



**Seda Demirel Topel**

### **PERSONAL INFORMATIONS**

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### **EDUCATION**

- 2015-2017** : **POST-DOC researcher (Fabrication of Multifunctional Nanoparticles, drug delivery)**  
Akdeniz University, Department of Material Science and Engineering, Turkey
- 2013-2014** : **POST-DOC (Hybrit Biomaterials) (15 months)**  
Sveriges Lantbruksuniversitet, Department of Chemistry and Biotechnology, Uppsala  
Sweden
- 2009-2013** : **PhD (Organic Chemistry)**
- Akdeniz University, Department of Chemistry
  - Bilkent University, UNAM (National Nanotechnology and Research Center)
- Erasmus Training (Organic Chemistry, 6 months):** Lund University, Kemicentrum  
Lund Sweden
- 2006-2009** : **Master (Organic Chemistry )**  
Akdeniz University, Department of Chemistry
- 2002-2006** : **Bachelour (Chemistry)**  
Akdeniz University, Department of Chemistry

### **EXPERIENCE OF RESEARCH**

- 2016-2018** : **a-1002 TUBITAK- Turkish Research Fund (Project No: 116-Z-164) (Researcher, Akdeniz University, Turkey)**  
**Title:** Design and synthesis of new generation nanoparticles for biomedical imaging systems  
**Responsible for:** Design, synthesis and characterization of Fe<sub>3</sub>O<sub>4</sub>-NaGdF<sub>4</sub> upconversion

nanoparticles

**Supervisor:** Prof. Meltem Asilturk

**b- Scientific Investigation Funding unit of Akdeniz University (Project: FBA-2016-1808)**

**Title:** Synthesis and characterizations of luminescence cellulose micro/nanocapsules for drug delivery systems

**Responsible for:** Design, synthesis, characterization and drug delivery studies of those biomaterials

**2013-2014 (15 months) : European Project (EU-FP 7) (Researcher, SLU, Uppsala, Sweden)(Project No:309373)**

**Title:** EuRARE

**Responsible for:** Synthesis and characterizations of bidentate ligands conjugated to Fe<sub>3</sub>O<sub>4</sub>@SiO<sub>2</sub> and Fe<sub>3</sub>O<sub>4</sub>@SiO<sub>2</sub>@TiO<sub>2</sub> nanoparticles for sequestration of trivalent ions from solutions

**Supervisors:** Doc. Dr. Gulaim Seisenbaeva and Prof. Vadim Kessler

**2010-2013 :TUBITAK Turkish Research Fund (Researcher, Bilkent University, UNAM, Ankara, Turkey) (Project No: 110T076)**

**Title:** Development of BODIPY conjugated NaYF<sub>4</sub> upconversion nanoparticles (UCNPs) for photodynamic therapy

**Responsible for:** Synthesis and characterizations of Near Infrared (NIR) responsive photosensitizers and UCNPs

**Supervisor:** Prof. Engin U. Akkaya

**2009-2012 :Scientific Investigation Project of Akdeniz University (Researcher, Antalya, Turkey) (Project No: 2011.01.0115.002)**

**PhD Thesis:** Synthesis of some Bodipy photosensitizers and their characterizations by spectroscopic techniques (<sup>1</sup>H-NMR, <sup>13</sup>C-NMR, FTIR and fluorescence spectrometer)

**Supervisor:** Doc. Dr. Günseli Turgut Cin, (**Co-supervisor:** Prof. Dr. Engin U. Akkaya)

**2009 (6 months) :Erasmus Exchange Program, (Researcher-Lund University, Dept. Of Organic Chem. Kemicentrum) (Project No: VR-621.2005.6274)**

**Title:** Bioactive secondary metabolites

**Responsible for:** Synthesis of triazoloquinazoline derivatives as ligands for the benzodiazepine binding site of the GABA<sub>A</sub> receptor

**Supervisor:** Prof. Olov Sterner, (**Co-supervisor:** Dr. Carlos Solano)

**2006-2009 : Scientific Investigation Project of Akdeniz University (Researcher, Antalya, Turkey) (Project No: 2007.01.0105.001)**

