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Educational Background

- August 2008 **Ph.D., Physics (Computational condensed matter physics)**
Title of the thesis: “Titanium Dioxide Nanostructures for Photocatalytic and Photovoltaic Applications”
Bilkent University, Physics Department, Ankara/Turkey
Advisor: Prof. Dr. Oğuz Gülseren
- August 2003 **M.Sc., Physics**
Title of the thesis: Mechanical and Electronic Properties of Metal Chain Nanowires
University of Bilkent, Physics Department, Ankara/Turkey
Advisor: Prof. Dr. Oğuz Gülseren
- June 2001 **B.S., Physics**
Title of the senior project: Modulation field effect transistor
Middle East Technical University, Physics Department, Ankara/Turkey
Advisor: Prof. Dr. Mehmet Tomak

Professional Experience

- 05/22-present **Associate Professor of Physics**, Department of Physics and Astrophysics, University of North Dakota
- 08/21-present **Director’s Fellowship of Materials and Manufacturing Initiative**, University of North Dakota
- 08/19-present **Adjunct Faculty**, Department of Chemistry, University of North Dakota
- 08/16-05/22 **Assistant Professor of Physics**, Department of Physics and Astrophysics, University of North Dakota
- 07/13-08/16 **Post-Doctoral Research Associate**, Condensed Matter Theory Group, University of Antwerp, Belgium

- **Advisor:** Prof. Dr. Francois M. Peeters

09/12-07/13 **Visiting Researcher**, Okinawa Institute of Science and Technology (OIST), Okinawa, Japan

09/08 - 09/12 **Post-Doctoral Research Associate**, Computational Material Science, University of Twente, the Netherlands

- **Advisor:** Prof. Dr. Geert Brocks

07/02 - 08/02 **Visiting researcher**, National Institute of Standards and Technology (NIST), Gaithersburg, Maryland, U.S.A

Research Interests

- **Quantum and electronic materials:** transition metal nitrides and nitride-based quantum materials; 2D materials and heterostructures (graphene, black phosphorus, transition metal chalcogenides/oxides); transition metal–silicon and metal–organic interfaces
- **Functional properties:** magnetic, optical, excitonic, piezoelectric, and spin-transport properties of bulk and low-dimensional materials
- **Biointerfaces and biomaterials design:** Clay–MXene interfaces, biomaterial design, and molecular interactions with biomolecules (e.g., amino acids and RGD motifs)
- **Energy materials:** MXenes, TMDs, Doped Graphene and related heterostructures; electrochemical energy storage, hydrogen storage, thermoelectric materials, and dye-sensitized solar cells
- **Extreme-environment materials:** MAB phases and related materials for high-temperature and harsh-environment applications
- **Surfaces and interfaces for energy applications:** metal oxide surfaces/interfaces (e.g., TiO₂) for catalytic, photovoltaic, and related applications
- **Computational materials design:** first-principles modeling (DFT and beyond), quantum transport (NEGF), thermal-property modeling (including quasi-harmonic approximation), and machine learning for materials discovery and design.

Professional Associations:

- Member of American Physical Society
- Member of American Ceramic Society

Journal Publications

2025

1. “Electronic and Magnetic Property Modulation of MnCrNO₂ Ferromagnetic Semiconductor MXene”, Sudil Sandeepa Dewamuni, Buddi Oshada Vithanage, **Deniz Cakir**, and

Edirisuriya M. Dilanga Siriwardane, *Physical Chemistry Chemical Physics* 27, 4614-4626 (2025).

