**SEYHAN SALMAN**

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## Education

Université Bordeaux I, Institute of Molecular Sciences
Postdoctoral Fellow, 2010
**Project**: Modeling of Electronic Processes at Interfaces in Organic-Based Electronic Devices
**Advisor**: Dr. Frédéric Castet

Georgia Institute of Technology, School of Chemistry and Biochemistry
Ph.D., Chemistry, 2009
**Dissertation:** Theoretical Characterization of the Charge-Transport and Electroluminescence Properties of Pi-Conjugated Organic Materials
**Advisor**: Dr. Jean-Luc Brédas

Boğaziçi University, Institute of Science
M.S., Chemistry, 2004
**Thesis**: Modeling the Reactivity of Nonphosphorus and Phosphorus-Containing Acrylates
**Advisor**: Dr. Viktorya Aviyente

Boğaziçi University, Faculty of Arts and Sciences
B.S., Chemistry (*with Honors*), 2002

## Publications

1. T. Furuncuoğlu, B. Dereli, O. Karahan, **S. Salman**, V. Aviyente, "Solvent Effects on Free-Radical Copolymerization of Styrene and 2-Hydroxyethyl methacrylate: A DFT Study", New J. Chem., 38 (1), 170 – 178, 2014.

2. **S. Salman**, J. L. Brédas, S. R. Marder, V. Coropceanu, S. Barlow, "Dipolar Ferrocene and Ruthenocene Second-Order Nonlinear Optical Chromophores: A Time-Dependent Density Functional Theory Investigation of their Absorption Spectra'' Organometallics, 32, 6061-6068, 2013.

3. S. Nenon, R. Mereau, **S. Salman**, F. Castet, T. Van Regemorter, S. Clima, D. Beljonne, J. Cornil, "Structural and Electronic Properties of the TTF/ZnO(10-10) Interface: Insights From Modeling" J. Phys. Chem. Lett. 3, 58-63, 2012. (Times Cited: 7, *from Web of Science* as of August 2014)

4. **S. Salman**, D. Kim, V. Coropceanu, and J. L. Brédas, "Theoretical investigation of triscarbazole derivatives as host materials for blue electrophosphorescence: Effects of topology" Chem. Mater. 23, 5223-5230, 2011. (Times Cited: 19, *from Web of Science* as of August 2014)

5. Y. Zhang, C. Zuniga, S. J. Kim, D. Cai, S. Barlow, **S. Salman**, V. Coropceanu, J. L. Brédas, B. Kippelen and S. Marder "Polymers with Carbazole-Oxadiazole Side Chains as Ambipolar Hosts for Phosphorescent Light-Emitting Diodes" Chem. Mater. 23, 4002-4015, 2011. (Times Cited: 21, *from Web of Science* as of August 2014)

6. D. Kim, **S. Salman**, V. Coropceanu, E. Salomon, A. Padmaperuma, L. Sapochak, A. Kahn, and J. L. Brédas, "Phosphine Oxide Derivatives as Hosts for Blue Phosphors: A Joint Theoretical and Experimental Study of Their Electronic Structure" Chem. Mater. 22, 247–254, 2010. (Times Cited: 41, *from Web of Science* as of August 2014)

7. **S. Salman**, M. C. Ruiz Delgado, V. Coropceanu, and J. L. Brédas, "Electronic Structure and Charge-Transport Parameters of Functionalized Tetracene Crystals: Impact of Partial Fluorination and Alkyl or Alkoxy Derivatization" Chem. Mater. 21, 3593–3601, 2009. (Times Cited: 25, *from Web of Science* as of August 2014)

8. T. Kinnibrugh, **S. Salman**, Y. Getmanenko, V. Coropceanu, W. W. Porter III, T. V. Timofeeva, A. J. Matzger, J. L. Brédas, S. R. Marder, and S. Barlow "Dipolar Second-Order Nonlinear Optical Chromophores Containing Ferrocene, Octamethylferrocene, and Ruthenocene Donors and Strong pi-Acceptors: Crystal Structures and Comparison of pi-Donor Strengths" Organometallics 28, 1350-1357, 2009. (Times Cited: 21, *from Web of Science* as of August 2014)