**Master Thesis:** Synthesis of novel ferrocenyl containing heterocyclic compounds for potential biological applications

**Supervisor:** Doc. Dr. Günseli Turgut Cin

## **FIELDS OF RESEARCH**

- *Synthesis and applications of micro/nano capsules for drug delivery*
- *Synthesis of luminescence upconversion nanoparticles for bio-imaging applications*
- *Synthesis of NIR responsive organic molecules for photodynamic therapy*
- *Synthesis of SiO<sub>2</sub>, iron oxide, titaniumdioxide, and upconversion nanoparticles and their hybrid nanocomposites for novel theranostic nanoplatfoms*

<b>AWARDS</b>	
<p><b>March 2013- May 2014 (15 months): Post-Doc Scholarship (EU-FP 7)</b></p>	<p>Swedish University of Agricultural Sciences (SLU University), Uppsala, İsveç Supervisors: Prof. Vadim Kessler, Doc. Dr. Gulaim Seisenbaeva</p>
<p><b>2009 (Feb-August)</b></p>	<p><b>:Erasmus Exchange Program (6 months)</b> Kemicentrum, Department of Organic Chemistry, Lund, Sweden</p>
<b>FOREIGN LANGUAGE</b>	
English	: Advanced (reading, writing& understanding)
German	: Intermediate
Swedish	: Beginning
<b>SEMINARS</b>	
<p><b>2014 June</b></p>	<p><b>: Synthesis of BODIPY conjugated upconverting nanoparticles for photodynamic therapy</b> National Chem. Congress, Bilkent University, Ankara.</p>
<p><b>2013 Jan.</b></p>	<p><b>: PhD Thesis: Synthesis of Bodipy conjugated Upconverting nanoparticles for Photodynamic Therapy</b> Akdeniz University, Department of Chem. , Turkey</p>
<p><b>2009 Agus.</b></p>	<p><b>: Synthesis of novel heterocyclic compounds for GABA<sub>A</sub></b> Kemicentrum, Lund University, Lund, Sweden</p>
<p><b>2009 Jan</b></p>	<p><b>: Master Thesis: Synthesis of some ferrocenyl substituted N-acetyl-2-pyrazoline and diferrocenyl substituted pyrazolo[4,3-c]quinoline derivatives for potential antitumor activities,</b> Akdeniz University, Department of Chem. , Turkey</p>
<p><b>2008 Ocak</b></p>	<p><b>:Synthesis of biological active ferrocenyl substituted heterocyclic compounds</b> Akdeniz University, Department of Chem. , Turkey</p>
<p><b>2006 June</b></p>	<p><b>:Stem Cells (Bachelour)</b> Akdeniz University, Department of Chem. , Turkey</p>
<b>PUBLICATIONS</b>	
<p><b>1.</b></p>	<p>N. Nohut Maslakçı, E. Eren, <b>S. Demirel Topel</b>, G. Turgut Cin, A. Uygun Oksuz, <i>Electrospun Fibers of Plasma Modified Chitosan/PET/Ferrocenyl Substituted N-Acetyl-2-Pyrazoline Derivatives. J. Applied Polymer Science.</i> <b>2016</b>, DOI:10.1002/APP.43344</p>
<p><b>2.</b></p>	<p>S. Erbas Cakmak, F. Pir Cakmak, <b>S. Demirel Topel</b>, T. B. Uyar, E. U. Akkkaya, <i>Selective photosensitization through an AND logic response: optimization of the pH and glutathione response of activatable photosensitizers. Chem Commun.</i> <b>2015</b>, 51, 12258.</p>
<p><b>3.</b></p>	<p><b>S. Demirel Topel</b>, Ö. Topel, R.B. Botancioğlu, A. T. Koparal, <i>Synthesis and characterization of Bodipy</i></p>

**functionalized magnetic iron oxide nanoparticles for potential biological applications.** *Colloids and Surfaces B: Biointerfaces*, **2015**, 128, 245-53.