2. “Exploiting Transformer-Based Networks and Boosting Algorithms for Ultralow Compressible Boride Design”, EMD Siriwardane, R Dong, J Hu, **Deniz Cakir**, *The Journal of Physical Chemistry C* 129 (17), 8326-8338 (2025).
3. “Thermal properties of SnSe nanoflakes by AFM-based scanning thermal microscopy measurements”, M Ozdogan, T Iken, **Deniz Cakir**, N Oncel, *Applied Physics Letters* 125, 242202 (2025).
4. “Densely Packed Vertically Oriented WSe₂ Nanosheets Synthesized by Chemical Vapor Deposition for Lithium-Ion Batteries”, Wei Ding, **Deniz Cakir**, Matthew Wieberdink, Laxmi Raj Jaishi, Jiahui Yuan, Mohd Anas, Parashu Kharel, Bin Yao, Zhenqiang Wang, Xiaojun Xian, *ACS Applied Materials & Interfaces*, 23, 34021–34029 (2025).

2024

5. “Electron-phonon coupling and thermal conductivity of MAB compounds”, T Kocabaş, B Samanta, ES Barboza, C Sevik, MV Milošević, **Deniz Cakir**, *Physical Review Materials* 8, 055002 (2024).
6. “First-Principles Investigation of Oxidation Mechanisms in MoAlB”, Bipasa Samanta and **Deniz Cakir**, *The Journal of Physical Chemistry C* 127, 21289-21298 (2024).
7. “Biomechanically tunable scaffolds for bone tissue regeneration and testbeds of cancer bone metastasis”, Krishna Kundu, Hanmant K. Gaikwad, Sharad V. Jaswandkar, Preetham Ravi, Parth Vyas, Mark R. Hoffmann, **Deniz Cakir**, Dinesh R. Katti, Kalpana S. Katti, *Materialia* 33, 102024 (2024).
8. “Elucidating the Oxidation Mechanisms in Cr₂AlB₂ Using Density Functional Theory and Thermodynamic Modeling”, Salawu Omotayo Akande, Bipasa Samanta, Ushan Adhikarige, and **Deniz Cakir**, *J. Phys. Chem. C* 128, 2471–2483 (2024).
9. “Synthesis and characterization of a remarkable ternary boride: Mo₂NiB₂”, S Gupta, J Zhang, G Ngige, M Dey, M Malusky, B Samanta, **Deniz Cakir**, R. Barua, *Open Ceramics* 18, 100556 (2024).
10. “Exploring Doping Effects on Magnetocaloric, Magnetoelastic, and Magnetostriction Properties of Fe₂AlB₂: A First-Principles Study”, B Samanta, YL Loh, **Deniz Cakir**, *The Journal of Physical Chemistry C* 128 (3), 1230-1242 (2024).
11. “Exploring the Biointerfaces: Ab Initio Investigation of Nano-Montmorillonite Clay, and its Interaction with Unnatural Amino Acids”, Ashan Fernando, Desmond Khan, Mark Hoffmann and **Deniz Cakir**, *Physical Chemistry Chemical Physics* 25, 29624-29632 (2024).

2023

12. “Defect formation and migration in MAIB (M=Mo, W) and N₂AlB₂ (N=Cr, Fe): A first-principles study”, Salawu Omotayo Akande and **Deniz Cakir**, Phys. Rev. Materials **7**, 053610 (2023).
13. “First-principles investigation of mechanical and thermal properties of MAIB (M= Mo, W), Cr₂AlB₂, and Ti₂InB₂”, Salawu Omotayo Akande, Bipasa Samanta, Cem Sevik and **Deniz Cakir**, Physical Review Applied **20**, 044064 (2023).

2022

14. “Nanolaminated Fe₂AB₂ and Mn₂AB₂ (A = Al,Si,Ga,In) materials and the assessment of their electronic correlations”, Edirisuriya M. Dilanga Siriwardane, Turan Birol, Onur Erten, and **Deniz Cakir**, Phys. Rev. Materials **6**, 124005 (2022).

