

## Curriculum Vitae

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### Hâldun Sevinçli

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Google Scholar ID: <https://scholar.google.com/citations?user=UZSDAxQAAAAJ&hl>

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### Biography

Hâldun Sevinçli is a faculty member at the Department of Materials Science and Engineering of İzmir Institute of Technology.

He graduated from the Physics Department of Middle East Technical University, where he also received his MSc degree. He finished his PhD at the Physics Department of Bilkent University in 2008 with his studies on theoretical and computational solid state physics. After working at the Materials Science Institute of Dresden Technical University between 2008-2012 as a postdoctoral researcher in several projects, he moved to the Micro- and Nano-technology Department of the Technical University of Denmark. He joined İzmir Institute of Technology in 2013.

His research focuses mainly on theory and simulation of quantum transport of charge, spin and heat. These topics include nano-electronics, spintronics, magnetotransport, thermoelectrics, phononics, quantum thermal transport. Ballistic transport, quantum diffusion and localization, scaling theory, multilayer scaling law, anomalous diffusion, quartic dispersion, unconventional tunneling and its applications are the major themes/key words in his research.

Hâldun Sevinçli received BAGEP Young Scientist Prize of Bilim Akademisi (Science Academy-Turkey) in 2014, and Sedat Simavi Science Award in 2017.

## Academic Carrier

<b>2019-</b>	Professor İzmir Institute of Technology, Department of Materials Science and Engineering
<b>2014-2019</b>	Associate Professor İzmir Institute of Technology, Department of Materials Science and Engineering
<b>2013-2014</b>	Assistant Professor İzmir Institute of Technology, Department of Materials Science and Engineering
<b>2012-2013</b>	Postdoc Technical University of Denmark, Department of Micro- and Nano-technology (Individual postdoc grant from Danish Research Council)
<b>2008-2012</b>	Postdoc Technical University of Dresden, Institute for Materials Science, Chair for Nanotechnology (EU and DFG granted projects)
<b>2003-2008</b>	Research and teaching assistantships Department of Physics, Bilkent University

## Education

<b>PhD</b>	Physics Department, Bilkent University (2008) <i>"Electromagnetic properties and phononic energy dissipation in graphene based materials"</i>
<b>MS</b>	Physics Department, Middle East Technical University (2002) <i>"Tunneling time models and 'Superluminality' "</i>
<b>BS</b>	Physics Department, Middle East Technical University (1999)

## Scholarships and Awards

2017	Sedat Simavi Science Award
2014	Bilim Akademisi (Science Academy–Turkey) Young Scientist Prize (BAGEP)
2013 – 2014	TÜBİTAK-BİDEB-2232 Yurda Dönüş Araştırma Bursu <i>"Nano-yapılandırılmış grafenin ısı özellikleri"</i> PI: H. Sevinçli
2012 – 2013	Danish Research Council, Individual Postdoc Grant <i>"In silico design of nano-structured thermoelectric materials"</i> PI: H. Sevinçli

## Courses taught

Introduction to Computer Programming (MSE-120)  
Materials Physics (MSE-215)  
Materials Science and Engineering (ME-231)  
Introduction to Solid State Physics (MSE-313)  
Atomistic Simulation of Materials - I & II (MSE-509&510)  
Solid State Physics (MSE-512)  
Quantum Mechanics of Materials Science and Engineering (MSE-515)  
Transport in Nano-structures (MSE-520)

## Thesis supervised

6. *"Quantum transport regimes in Quartic Materials"*  
Hazan Özkan, PhD Thesis, İzmir Institute of Technology  
January 2024 (expected)
5. *"Quantum Thermal Transport in Two-Dimensional Amorphous Structures"*  
Gizem Kurt, PhD Thesis, İzmir Institute of Technology  
June 2023 (expected)
4. *"A computational study of excitation dynamics on semiconductor surfaces"*  
Birnur Kaya, MS Thesis, İzmir Institute of Technology  
December 2019
3. *"Electronic, Vibrational and Transport Properties of Quasi-one Dimensional Transition Metal Dichalcogenide Structures"*  
Elif Ünsal, MS Thesis, İzmir Institute of Technology  
December 2019
2. *"Investigation of anharmonic effects in phonon transport"*  
Mustafa Neşet Çınar, MS Thesis, İzmir Institute of Technology  
July 2018
1. *"Control of thermal flux in molecular junctions by isomeric switching"*  
Gizem Kurt, MS Thesis, İzmir Institute of Technology  
July 2017