4. E. Polido Legaria, **S. Demirel Topel**, V. Kessler, G. A. Seisenbaeva, **Molecular insights into the selective action of magnetically removable complexone-grafted adsorbent.** *Dalton Trans.* **2015**, 44 (3), 1273-82.
5. **S. Demirel Topel**, E. Polido Legaria, C. Tiseanu, J. Rocha, V. Kessler, G. A. Seisenbaeva, **Hybrid silica nanoparticles for sequestration and luminescence detection of rare earth elements.** *J. Nanoparticle Research*, **2014**, 16, 2783-2800.
6. G. A. Seisenbaeva, **S. Demirel Topel**, V. Kessler, **Molecular single approach to single source precursors of perovskite stanne material.**, *Polyhedron*, **2014**, 81, 21-26.
7. **S. Demirel Topel**, G. Turgut Cin, E. U. Akkaya, **Near IR excitation of heavy atom free Bodipy photosensitizers through the intermediacy of upconverting nanoparticles.** *Chem. Commun*, **2014**, 50, 8896-8899.
8. G. Turgut Cin, G. Verep, **S. Demirel Topel**, V. Ciger, **An efficient synthesis of ferrocenyl containing 1,3,4-oxadiazole derivatives via oxidative cyclization reaction.** *Chemistry of Heterocyclic Comp.*, **2013**, 49 (7), 1061-1067.
9. B. R. Bostancıoğlu, **S. Demirel Topel**, G. Turgut Cin, T. Koparal, **Novel ferrocenyl-containing N-acetyl-2-pyrazolines inhibit in vitro angiogenesis and human lung cancer growth by interfering with F-actin stress fiber polymerization.** *Drug and Chem. Toxicol.*, **2013**, 36(4), 484-495.
10. G. Turgut Cin, **S. Demirel Topel**, A. Çakıcı, A. Ozek Yıldırım, A. Karadağ, **Synthesis, crystal structure and thermal properties of N-acetyl-3-(2-furyl)-5-ferrocenyl-2- pyrazoline and N-acetyl-3-(2-thienyl)-5-ferrocenyl-2-pyrazoline.** *J. Chem. Crystallogr.* **2012**, 42, 372-380.
11. G. Turgut Cin, **S. Demirel**, A. Çakıcı, **Synthesis of Novel Ferrocenyl-Containing Pyrazolo[4,3-c]quinolines via Modified Pictet-Spengler Reaction.** *J. Organomet. Chem*, **2011**, 696, 613-621.
12. G. Turgut Cin, **S. Demirel**, N. Karadayı, and O. Büyükgüngör, **1-Acetyl-5-ferrocenyl-3-phenyl)-2-pyrazoline.** *Acta Crystallographica Section E* **2009**; E64,m127.
13. G. Turgut Cin, **S. Demirel**, N. Karadayı, and O. Büyükgüngör, **1-Acetyl-3-ferrocenyl-5-(2-nitrophenyl)-2-pyrazoline.** *Acta Cryst. Sec.E* **2008**; E64, m514.

#### **SCIENTIFIC MEETINGS AND CONGRESS**

1. **S. Demirel Topel**, M. Asiltürk, Ö. Topel “Development of multifunctional cellulose acetate Micro/Nanocapsules as pH-responsive drug carriers” NanoTR-13, p:37, 22-25 Ekim 2017, Belek, Antalya
2. **S. Demirel Topel**, N. Doğan Bingölbali, B. Ates, M. Asiltürk, Magnetic-Upconversion NaGdF<sub>4</sub>, Yb, Er luminescence nanocomposites: synthesis, magnetization, optical properties and cytotoxicity. NanoTR-13, p:167, 22-25 Ekim 2017, Belek, Antalya.
3. Ö. Topel, **S. Demirel Topel** and M. Asiltürk, Nd-sensitized upconversion nanoparticles for bioimaging applications, NanoTR-13, p: 346, 22-25 Ekim 2017, Belek, Antalya.
4. G.Turgut Cin, S.Demirel Topel, N.Nohut, E.Eren, A.Uygun Oksuz, “**Plasma Modified Chitosan/N-Acetyl-2-Pyrazoline Derivative Nanofibers**”, Conference Paper, 2015 *IEEE International Conference on Plasma*

*Sciences (ICOPS)*, DOI: 10.1109/PLASMA.2015.7179648, , Belek-Antalya, 567 pp, 24-28 May 2015.