2021

15. “Coal-Derived Graphene/MoS₂ Heterostructure Electrodes for Li-ion Batteries: Experiment and Simulation Study”, P. R. Ilango, **Deniz Cakir**, X. Zhanga, S. Xua, M. Mann and Xiaodong Hou, ACS Applied Materials & Interfaces **13**, 59950 (2021).
16. “Stability of adsorption of Mg and Na on sulfur functionalized MXenes”, G. Chaney, Deniz Çakır, François M. Peeters and C. Ataca, Physical Chemistry Chemical Physics **23**, 25424 (2021).
17. “First-principles discovery of stable two-dimensional materials with giant piezoelectric response”, T. Kocabas, **Deniz Çakır**, and C. Sevik, J. Phys.: Condens. Matter **33** 115705 (2021).
18. “Comprehensive Study of Lithium Adsorption and Diffusion on Janus Mo/WXY (X, Y= S, Se, Te) Using First Principles and Machine Learning Approaches”, G. Chaney, A. Ibrahim, F. Ersan, **Deniz Çakır**, C. Ataca, ACS Applied Materials & Interfaces **13**, 36388-36406 (2021).

2020

19. “CrSi₂ crystallites on Si(110)”, Sameera Pathiranage, Edirisuriya MD Siriwardane, Rasika Mohottige, **Deniz Çakır**, Nuri Oncel, Surface Science **703**, 121739 (2020).
20. “Engineering magnetic anisotropy and exchange couplings in double transition metal MXenes via surface defects”, Edirisuriya M. D. Siriwardane, Pragalv Karki, Yen Lee Loh and **Deniz Çakır**, J. Phys.: Condens. Matter **33**, 035801 (2020).
21. “Enhanced Electrochemical Storage Properties of Na and Mg Intercalated B-Doped-Graphene Based Heterostructures and Bilayers”, Edirisuriya M. D. Siriwardane and **Deniz Çakır**, J. Phys. Chem. C **124**, 1260-1268 (2020).
22. “Revealing the Formation Energy - Exfoliation Energy - Structure Correlation of MAB Phases using Machine Learning and DFT”, Edirisuriya M. D. Siriwardane, Rajendra P. Joshi, Neeraj Kumar and **Deniz Çakır**, ACS Applied Materials & Interfaces **12**, 29424-29431 (2020).

23. "A systematical ab-initio review of promising 2D MXene monolayers towards Li-ion battery applications", Uğur Yorulmaz, İlker Demiroğlu, **Deniz Çakır**, Oğuz Gülseren, and Cem Sevik, Review paper, J Phys Energy IOP 2, 032006 (2020).
24. "Assessment of Sulfur-functionalized MXenes for Li-ion Battery applications", Edirisuriya M. D. Siriwardane, İlker Demiroglu, Cem Sevik, François M. Peeters, and **Deniz Çakır**, J. Phys. Chem. C 124, 21293-21304 (2020).

2019

25. "Temperature-dependent phonon spectrum of transition metal dichalcogenides calculated from the spectral energy density: Lattice thermal conductivity as an application", A. Mobaraki, C. Sevik, H. Yapicioglu, **Deniz Çakır**, O. Gülseren, Physical Review B 100, 035402 (2019).
26. "Tailoring Storage Capacity and Ion Kinetics in Graphene Heterostructures by Functionalization of Graphene", C. Sevik, **Deniz Çakır**, Physical Review Applied 12, 014001 (2019).
27. "Strain-Spintronics: Modulating Electronic and Magnetic Properties of $\text{Hf}_2\text{MnC}_2\text{O}_2$ MXene by Uniaxial Strain", Edirisuriya M. D. Siriwardane, Pragalv Karki, Yen Lee Loh and **Deniz Çakır**, J. Phys. Chem. C 123, 1912451 (2019).
28. "Silicene-Like Domains on IrSi_3 Crystallites", D. Nicholls, Fatima, **Deniz Çakır**, and N. Oncel, The Journal of Physical Chemistry C 123, 7225-7229 (2019).
29. "Strain engineering of electronic and magnetic properties of double-transition metal ferromagnetic semiconductor MXenes", Edirisuriya M. D. Siriwardane, and **Deniz Çakır**, Journal of Applied Physics 125, 082527 (2019).
30. "Alkali Metal Intercalation in MXene/Graphene Heterostructures: A New Platform for Ion Battery Applications", I. Demiroglu, F. M. Peeters, O. Gulseren, **Deniz Çakır**, and C Sevik, The journal of physical chemistry letters 10, 727-734 (2019).
31. "Achieving Fast Kinetics and Enhanced Li Storage Capacity for $\text{Ti}_3\text{C}_2\text{O}_2$ by Intercalation of Quinone Molecules", EMD Siriwardane, I. Demiroglu, C. Sevik, **Deniz Çakır**, ACS Applied Energy Materials 2, 1251-1258 (2019).