## Memberships

American Physical Society (APS)  
Young Science Academy Working Group (Genç-BA) (Bilim Akademisi, Genç Bilim Akademisi Çalışma Grubu)

## Peer Review

*Reviewer in:* Nature Materials, Nature Physics, Nano Letters, ACS Nano, Physical Review Letters, Physical Review B, Physical Review Materials, Physical Review Applied, Europhysics Letters, Journal of Physical Chemistry Letters, Journal of Physics: Condensed Matter, 2D Materials, IOP Nanotechnology, Journal of Applied Physics, Journal of Physical Chemistry, Journal of Chemical Physics, Journal of Chemical Physics and Physical Chemistry.

## Scientific Conference Organization\*

13.05.2022	9 <sup>th</sup> Condensed Matter Physics İzmir Meeting İYTE, İzmir
17.04.2015	4 <sup>th</sup> Condensed Matter Physics İzmir Meeting İYTE, İzmir
29.09 - 03.10.2014	Advanced Workshop on Landau-Zener Interferometry and Quantum Control in Condensed Matter ICTP-ECAR, İYTE, İzmir
23-31.08.2014	II. International Summer School on Exact and Numerical Methods for Low-Dimensional Quantum Structures ICTP-ECAR, İYTE, İzmir
09-11.07.2014	GRM-2014: Graphene and Related Materials, Workshop and Summer School İYTE, İzmir

\*Served in the organization/scientific committees of the listed scientific conferences.

## Publications

Publication statistics: (as of Oct 2022)

42 ISI publications, 1 non-ISI publication, 2 book chapters  
2782 citations (Google-Scholar), 1848 citations (Web of Science)  
h-index: 21, i-10 index: 28

Cited in “top 2% scientists” (single year list) (2020, 2021, 2022)  
sm-field: Physics & Astronomy  
sm-subfield1/2: Applied Physics / Nanoscience & Nanotechnology

### ISI Publications

**42.** “*Indirect exchange interaction in two-dimensional materials with quartic dispersion*”

AU Canbolat, **H Sevinçli**, Ö Çakır  
Physical Review B **106**, 104409 (2022) [Link]

**41.** “*Toward Optimized Charge Transport in Multilayer Reduced Graphene Oxides*”

Mustafa Neşet Çınar, Aleandro Antidormi, Viet-Hung Nguyen, Alessandro Kovtun, Samuel Lara-Avila, Andrea Liscio, Jean-Christophe Charlier, Stephan Roche, and **Hâldun Sevinçli**  
Nano letters **22**, 2202-2208 (2022) [Link]

40. "Ballistic thermoelectric transport properties of two-dimensional group III-VI monolayers"  
MN Çınar, GÖ Sargin, K Sevim, B Özdamar, G Kurt, **H Sevinçli**  
Physical Review B **103**, 165422 (2021) [Link]
39. "Enhancement of thermoelectric efficiency of  $T\text{-HfSe}_2$  via nanostructuring"  
E Unsal, RT Senger, **H Sevinçli**  
Physical Review B **103**, 014104 (2021) [Link]
38. "First-Principles Investigation of Photoisomeric Switching of Vibrational Heat Current across Molecular Junctions"  
G Kurt, **H Sevinçli**  
Physical Review Applied **14**, 064045 (2020) [Link]
37. "Dimensional crossover and enhanced thermoelectric efficiency due to broken symmetry in graphene antidot lattices"  
MN Çınar, **H Sevinçli**  
Physical Review Applied **14**, 024075 (2020) [Link]
36. "Collapse of the vacuum in hexagonal graphene quantum dots: A comparative study between tight-binding and mean-field Hubbard models"  
M Polat, **H Sevinçli**, AD Güçlü  
Physical Review B **101**, 205429 (2020) [Link]
35. "Structural, electronic, and magnetic properties of point defects in polyaniline (C<sub>3</sub>N) and graphene monolayers: A comparative study"  
K Sevim, **H Sevinçli**  
Journal of Applied Physics **127**, 195102 (2020) [Link]
34. "Ballistic thermoelectric properties of monolayer semiconducting transition metal dichalcogenides and oxides"  
G. Özbal, R. T. Senger, C. Sevik, and **H. Sevinçli**  
Phys. Rev. B **100**, 085415 (2019) [Link]
33. "Green function, quasi-classical Langevin and Kubo–Greenwood methods in quantum thermal transport" (invited review paper)  
**H Sevinçli**, S Roche, G Cuniberti, M Brandbyge, R Gutierrez and L Medrano Sandonas  
J. Phys.: Condens. Matter **31**, 273003 (2019) [Link]
32. "Tuning thermal transport in graphene via combinations of molecular antiresonances"  
K. Sevim, **H. Sevinçli**  
Carbon **140**, 603 (2018) [Link]