9. E. F. Valeev, V. Coropceanu, D. A. da Silva Filho, **S. Salman** and J. L. Brédas, "Effect of Electronic Polarization on Charge-Transport Parameters in Molecular Organic Semiconductors" J. Am. Chem. Soc. 128, 9882-9886, 2006. (**Times Cited: 211**, *from Web of Science* as of August 2014)

10. **S. Salman**, A. Z. Albayrak, D. Avcı and V. Aviyente, "Synthesis and Modeling of New Phosphorus-Containing Acrylates" J. Polym. Sci. Part A: Polym. Chem. 43, 2574–2583, 2005. (Times Cited: 14, *from Web of Science* as of August 2014)

11. H. Günaydin, **S. Salman**, N. Ş. Tüzün, D. Avcı and V. Aviyente, "Modeling the Free Radical Polymerization of Acrylates" Int. J. Quantum Chem. 103, 176-189, 2005. (Times Cited: 14, *from Web of Science* as of August 2014)

Sum of the Times Cited: 350
h-index: 8 (as of April 2014)

## Acknowledgements for collaborations in Scientific Papers

"Charge Transport in Organic Semiconductors" Chem. Rev., 107 (4), 926-952, 2007.

## Conferences, Workshops, Scientific Meetings

1. T. G. Erbay, **S. Salman**, V. Aviyente, "A Computational Approach to the Design of Oligothiophene and Oligoselenophene based Solar Cells" *Poster*, 44$^{th}$ IUPAC World Chemistry Congress, Istanbul, Turkey, August 11-16, 2013.

2. **S. Salman**, D. Kim, V. Coropceanu, J. L. Brédas, "Theoretical Investigation of Triscarbazole Derivatives as Host Materials for Blue Electrophosphorescence", *Poster*, ICSM 2012 International Conference on Science and Technology of Synthetic Metals, Atlanta, GA, July 8-13, 2012.

3. **S. Salman**, "Theoretical Characterization of the Charge-Transport and Electroluminescence Properties of Pi-Conjugated Organic Materials", *Invited Talk*, Chemistry Department, Boğaziçi University, Istanbul, Turkey, May 4, 2011.

4. **S. Salman**, S. Clima, J. Idé, R. Méreau, L. Ducasse, J. Cornil, D. Beljonne, and F. Castet, "Modelling of Electronic Processes at Interfaces in Organic-based Electronic Devices", *Poster*, International Symposium on Functional π-Electron Systems, Georgia Institute of Technology – Atlanta, GA, May 23-28, 2010.

5. **S. Salman**, "Theoretical Characterization of the Charge-Transport and Electroluminescence Properties of Pi-Conjugated Organic Materials", *Talk,* Institute of Molecular Sciences, Université Bordeaux I, France, November 3, 2009.

6. S. R. Marder, X. Zhan, X. Zhang, S. Odom, S. Barlow, S. Ohira, **S. Salman**, J. L. Brédas, B. Kippelen, B. Domercq, W. J. Postcavage, P. T. Wu, J. M. Hancock, S. A. Jenekhe, T. Steckler, and J. R. Reynolds, "Electronic Structure and Properties Dithienothiophene and Dithienopyrrole Containing Materials", *Talk*, 236$^{th}$ ACS National Meeting, Philadelphia, PA, August 17-21, 2008.

7. **S. Salman**, D. Kim, V. Coropceanu, J. L. Brédas, "Theoretical investigation of host materials for efficient blue electrophosphorescence" *Poster*, 2$^{nd}$ Solvay-COPE Symposium on Organic Electronics, Atlanta, GA, May 6, 2008.

8. **S. Salman**, D. Kim, I. Rudra, V. Coropceanu, J. L. Brédas, "Theoretical investigation of host materials for efficient blue electrophosphorescence" *Poster*, MRS Spring Meeting, San Francisco, CA, March 24-28, 2008.