2018

32. "Determination of Dynamically Stable Electrenes towards Ultra-fast Charging Battery Applications", T. Kocabas, A. Ozden, I. Demiroglu, **Deniz Çakır**, C. Sevik, The Journal of Physical Chemistry Letters 9, 4267 (2018).
33. "Electronic and mechanical properties of stiff rhenium carbide monolayers: a first-principles investigation", E. M. D. Siriwardane, P. Karki, C. Sevik and **Deniz Çakır**, Applied Surface Science 458, 762 (2018).
34. "In pursuit of barrierless transition metal dichalcogenides lateral heterojunctions", Yierpan Aierken, C. Sevik, O. Gulseren, F. M. Peeters and **Deniz Çakır**, Nanotechnology 29, 295202 (2018).

35. “The influence of surface functionalization on thermal transport and thermoelectric properties of MXene monolayers”, S. Sarikurt, **Deniz Çakır**, M. Keceli and C. Sevik, *Nanoscale* 10, 8859 (2018).
36. “A distinct correlation between the vibrational and thermal transport properties of group VA monolayer crystals”, T. Kocabas, **Deniz Çakır**, O. Gulseren, F. Ay and N. K. Perkgoz and C. Sevik, *Nanoscale* 10, 7803 (2018).
37. “Study of Iridium Silicide Monolayers using Density Functional Theory”, M. D. Popis, S. V. Popis, N. Oncel, M. R. Hoffmann, and **Deniz Çakır**, *Journal of Applied Physics* 123, 074301 (2018).
38. “MXenes/graphene heterostructures for Li battery applications: a first principles study”, Y. Aierken, C. Sevik, O. Gülseren, F. M. Peeters and **Deniz Çakır**, *Journal of Materials Chemistry A* 6, 2337 (2018).

2017

39. “Intercalation of Si between MoS₂ layers”, R. van Bremen, Q. Yao, S. Banerjee, **Deniz Çakır**, N. Oncel, and H.J.W. Zandvliet, *Beilstein Journal of Nanotechnology* 8, 1952 (2017).
40. “Gate induced monolayer behavior in twisted bilayer phosphorene”, C. Sevik, John R. Wallbank O. Gulseren, F. M. Peeters, and **Deniz Çakır**, *2D materials* 4, 035025 (2017).
41. “Piezoelectricity in two-dimensional materials: lattice dynamics and ab-initio calculations”, Karl H. Michel, **Deniz Çakır**, C. Sevik, and F. M. Peeters, *Physics Review B* 95, 125415 (2017).

2016

42. “On the structural and electronic properties of Ir-silicide nanowires on Si(001) surface”, Fatima, I. C. Oguz, **Deniz Çakır**, S. Hossain, R. Mohattige, O. Gulseren, and N. Oncel, *J. Appl. Phys.* 120, 095303 (2016).
43. “Peculiar piezoelectric properties of two-dimensional materials”, C. Sevik, **Deniz Çakır**, O. Gulseren and F. M. Peeters, *The Journal of Physical Chemistry C* 120, 13948 (2016).
44. “Strain enhancement of acoustic phonon limited mobility in monolayer TiS₃”, E. Aierken, **Deniz Çakır** and F. M. Peeters, *Physical Chemistry Chemical Physics* 18, 14434 (2016)*.
45. “Mo₂C as a high capacity anode material: a first-principles study”, **Deniz Çakır**, C. Sevik, O. Gulseren and F. M. Peeters, *Journal Materials Chemistry A* 4, 6029 (2016).

