

## PERSONAL INFORMATION

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- ORCID: 0000-0002-6652-059X,
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## EDUCATION

- 2016 - 2020 **Post-Doctoral Researcher**, ICFO-The Institute of Photonic Sciences, Quantum Nano-Optoelectronics Group, Prof. Frank Koppens, Barcelona, Spain.
- 2015 - 2016 **Post-Doctoral Researcher**, The University of Glasgow, Department of Electronics and Nanoscale Engineering, Bendable Electronics and Sensing Group, Prof. Ravinder Dahiya, Glasgow, United Kingdom
- 2009 - 2015 **Ph.D. in Physics**, Bilkent University, Department of Physics, Laboratory of Smart Materials and Devices, Prof. Coşkun Kocabaş, Turkey
- 2004 - 2009 **B.S. in Physics**, Izmir Institute of Technology, Department of Physics, İzmir, Turkey

## CURRENT POSITIONS

- 2021 - **Visiting Scientist**, UNAM- Institute of Materials Science and Nanotechnology, Bilkent University, Ankara, Turkey
- 2021 - **Visiting Scientist**, Department of Physics, Middle East Technical University, Ankara, Turkey
- 2020 - **Assistant Professor**, Department of Mechatronics Engineering, Faculty of Engineering and Natural Sciences, Kadir Has University, İstanbul, Turkey

## PREVIOUS POSITIONS

- 2016 - 2020 **Post-Doctoral Fellow**, Marie Curie International Incoming Fellow, ICFO-The Institute of Photonic Sciences, Barcelona, Spain.
- 2015 - 2016 **Post-Doctoral Fellow**, Marie Curie (ITN) Experienced Researcher Fellow, The University of Glasgow, Department of Electronics and Nanoscale Engineering, Glasgow, United Kingdom.
- 2015 **Post-Doctoral Intern Researcher**, ST Microelectronics, Catania, Italy
- 2012 - 2015 **Coordinator of Freshman Physics Laboratories**, Department of Physics, Bilkent University, Ankara, Turkey
- 2011 - 2015 **Teaching Assistant**, Department of Physics, Bilkent University, Ankara, Turkey
- 2010 - 2015 **Research Assistant**, Department of Physics, Bilkent University, Ankara, Turkey
- 2009 - 2012 **Laboratory Assistant**, Department of Physics, Bilkent University, Ankara, Turkey
- 2008 - 2009 **Undergraduate Researcher**, Department of Physics, İzmir Institute of Technology, İzmir, Turkey

## FELLOWSHIPS AND AWARDS

- 2021 **BAGEP 2021 Young Scientist Award in Physics**: Awarded by Science Academy (Bilim Akademisi) in memoriam of Prof. Namık Kemal Pak, Kadir Has University, Istanbul, Turkey
- 2017 **Innovator of the Year Award**: Awarded by Spanish Foundation for Science and Technology (FECYT), Falling Walls Lab Barcelona, Universitat Pompeu Fabra, Spain
- 2016 - 2020 **Marie Curie COFUND International Postdoctoral Fellowship**, ICFO-The Institute of Photonic Sciences, Barcelona, Spain
- 2016 **Nature Scientific Reports Top 100 Read Article of 2015**, University of Glasgow, Glasgow, United Kingdom
- 2015 **Silver Leaf Award**, Paper Contribution to IEEE PRIME Conference, Glasgow, United Kingdom
- 2015 - 2016 **Marie Curie Initial Training Network (ITN) Experienced Researcher Fellowship**, University of Glasgow, Glasgow, United Kingdom
- 2014 **Young Scientist Award** by European Material Research Society (EMRS), Lille, France.
- 2009 - 2010 **Graduate Student Scholarship**, Bilkent University, Ankara, Turkey

