective electrocatalyst based on platinum nanoparticles supported with graphene nanoplatelets and carbon black hybrid for PEM fuel cells”, *Int. J. Hyd. Energy*, 2019 <https://doi.org/10.1016/j.ijhydene.2018.11.210>
5. Dragu, A.; **Kinayyigit, S et. al.** “Deoxygenation of oleic acid: of Influence of the synthesis route Pd/mesoporous carbon nanocatalysts onto their activity and selectivity”, *Appl. Catalysis A: General*, 2015, In press. doi:10.1016/j.apcata.2015.01.008
6. **Kinayyigit, S.**; Philippot, K., *Metal Nanoparticles for Catalysis: Advances and Applications*, Tao, F. (Ed.), Royal Society of Chemistry, **2014** (Chapter 4; pp.47-82)
7. **Kinayyigit, S.** et al. “Probing Electron Density on the Surface of Platinum Nanoparticles with ¹³CO by Solid-State NMR and IR Spectroscopies”, *Nanoscale*, **2014**, 6, 539-546.
8. Özkara-Aydınoğlu, Ş.; Ataç, Ö.; Gül, Ö. F.; **Kinayyigit, Ş et. al.**, “α-olefin selectivity of Fe–Cu–K catalysts in Fischer–Tropsch synthesis: Effects of catalyst composition and process conditions” Original Research Article, *J. Chem. Eng.*, **2012**, vol. 181-182, 581-589
9. Glik, E.A.; **Kinayyigit, S.** et al. “Ultrafast Excited State Dynamics of Pt(II) Chromophores Bearing Multiple Infrared Absorbers”, *Inorg. Chem.* **2008**, 47, 6974-6883.
10. Hua, F.; **Kinayyigit, S. et al.** “Platinum (II) Diimine Diacetylides: Metallacyclization Enhances Photophysical Properties”, *Inorg. Chem. (Communications)*, **2006**, 45 (11), 4304-4306. **(Chosen Cover Article)**
10. Hua, F.; **Kinayyigit, S. et al.** “Green Photoluminescence from Platinum(II) Complexes Bearing Silylacetylides Ligands”, *Inorg. Chem. (Communications)*, **2005**, 44 (3), 471- 473.