2015

46. “Fluorographane: a promising material for bipolar doping of MoS₂”, **Deniz Çakır** and F. M. Peeters, *Phys. Chem. Chem. Phys.* 17, 27636 (2015).
47. “Significant effect of stacking on the electronic and optical properties of few layer black phosphorus”, **Deniz Çakır**, Cem Sevik and F. M. Peeters, *Physical Review B* 92, 165406 (2015).

48. “Promising piezoelectric performance in single layer transition-metal dichalcogenides and dioxides”, M. M. Alyoruk, E. Aierken, **Deniz Çakır**, F. M. Peeters, and C. Sevik, *J. Phys. Chem. C* 119, 23231 (2015).
49. “Thermal properties of black and blue phosphorenes from a first-principles quasi-harmonic approach”, E. Aierken, **Deniz Çakır**, C. Sevik, and F. M. Peeters, *Phys. Rev. B* 92, 081408(R) (2015).
50. “Scanning Tunneling Microscopy and Density Functional Theory Study on Zinc(II)-Phthalocyanine Tetrasulfonic Acid on Bilayer Epitaxial Graphene on Silicon Carbide(0001)”, D. Nicholls, R. R. Li, B. Ware, C. Pansegrau, **Deniz Çakır**, M. R. Hoffmann, and N. Oncel, *J. Phys. Chem. C* 119, 9845 (2015).
51. “Realization of a p-n junction in a single layer boron-phosphide”, **Deniz Çakır**, D. Kecik, H. Sahin, E. Durgun, and F. M. Peeters, *Phys. Chem. Chem. Phys.* 17, 13013 (2015).
52. “Exciton stark shift in few-layer black phosphorus”, A. Chaves, T. Low, P. Avouris, **Deniz Çakır**, and F. M. Peeters, *Phys. Rev. B* 91, 155311 (2015).

2014

53. “Magnetoresistance in multilayer fullerene spin valves: a first-principles study”, **Deniz Çakır**, D. Otalvaro and G. Brocks, *Phys. Rev. B* 90, 245404 (2014).
54. “Tuning of the electronic and optical properties of single layer black phosphorus by strain”, **Deniz Çakır**, H. Sahin and F. M. Peeters, *Phys. Rev. B* 90, 205421 (2014).
55. “Engineering electronic properties of Metal/MoSe₂ interfaces using self-assembly monolayers”, **Deniz Çakır**, C. Sevik, and F. M. Peeters, *J. Mater. Chem. C* 2, 9842 (2014).
56. “Doping of rhenium disulfide monolayer: A systematic first principles study”, **Deniz Çakır**, H. Sahin, and F. M. Peeters, *Phys. Chem. Chem. Phys.* 16, 16771 (2014).
57. “Dependence of the electronic and transport properties of metal/MoSe₂ interfaces on contact structure”, **Deniz Çakır** and F. M. Peeters, *Phys. Rev. B* 89, 245403 (2014).
58. “Angle-Resolved Synchrotron Photoemission and Density Functional Theory on Iridium Modified Si(111) surface ”, N. Oncel, **Deniz Çakır**, J. H. Dil, B. Slomski and G. Landolt, *J. Physics: Condensed Matter* 26, 285501 (2014).
59. “Mechanical and Thermal properties of h-MX₂ (M=Cr, Mo, W; X=O, S, Se, Te) monolayers: a comparative study”, **Deniz Çakır**, F. M. Peeters, and C. Sevik, *App. Phys. Lett.* 104, 203110 (2014).
60. “Formation and stability of point defects in monolayer rhenium disulfide”, S. Horzum, **Deniz Çakır**, S. Tongay, J. Wu, H. Sahin and F. M. Peeters, *Phys. Rev. B* 89, 155433 (2014).

61. “From spin-polarized interfaces to giant magnetoresistance in organic spin valves”, **Deniz Çakır**, D. Otalvaro, and G. Brocks, Phys. Rev. B 89, 115407 (2014).