31. "Structural, vibrational, and electronic properties of single-layer hexagonal crystals of group IV and V elements"  
B. Özdamar, G. Özbal, M. N. Çınar, K. Sevim, G. Kurt, B. Kaya, **H. Sevinçli**  
Physical Review B **98**, 045431 (2018) [Link]
30. "Directed Growth of Hydrogen Lines on Graphene: High Throughput Simulations Powered by Evolutionary Algorithm"  
G. Özbal, J. T. Falkenberg, M. Brandbyge, R. T. Senger, **H. Sevinçli**  
Phys. Rev. Materials **2**, 073406 (2018) [Link]
29. "First-Principle-Based Phonon Transport Properties of Nanoscale Graphene Grain Boundaries"  
L.M. Sandonas, **H. Sevinçli**, R. Gutierrez, G. Cuniberti  
Advanced Science **5**, 1700365 (2018) [Link]
28. "Quartic Dispersion, Strong Singularity, Magnetic Instability, and Unique Thermoelectric Properties in Two-Dimensional Hexagonal Lattices of Group-VA Elements"  
**H. Sevinçli**  
Nano Letters **17**, 2589 (2017) [Link]
27. "Promising thermoelectric properties of phosphorenes"  
C. Sevik, **H. Sevinçli**  
Nanotechnology **27**, 355705 (2016) [Link]
26. "Electronic, phononic, and thermoelectric properties of graphyne sheets"  
**H. Sevinçli**, C. Sevik  
App. Phys. Lett. **105**, 223408 (2014) [Link]
25. "Phonon scattering in graphene over substrate steps"  
**H. Sevinçli**, M. Brandbyge  
App. Phys. Lett. **105**, 153108 (2014) [Link]
24. "Quantum interference in thermoelectric molecular junctions: A toy model perspective"  
D. Nozaki, S. M. Avdoshenko, **H. Sevinçli**, G. Cuniberti  
Journal of Applied Physics **116**, 074308 (2014) [Link]
23. "Comparison of electron and phonon transport in disordered semiconductor carbon nanotubes"  
**H Sevinçli**, T Lehmann, DA Ryndyk, G Cuniberti  
Journal of Computational Electronics **12**, 685 (2013) [Link]
22. "Topological Signatures in the Electronic Structure of Graphene Spirals"  
SM Avdoshenko, P Koskinen, **H Sevinçli**, AA Popov, CG Rocha  
Scientific Reports **3**, 1632 (2013) [Link]

- 21.** "A parabolic model to control quantum interference in T-shaped molecular junctions"  
D Nozaki, **H Sevinçli**, SM Avdoshenko, R Gutierrez, G Cuniberti  
Phys. Chem. Chem. Phys. **15**, 13951 (2013) [Link]
- 20.** "A bottom-up route to enhance thermoelectric figures of merit in graphene nanoribbons"  
**H Sevinçli**, C Sevik, T Çağın, G Cuniberti  
Scientific Reports **3**, 1228 (2013) [Link]
- 19.** "Prediction of quantum interference in molecular junctions using a parabolic diagram: Understanding the origin of Fano and anti-resonances"  
D Nozaki, SM Avdoshenko, **H Sevinçli**, R Gutierrez, G Cuniberti  
Journal of Physics: Conference Series **427**, 012013 (2013) [Link]
- 18.** "Effects of domains in phonon conduction through hybrid boron nitride and graphene sheets"  
**H Sevinçli**, W Li, N Mingo, G Cuniberti, S Roche  
Physical Review B **84**, 205444 (2011) [Link]
- 17.** "Phonon engineering in carbon nanotubes by controlling defect concentration"  
C Sevik, **H Sevinçli**, G Cuniberti, T Çağın  
Nano Letters **11**, 4971 (2011) [Link]
- 16.** "Graphene: Piecing it together" (review paper)  
Mark H Rummeli, Claudia G Rocha, Frank Ortman, Imad Ibrahim, **Haldun Sevinçli**, Felix Börrnert, Jens Kunstmann, Alicja Bachmatiuk, Markus Pötschke, Masashi Shiraishi, Meyya Meyyappan, Bernd Büchner, Stephan Roche, Gianarelio Cuniberti  
Advanced Materials **23**, 4490 (2011) [Link]
- 15.** "Efficient linear scaling method for computing the thermal conductivity of disordered materials"  
W Li, **H Sevinçli**, S Roche, G Cuniberti  
Physical Review B **83**, 155416 (2011) [Link]
- 14.** "Control of thermal and electronic transport in defect-engineered graphene nanoribbons"  
J Haskins, A Kınacı, C Sevik, **H Sevinçli**, G Cuniberti, T Çağın  
ACS Nano **5**, 3779 (2011) [Link]