5. E. Polido Legaria, S. Demirel Topel, V. Kessler, G. A. Seisenbaeva “**Organic-ligand grafted magnetic nanoadsorbents for extraction and seperation of REE**. *ERES (1t conference on european rare earth resources)*, Milos Island, Greek. 2014.

6. Seda Demirel Topel. “**Synthesis of BODIPY conjugated upconverting nanoparticles for photodynamic therapy**” *National Chem Congress*, Bilkent University, Ankara. 2014.

7. R. Beklem Bostancıoğlu, A. Tansu Koparal, Seda Demirel Topel, Günseli Turgut Cin. “**A new hope for treatment of lung cancer: Ferrocenyl containing N-acetyl-2-pyrazolines**” *Congress of 2<sup>nd</sup> production of drug chemicals, technology and standartization* March 2014.

8. Seda Demirel Topel, Önder Topel. **Synthesis of covalently bonded Upconversion-TiO<sub>2</sub> Core-Shell nanoparticles and their characterization by HR-TEM, XRD, XPS and confocal raman microscopy**. *2<sup>nd</sup> Nordic Conference on Vibrational Spectroscopy*, Uppsala, Sweden. October, 2013.

9. Seda Demirel Topel, Önder Topel, Engin U. Akkaya. **BODIPY-Conjugated Magnetic Nanoparticles for Bioimaging Applications**. *E-MRS 2012, Autum Meeting*, Warsaw, Poland. September 2012.

10. Gulcan Vercep, Seda Demirel Topel, Velican Ciger, Gunseli Turgut Cin. **Efficient synthesis and characterization of novel ferrocene-containing 1,3,4- oxadiazole derivative**. *13<sup>th</sup> Tetrahedron Symposium*, Amsterdam, Hollanda. Haziran 2012.

11. Seda Demirel Topel, Marta Vico Solano, Carlos Solano Arribas, Olov Sterner. **Design, synthesis and characterization of 9-bromo-2-p-tolyl-[1,2,4]triazolo[4,3 c] quinazoline- 3,5(2h-6h)-dione**. *7<sup>th</sup> Euroasian Meeting On Heterocyclic Chemistry*, Boğaziçi University, İstanbul. June 2012.

12. Seda Demirel Topel, Marta Vico Solano, Carlos Solano Arribas, Olov Sterner **Synthesis of novel triazoloquinazolinedione derivatives using Pd-catalyzed Negishi cross- coupling reaction**. *7<sup>th</sup> Euroasian Meeting On Heterocyclic Chemistry*, Boğaziçi University, İstanbul. June 2012.

13. Seda Demirel, Abban Cakıcı, Gunseli Turgut Cin. **Synthesis of biological active ferrocenyl substituted pirazolo[4,3-c]quinolines** *IMMPC-ISPC Meeting*, Hacettepe University, Ankara. September 2010.

14. Abban Cakıcı, Seda Demirel, Gunseli Turgut Cin. **Synthesis of Potential Biological Active 2-Pyrazolines**. *XI. National Spectroscopy Congress*, Ankara, Turkey. June 2009.

As an participant,

1. 24<sup>th</sup> National Chemistry Congress Zonguldak, Turkey. 2009.
2. NEME Days , Pharmaceutical Sciences, Copenhagen University, Denmark. 2009.
3. Trends in Organic Chemistry Lund, Sweden 2009.
4. 6<sup>th</sup> AFMC International Medicinal Chemistry Symposium Istanbul. 2007