9. **S. Salman**, K. Schmidt, I. Rudra, J. L. Brédas, U. C. Yoon, M. H. Hyun, H. J. Choi, Z. Jing, "Theoretical investigation of the ligand role in the emission properties of cyclometalated heteroleptic iridium complexes", *Poster*, 9$^{th}$ European Conference on Molecular Electronics, Metz, France, September 5-8, 2007.

10. K. Schmidt, **S. Salman**, I. Rudra, J. L. Brédas, U. C. Yoon, M. H. Hyun, H. J. Choi, Z. Jing, "Theoretical investigation of the emission properties of homoleptic and heteroleptic cyclometalated iridium complexes" *Poster*, 9$^{th}$ European Conference on Molecular Electronics, Metz, France, September 5-8, 2007.

11. Addison, V. Coropceanu, **S. Salman**, J. L. Brédas, "Electronic Properties of a Series of Fused Polycyclic Organic Structures" *Poster*, REU 2007 (Research Experience for Undergraduate) Program, Georgia Institute of Technology, Atlanta, GA, August 2, 2007.

12. **S. Salman**, K. Schmidt, I. Rudra, and J. L. Brédas, "Triplet emitters for OLED applications: Theoretical analysis of emission properties in iridium complexes" *Poster*, Solvay-COPE symposium on Organic Electronics, Georgia Institute of Technology, Atlanta, GA, May 8, 2007.

13. D. A. da Silva Filho, V. Coropceanu, E. G. Kim, **S. Salman**, R. S. Sánchez-Carrera, M. C. Ruiz-Delgado and J. L. Brédas, "Theoretical characterization of crystalline organic semiconductors" *Poster*, 100 Years of Chemistry at Tech, Atlanta, April 18, 2007.

14. K. Schmidt, S. Ohira, I. Rudra, **S. Salman**, V. Coropceanu and J. L. Brédas, "Modeling of excited states to explore non-linear optical and energy transfer processes" *Poster*, 100 Years of Chemistry at Tech, Atlanta, April 18, 2007.

15. **S. Salman**, V. Coropceanu, D. A. da Silva Filho, E. F. Valeev and J. L. Brédas, "Charge-Transport Parameters in Organic Crystals" *Poster*, Gordon Research Conferences – Electronic Processes in Organic Materials, Mount Holyoke College, South Hadley, MA, July 30 - August 4, 2006.

16. **S. Salman**, E. F. Valeev, V. Coropceanu, D. A. da Silva Filho and J. L. Brédas, "Charge-Transport Properties of Conjugated Oligomers and Polymers: Evolution of Electronic Coupling" *Poster*, 231st ACS National Meeting, Atlanta, GA, March 26-30, 2006.

17. Değirmenci, **S. Salman**, D. Avcı and V. Aviyente, "Modeling the Reactivity of New Phosphorus-Containing Acrylates" *Poster*, 15th European Symposium on Quantitative Structure-Activity Relationships and Molecular Modeling, Istanbul, Turkey, September 5-10, 2004.

18. V. Aviyente, **S. Salman**, A. Z. Albayrak and D. Avcı, "Synthesis and Modeling of New Phosphorus-Containing Acrylates" *Poster*, Molecular Quantum Mechanics – Conference in Honor of Nicholas Handy, St John's College, Cambridge University, England, July 24-29, 2004.

19. **S. Salman**, V. Aviyente and D. Avcı, "Modeling the Reactivity of Phosphonic Acid Monomers in Free Radical Polymerization" *Poster*, Density Functional Theory in Chemistry and Physics, Free University of Brussels, Belgium, September 7-12, 2003.