13. "*Phonon transport in large scale carbon-based disordered materials: Implementation of an efficient order-N and real-space Kubo methodology*"  
W Li, **H Sevinçli**, G Cuniberti, S Roche  
Physical Review B **82**, 041410 (2010) [Link]
12. "*Engineering the figure of merit and thermopower in single-molecule devices connected to semiconducting electrodes*"  
D Nozaki, **H Sevinçli**, W Li, R Gutiérrez, G Cuniberti  
Physical Review B **81**, 235406 (2010) [Link]
11. "*Enhanced thermoelectric figure of merit in edge-disordered zigzag graphene nanoribbons*"  
**H Sevinçli**, G Cuniberti  
Physical Review B **81**, 113401 (2010) [Link]
10. "*First-principles approach to monitoring the band gap and magnetic state of a graphene nanoribbon via its vacancies*"  
M Topsakal, E Aktürk, **H Sevinçli**, S Ciraci  
Physical Review B **78**, 235435 (2008) [Link]
9. "*Superlattice structures of graphene-based armchair nanoribbons*"  
**H Sevinçli**, M Topsakal, S Ciraci  
Physical Review B **78**, 245402 (2008) [Link]
8. "*Electronic and magnetic properties of 3d transition-metal atom adsorbed graphene and graphene nanoribbons*"  
**H Sevinçli**, M Topsakal, E Durgun, S Ciraci  
Physical Review B **77**, 195434 (2008) [Link]
7. "*Spin confinement in the superlattices of graphene ribbons*"  
M Topsakal, **H Sevinçli**, S Ciraci  
Applied Physics Letters **92**, 173118 (2008) [Link]
6. "*Dynamics of phononic dissipation at the atomic scale: Dependence on internal degrees of freedom*"  
**H Sevinçli**, S Mukhopadhyay, RT Senger, S Ciraci  
Physical Review B **76**, 205430 (2007) [Link]
5. "*Oscillatory exchange coupling in magnetic molecules*"  
**H Sevinçli**, RT Senger, E Durgun, S Ciraci  
Journal of Physics: Condensed Matter **19**, 216205 (2007) [Link]
4. "*Spintronic properties of carbon-based one-dimensional molecular structures*"  
E Durgun, RT Senger, **H Sevinçli**, H Mehrez, S Ciraci  
Physical Review B **74**, 235413 (2006) [Link]



3. "*Size-dependent alternation of magnetoresistive properties in atomic chains*"

E Durgun, RT Senger, H Mehrez, **H Sevinçli**, S Ciraci  
The Journal of chemical physics **125**, 121102 (2006) [Link]

2. "*Non-Markovian decoherence: A critique of the two-level approximation*"

T Hakiöđlu, K Savran, **H Sevinçli**, E Meşe  
Journal of Magnetism and Magnetic Materials **300**, e579 (2006) [Link]

1. "*The off-resonant aspects of decoherence and a critique of the two-level approximation*"

K Savran, T Hakiöđlu, E Mese, **H Sevinçli**  
Journal of Physics: Condensed Matter **18**, 345 (2006) [Link]

**Book chapters and non-ISI publications**

3. "*Functionalization of Graphene Nanoribbons*"