2013

62. “Role of intrinsic molecular dipole in energy level alignment at organic interfaces”, L. Lindell, **Deniz Çakır**, G. Brocks, M. Fahlman and S. Braun, Appl. Phys. Lett. 102, 223301 (2013).

63. “Magnetic and electronic properties of Fe atoms at bcc-Fe(001)/C₆₀ interfaces for organic spintronics”, T. Lan Anh Tran, **Deniz Çakır**, P. K. J. Wong, A. B. Preobrajenski, G. Brocks, W. G. van der Wiel, and M. P. de Jong, ACS Appl. Mater. Interfaces 5, 837 (2013).

2012

64. “Ab-initio study of neutral (TiO₂)_n (n=1-10) clusters and their interaction with H₂O and transition metal atoms”, **Deniz Çakır** and O. Gülseren, J. Physics: Condensed Matter 24, 305301 (2012).

65. “Charge equilibration and potentials steps in organic semiconductor multilayers”, G. Brocks, **Deniz Çakır**, M. Bokdam, M. P. de Jong and M. Fahlman, Organic Electronics 13, 1793 (2012).

66. “Modeling charge transfer at organic donor-acceptor semiconductor interfaces”, **Deniz Çakır**, M. Bokdam, M. P. de Jong, M. Fahlman and G. Brocks, Appl. Phys. Lett. 100, 203302 (2012).

67. “Pt_n (n=1-8) and Pt₂Au_m (m=1-5) clusters on reduced rutile TiO₂ (110) surface”, **Deniz Çakır** and O. Gülseren, J. Phys. Chem. C 116, 5735 (2012).

2011

68. “Native defects and the dehydrogenation of NaBH₄”, **Deniz Çakır**, G. A. de Wijs and G. Brocks, J. Phys. Chem. C 115, 24429 (2011).

69. “Effect of impurities on mechanical and electronic properties of Au, Ag, and Cu monatomic chain nanowires”, **Deniz Çakır** and O. Gülseren, Phys. Rev. B 84, 085450 (2011).

70. “Interaction of BrPDI, BrGly, and BrAsp with the Rutile TiO₂ (110) Surface for Photovoltaic and Photocatalytic Applications: A First-Principles Study”, **Deniz Çakır**, O. Gülseren, E. Mete and S. Ellialtıoğlu, J. Phys. Chem. C 115, 9220 (2011).

71. “Fermi level pinning at electrode-organic semiconductor interfaces”, M. Bokdam, **Deniz Çakır** and G. Brocks, Appl. Phys. Lett. 98, 113303 (2011).

2009

72. “Ab-initio study of very thin TiO_x (x=1,2) and (110) rutile nanowires”, **Deniz Çakır** and O. Gülseren, Phys. Rev. B 80, 125424 (2009).

73. “Adsorption of BrPDI, BrGly, and BrAsp on anatase TiO₂ (001) surface for the dye sensitized solar cell applications”, **Deniz Çakır**, O. Gülseren, E. Mete and S. Ellialtıoglu, Phys. Rev. B 80, 035431 (2009).

2007

74. “Half-metallic silicon nanowires”, E. Durgun, **Deniz Çakır**, N. Akman and S. Ciraci, Phys. Rev. Lett. 99, 256806 (2007).

2006

75. “Electronic and mechanical properties of molybdenum selenide type nanowires by plane-wave pseudopotential calculations”, **Deniz Çakır**, E. Durgun, O. Gülseren and S. Ciraci, Phys. Rev. B 74, 235433 (2006).