## Professional Experience

### Research

- *Researcher, TÜBİTAK 1001* Project, 'Computation-guided design of donor oligomers for high performance solution processed organic photovoltaic devices' in collaboration with Bogazici University (2013 – in progress)
- *Visiting Research Scholar,* University of Malaga, Department of Physical Chemistry, in collaboration with Prof. Dr. Teodomiro Lopez Navarrete and Dr. Mari Carmen Ruiz Delgado (24 June – 17 July 2013)
  Research Area: Electronic Structure Calculations of Donor-Acceptor Copolymers for Photovoltaic Applications
- *Visiting Research Scholar (Affiliate),* Georgia Institute of Technology, Brédas Research Group (1-30 July 2012)
  Research Area: Density Functional Theory Investigation of the Absorption properties of Dipolar Ferrocene and Ruthenocene Second-Order Nonlinear Optical Chromophores
- *Postdoctoral Fellow*, Université Bordeaux I (2009-2010)
  Seventh Framework European Commission collaborative project MINOTOR (Modeling of electronic processes at interfaces in organic-based electronic devices).
- *Graduate Research Assistant*, Georgia Institute of Technology (2005-2009)
  Interdisciplinary research at Georgia Tech's Center for Organic Photonics and Electronics (COPE) and Solvay S.A. Project: Polymeric Materials for New Generations of Displays and Solid-State Light Sources.
- *Visiting Research Scholar*, University of Mons, Materia Nova R&D Center, Belgium (September-October 2008)
- *Graduate Research Assistant*, Boğaziçi University (2002-2004)
- *Intern*, Dalan Kimya Endüstri A.S. Izmir (June 2001)
- *Intern*, Petkim Petrokimya Holding A.S. Aliaga-Izmir (June-August 2000)

### Teaching

- *Assistant Professor* (BIOE 336 Chemistry of Electronic and Photonic Materials, CHEM 100 General Chemistry, CHEM 201 Organic Chemistry, BIOE 232 Biochemistry and their laboratories), Istanbul Bilgi University, Istanbul (September 2011 - current)
- *Instructor* (General Chemistry CHEM 101 and KIM 101, Dogus University, Istanbul (May 2011)

- *Mentor*, REU 2007 (Research Experience for Undergraduate) program, Georgia Institute of Technology (July-August 2007)
- *Teaching Assistant* (General Chemistry Laboratory and Recitation CHEM 1310), Georgia Institute of Technology (2004-2005)
- *Teaching Assistant* (Analytical Chemistry Laboratory CHEM 244), Bogazici University (2003-2004)

## Service

- *Department Head,* Istanbul Bilgi University, Genetics and Bioengineering (as of March 2014)
- *Acting Department Head,* Istanbul Bilgi University, Genetics and Bioengineering (September 2013 – Feb.2014)
- *Referee*, Turkish Journal of Chemistry (2013)
- *Referee*, Journal of Chemical Theory and Computation (2011)
- *Member,* Make-up committee*,* Istanbul Bilgi University (2011 – present)

## Ongoing Collaborations/Projects

- Bogazici University – Chemistry Department – Prof. Dr. Viktorya Aviyente
  Project (TÜBİTAK 1001): Computation-guided design of donor oligomers for high performance solution processed organic photovoltaic devices

- University of Malaga (Spain) – Department of Physical Chemistry – Prof. Dr. Teodomiro Lopez Navarrete and Dr. Mari Carmen Ruiz Delgado
  Project: Donor-Acceptor Copolymers for Photovoltaic Applications

- Université de Lorraine (France) – Dr. Antonio Monari
  COST Project: Light-induced functions in macromolecules and molecular materials: From simulating the influence of the environment to target-specific control. Control - LIF (Control of Light-Induced Functions)

## Fellowships, Honors & Awards

- Postdoctoral fellowship, MINOTOR project, Université Bordeaux I (2009-2010)
- Annual travel grants for conferences, Georgia Institute of Technology (2007-2009)
- Ph.D. fellowship, Georgia Institute of Technology (2004-2009)
- Travel award for conferences, Boğaziçi University Foundation (2003)
- TUBITAK (The Scientific and Technical Research Council of Turkey) Biology Project Award (1995 and 1996)