**H Sevinçli**, M Topsakal, S Çiraci  
Low Dimensional Semiconductor Structures, pp 69-92  
Editors: Hilmi Ünlü, Norman J. M. Horing  
Springer Berlin Heidelberg (2013)  
ISBN: 978-3-642-28423-6

2. "*Tailoring the Physical Properties of Graphene*"

CG Rocha, MH Rummeli, I Ibrahim, **H Sevinçli**, F Börrnert, J Kunstmann, A  
Bachmatiuk, M Pötschke, W Li, SAM Makharza, S Roche, B Büchner, G  
Cuniberti  
Graphene: Synthesis and Applications, Vol 3  
Editors: W. Choi, J.-W. Lee.  
CRC Press (2011).  
ISBN: 978-1-469-86187-5

1. "*Status of modelling for nanoscale information processing and storage devices*"

M. Macucci, S. Roche, A. Correia, J. Greer, X. Bouju, M. Brandbyge, J. J.  
Saenz, M. Bescond, D. Rideau, P. Blaise, D. Sanchez-Portal, J. Iniguez, G.  
Cuniberti, and **H. Sevinçli**  
E-Nano Newsletter **16**, 5 (2009)

## Research Projects

2021-2024	Principal Investigator, AFOSR - US Air Force Office for Scientific Research (FA9550-21-1-0261) <i>"Quantum Magnetotransport in Two-Dimensional Quartic Materials"</i>
2020-2023	Principal Investigator, TÜBİTAK-ARDEB-1001 (119F353) <i>"Disorder and Many-Body Interaction Effects on Transport in Quartic Dispersion Systems"</i>
2018-2021	Principal Investigator, EU Horizon 2020 FlagEra (ARDEB-117F480) <i>"MECHANIC: Modelling Charge and Heat Transport in 2D-materials based Composites"</i>
2017-2020	Researcher, TÜBİTAK-ARDEB-1001 (117F131) <i>"Enhancement of Thermoelectric Efficiency in Novel Two-dimensional Materials Through Nanostructuring"</i>
2017-2020	Consultant, TÜBİTAK-ARDEB-1001 (116F152) <i>"Electronic, magnetic, transport and optical properties of disordered graphene quantum dots"</i>
2016-2019	Principal Investigator, TÜBİTAK-ARDEB-1001 (115F445) <i>"Molecular phononics: quantum mechanical investigation of the control methods for phonon transport in molecular junctions"</i>
2016-2019	Researcher, TÜBİTAK-ARDEB-1001 (115F408) <i>"Electronic whispering gallery modes and enhanced RKKY interaction in graphene"</i>
2017-2020	Consultant, TÜBİTAK-ARDEB-1003 (115F616) <i>"Quantum dot manufacturing for next generation photonic technologies and QLED applications"</i>
2015-2016	Principal Investigator, İYTE-BAP (2015-36) <i>"Simulation of electronic and transport properties of two-dimensional polycrystalline materials"</i>
2013-2015	Principal Investigator, TÜBİTAK-BİDEB-2232 (113C032) <i>"Thermal properties of nanostructured graphene"</i>
2012-2015	Principal Investigator, The Danish Council for Independent Research, Individual Postdoc Grants <i>"In silico design of nano-structured thermoelectric materials"</i> (Pozisyon değişikliği nedeniyle 2013'de sonuçlandırıldı)
2009-2012	Postdoc, Deutsche Forschungsgemeinschaft Schwerpunktprogramme (SPP1386) <i>"Thermal conductance and thermopower of hybrid heterostructures and superlattices"</i>
2008-2009	Postdoc, EU – FP6-IST (021285-2) <i>"CARDEQ: Carbon Nanotube devices at the quantum limit"</i>

2005-2007 PhD student, TÜBİTAK-ARDEB-1001 (104T537)  
"Çok Düşük Sürtünme Katsayılı Yüzeylerin Atomal Yapılarının  
Kuantum Kuramı Kullanılarak Tasarımı"