Professional Presentations

1. "Magnetocaloric properties of MAB phases," **invited oral presentation** 47th International Conference and Expo on Advanced Ceramics and Composites, DoD, Florida. (January 2023).
2. APS MARCH MEETING 2023, "Ab Initio investigation of bio-interfaces," NSF, Las Vegas. (March 2023).
3. “Discovering MAB phases”, **invited oral presentation**, 45th International Conference and Exposition on Advanced Ceramics and Composites, January 26-30, 2020, at the Daytona Beach, Florida, USA.
4. “Energy storage using MXenes”, **invited oral presentation**, 44th International Conference and Exposition on Advanced Ceramics and Composites, January 26-30, 2020, at the Daytona Beach, Florida, USA.
5. “Thermal Transport Properties of Functionalized MXene monolayers”, **invited oral presentation**, 42nd International Conference and Exposition on Advanced Ceramics and Composites, January 21-26, 2018, at the Daytona Beach, Florida, USA.
6. “Optical and electronic properties of few-layer black phosphorus: DFT perspective”, **invited oral presentation**, North Dakota State University, 10 April 2017, 2016, Fargo/ND USA.
7. “Mo₂C as a high-capacity anode material: a first-principles study”, **oral presentation** at the APS MARCH meeting, March 13-17, 2017, New Orleans, LA.
8. “Peculiar Piezoelectric Properties of Two-Dimensional Materials”, oral presentation at the Flatlands beyond Graphene 2016, 5-8 July 2016, Bled/Slovenia.

9. "Mo₂C as a high-capacity anode material: a first-principles study", oral presentation at the e-mrs meeting, 2-6 May 2016, Lille/France.
10. "Optical and electronic properties of few-layer black phosphorus: DFT perspective", invited oral presentation, University of North Dakota, 7 April 2016, 2016, Grand Forks/ND USA.
11. "Remarkable effect of stacking on the electronic and optical properties of few layer black phosphorus", oral presentation at Nanotr11, 22-25 June 2015, Middle East Technical University, Ankara/Turkey.
12. "Energy applications from first principles calculations", invited oral presentation, Anadolu University, September 2014, Eskisehir/Turkey.
13. "Dependence of the electronic and transport properties of metal-MoSe₂ interfaces on the contact structures", oral presentation at Graphene and related materials 9-11 June 2014, IYTE, Izmir/Turkey.
14. "Doping of rhenium disulfide monolayer: A systematic first principles study", poster presentation at Graphene Week 23-27 June 2014, Gothenburg/Sweden.
15. "Charge transfer at organic donor-acceptor semiconductor interfaces" poster presentation at OIST International Symposium on Organic Electronics, 2012, Okinawa/Japan.
16. "Fermi level pinning at electrode-organic semiconductor interfaces" oral presentation at APS March meeting (2012), Boston/USA.
17. "Charge transfer at organic donor-acceptor semiconductor interfaces" poster presentation at CHAIN meeting, November 28-30 (2011), Maarssen/The Netherlands.
18. "Reaction pathways in the reactive composite Mg(NH₂)₂ + LiH" oral presentation at APS March meeting, March 19-25 (2011), Dallas/USA.
19. "Fermi level pinning at electrode-organic semiconductor interfaces" poster presentation at First principles theory and modeling in organic electronics, January 31-February 3 (2011), CECAM, Lausanne/Switzerland.
20. "Reaction pathways in the reactive composite Mg(NH₂)₂ + LiH" oral presentation at Scientific meeting on Chemistry related to Physics & Material sciences, February 15-16 (2010), Veldhoven/The Netherlands
21. "Reaction pathways in the reactive composite Mg(NH₂)₂ + LiH" oral presentation at 4th Symposium Hydrogen and Energy, January 24-29 (2010), Wildhaus/Switzerland.

22. “Adsorption of BrPDI, BrGly, and BrAsp dye molecules on rutile TiO₂ (110) surface for dye sensitized solar cell applications” oral presentation at NANO-TR 4, Istanbul Technical University, June 9-13 (2008), Istanbul/Turkey.
23. “Electronic and mechanical properties of molybdenum selenide type nanowires”, oral presentation at NANO-TR 2, Middle East Technical University, May 3-5 (2006), Ankara/Turkey.
24. “Electronic and mechanical properties of iron disilicides (FeSi₂)”, poster presentation at Condensed Matter Physics Meeting, Middle East Technical University, November 3 (2006), Ankara/Turkey.