### Invited Talks

- 08.06.2021 "Charge transport in multilayer graphene oxide"  
NanoSeminar, Dresden University of Technology (online)
- 01.03.2018 "Computational investigation of nano-structuring schemes for efficient  
quantum transport applications"  
Department Seminar, Chemistry Department, Koç University
- 20.07.2017 "Thermal transport through nano-structured graphene Using Green  
function and Kubo-Greenwood methods"  
Recent progress in the physics of thermal transport, ICTP-ECAR, İzmir
- 22.03.2017 "Numerical experiments on quantum transport at different scales"  
Colloquium, Department of Physics, Bilkent University
- 18.08.2016 "Electron and phonon transport in two-dimensional nano-structured materials"  
NanoSeminar, Technical University of Dresden
- 18.06.2016 "Electrical and thermal transport properties of nano-structured materials"  
Enhancing International Collaborations on Emerging Materials for Defense  
Applications via Innovative Theory, Simulation, and Experiment  
Thomas Young Centre, UCL, London, UK
- 16.07.2015 "Green's function and Kubo-Greenwood approaches in quantum thermal  
transport"  
Workshop on next generation quantum based molecular dynamics:  
challenges and perspectives, CECAM, Bremen
- 09.04.2015 "Quantum transport in nano-structured systems: From nanometer to  
micrometer scale"  
Department Seminar, Physics Department, Middle East Technical  
University
- 20.12.2013 "Grafen tabanlı sistemlerde termal ve termoelektrik özellikler"  
19. Yoğun Madde Fiziği Ankara Toplantısı
- 05.01.2012 "Phonon Engineering and Thermoelectricity in Nano-structured Carbon  
Based Systems"  
Department Seminar, Department of Physics, İzmir Institute of  
Technology
- 02.03.2011 "Modelling electron and phonon transport at the nanoscale"  
DTU Nanotech Seminar, Technical University of Denmark
- 12.06.2008 "Functionalization of Graphene Based Materials for Nanoscale Applications"  
NanoTr – IV, Nano-Bilim ve Nano-Teknoloji Konferansı, İstanbul

## Contributed Talks

- 11.05.2022 *"A Scaling Law for Charge Transport in Layered 2D Materials and Its Application to Reduced Graphene Oxide"*  
CNRS-GDR-HOWDI "Low Dimensional van der Waals Heterostructures"  
Dourdan, France
- 28.06.2021 *"Charge Transport Simulations in Multilayer Graphene Oxide"*  
FLAG-ERA workshop - MECHANIC, GRANSPOORT and GraSage projects  
(online)
- 20.04.2021 *"Charge Transport in Multilayer Graphene Oxide: Bulk Diffusion versus Device Properties"*  
Graphene and 2DM OnlineConference (GO2021) (online)
- 21.12.2018 *"Grafen Yüzeyinde Yönlendirilmiş Hidrojen Çizgilerinin Büyütülmesi: Evrimsel Algoritma ve Yüksek İşlem Hacimli Simülasyonlar"*  
24. Yoğun Madde Fiziği Ankara Toplantısı, Bilkent Üniversitesi
- 15.03.2018 *"Tuning phonon thermal transport through graphene by using ensembles of molecular antiresonances"*  
Imagine Nano 2018, Bilbao, Spain
- 11.04.2014 *"Grafen Nano-Şeritlerde Termoelektrik Performansın Düzensizlik Sayesinde Artması"*  
Yoğun Madde Fiziği İzmir Toplantısı, İzmir
- 11.05.2012 *"Thermal transport in nanostructured carbon"*  
DTU Center for NanoStructured Graphene Meeting
- 05.07.2011 *"Thermal Conductance and Thermopower of Hybrid Heterostructures and Superlattices"*  
SPP Nanostrukturierte Thermoelektrika, Wittenberg, Germany
- 31.03.2011 *"Nano-scale thermoelectric transport: molecular junctions and carbon based systems"*  
NanoSeminar, TU-Dresden, Germany
- 23.03.2011 *"Strong suppression of thermal conductivity in edgedisordered graphene nanoribbons: Order-N methodology and thermoelectric properties"*  
APS March Meeting 2011, Dallas, Texas, USA
- 14.03.2011 *"Strong suppression of thermal conductivity in defected graphene nanoribbons: Order-N methodology and thermoelectric properties"*  
DPG Frühjahrstagung 2011, Dresden, Germany
- 01.10.2010 *"Engineering the thermopower in semiconductor-molecule junctions: towards high thermoelectric efficiency at the nanoscale"*  
SPP Nanostrukturierte Thermoelektrika, Berlin, Germany
- 09.09.2010 *"Suppression of thermal conduction and enhanced thermoelectric figure of merit in disordered carbon systems"*  
Trends in Nanotechnology, TNT-2010, Braga, Portugal

- 23.03.2010 *"Enhanced Thermoelectric Figure of Merit in Edge Disordered Zigzag Graphene Nanoribbons"*  
DPG Frühjahrstagung 2010, Regensburg, Germany
- 22.10.2009 *"Electron and phonon transport through edge-disordered graphene nanoribbons"*  
Science and Applications of Graphene and Nanotubes 2009, Coma-ruga, Spain
- 22.03.2009 *"Many-Body Effects in Quantum Heat Transport Through Nanostructures"*  
DPG Frühjahrstagung 2009, Dresden, Germany
- 13.08.2008 *"Multiple quantum well structures of graphene"*  
APS March Meeting 2008, New Orleans, Louisiana, USA
- 13.07.2007 *"Dynamics of phononic dissipation at the atomic scale"*  
NanoTr-III, Nano-Bilim ve Nano-Teknoloji Konferansı, Ankara
- 16.05.2007 *"An atomistic description of phononic heat dissipation"*  
6th ESF Nanotribology Workshop, Sardinia, Italy
- 08.03.2007 *"Dynamics of phononic dissipation at the atomic scale"*  
APS March Meeting 2007, Denver, Colorado, USA
- 03.05.2006 *"Oscillatory exchange coupling in transition-metal capped carbon-chain molecules"*  
NanoTr-II, Nano-Bilim ve Nano-Teknoloji Konferansı, Ankara

### **Poster Presentations**

- 06.07.2017 *"Control of Thermal Flux in Molecular Junctions by Isomeric Switching"*  
G. Kurt, H. Sevinçli  
Japanese-Mediterranean Workshop on Applied Electromagnetic Engineering for Magnetic, Superconducting, Multifunctional and Nano Materials, İzmir
- 06.07.2017 *"Controlling thermal transport on graphene via molecular functionalization"*  
K. Sevim, H. Sevinçli  
Japanese-Mediterranean Workshop on Applied Electromagnetic Engineering for Magnetic, Superconducting, Multifunctional and Nano Materials, İzmir
- 06.07.2017 *"A computational database for the electronic, thermal and thermoelectric properties of group III-VI monolayers"*  
M. N. Çınar, G. Özbal, G. Kurt, M. Gençoğlu, K. Sevim, B. Özdamar, H. Sevinçli  
Japanese-Mediterranean Workshop on Applied Electromagnetic Engineering for Magnetic, Superconducting, Multifunctional and Nano Materials, İzmir

- 06.07.2017 *"Formation of Hydrogen Lines on Graphene"*  
G. Özbal, J. T. Falkenberg, M. Brandbyge, R. T. Senger, H. Sevinçli  
Japanese-Mediterranean Workshop on Applied Electromagnetic Engineering for Magnetic, Superconducting, Multifunctional and Nano Materials, İzmir
- 06.07.2017 *"Anderson Localization in Graphene Antidot Lattices"*  
M. N. Çınar, H. Sevinçli  
Japanese-Mediterranean Workshop on Applied Electromagnetic Engineering for Magnetic, Superconducting, Multifunctional and Nano Materials, İzmir
- 06.07.2017 *"Thermoelectric Properties of Two-Dimensional Transition Metal Dichalcogenides/Oxides"*  
G. Özbal, T. Senger, H. Sevinçli  
Japanese-Mediterranean Workshop on Applied Electromagnetic Engineering for Magnetic, Superconducting, Multifunctional and Nano Materials, İzmir
- 13.07.2016 *"Reversible Thermal Switch Based on Photoisomerism"*  
G. Kurt, H. Sevinçli  
Graphene & Related Materials Conference, GRM-2016, Ankara
- 13.07.2016 *"Density Functional Tight Binding Parametrization for Single Layer MoS<sub>2</sub>"*  
A. Kandemir, H. Sevinçli  
Graphene & Related Materials Conference, GRM-2016, Ankara
- 13.07.2016 *"Electronic, Magnetic, and Transport Properties of Monolayer MoS<sub>2</sub> with Grain Boundaries"*  
F. İyikanat, R. T. Senger, H. Sevinçli  
Graphene & Related Materials Conference, GRM-2016, Ankara
- 13.07.2016 *"Effect of disorder on transport through graphene antidot lattice"*  
M. N. Çınar, H. Sevinçli  
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