## TEACHING ACTIVITIES

- 2022 - **Coordinator** – Material Science and Nanotechnology Master Programme, Kadir Has University
- 2021 - 2022 **Instructor** – KHAS 101: Origins and Consequences: Physics Module, Kadir Has University, Istanbul, Turkey
- 2020 - 2021 **Instructor** – GE 200: Fantasy, Reality, Science, Society, Law : Module 2: Graphene and It's Quantum Applications, Kadir Has University
- Instructor** – KHAS 101: Origins and Consequences: Physics Module, Kadir Has University, Istanbul, Turkey
- Invited Lecturer** – PHYS-11013: Advanced Thin Film Technologies, University of West Scotland
- Instructor** – Sensör Teknolojileri, KHAS Mühendislik Kampları Mekatronik Mühendisliği; Projelerle Öğrenmek, Algılamak ve Uygulamak, Kadir Has University Istanbul, Turkey
- Instructor** – LYOMH-09: İspanya-Türkiye İleri Mühendislik: Grafen ve Kuantum Uygulamaları, Kadir Has Üniversitesi Lise Yaz Okulu, Kadir Has University, Istanbul, Turkey
- Instructor** – Sensör Teknolojileri, Mekatronik Mühendisliği Lise Yaz Okulu, Kadir Has University, Istanbul, Turkey
- 2014 - 2015 **Teaching Assistant** – Phys 211: Waves, Optics and Thermodynamics Bilkent University, Ankara, Turkey
- 2012 - 2015 **Coordinator** – Freshman Physics Laboratories, Bilkent University, Ankara, Turkey
- 2011 - 2012 **Teaching Assistant** – P107-117: Basic Physics, Bilkent University, Ankara, Turkey
- 2009 - 2012 **Laboratory Assistant** – Freshman Physics Laboratories, Bilkent University, Ankara, Turkey

## SUPERVISION OF MASTER AND PHD STUDENTS

- 2021 - **Houmeme Hamed**, MSc. in Computational Sciences and Engineering of Kadir Has University, Thesis: “*Design and Implementation of Smart Medication Regulator*”
- 2021 - **Anas Kabbani**, Ph.D. in Computational Sciences and Engineering of Kadir Has University, Thesis: “*To be declared*”

## THESIS JURY MEMBERSHIP

- 2022 **Hilal Oğuz**, MSc. in Micro and Nanotechnology of Middle East Technical University, Thesis: “*Development of SERS-Active Silver Nanowire Filter Foils For Pathogen Detection in Fluids*”
- 2021 **Shahad Tareq**, MSc. in Electrical-Electronics Engineering of Kadir Has University, Thesis: “*The Optical and Electrical Characteristics of ZnO/ MoS2 Transparent Oxide Composite Films*”

## ORGANISATION OF SCIENTIFIC MEETINGS

- 2021 **Scientific Committee**, 8th International Conference on Materials Science and Nanotechnology For Next Generation, MSNG2021, Elazığ, Turkey
- 2019 **Session Chair**, GraphIn International Conference (Graphene Industry – Challenges & Opportunities), Madrid, Spain
- 2018 **Session Chair**, The 5<sup>th</sup> International Conference on Electronic Materials and Nanotechnology for Green Environment, Jeju, South Korea

## INSTITUTIONAL RESPONSIBILITIES

- 2022 - **Coordinator**, Material Science and Nanotechnology Master Programme, Kadir Has University
- 2021 - **Graduate Student Selection Committee Member**, Kadir Has University
- 2020 - **Faculty member**, Kadir Has University, Faculty of Engineering and Natural Sciences, Istanbul, Turkey
- 2012 - 2015 **Coordinator of Freshman Physics Laboratories**, Bilkent University, Department of Physics, Ankara, Turkey

## REVIEWING ACTIVITIES

- 2020 - **Guest Associate Editor**, Thin Solid Films, Frontiers in Materials
- 2018 - **Invited Reviewer**, Nanomaterials(19), Materials(4), International Journal of Molecular Sciences(2), Optics Express (1), Symmetry(1), Applied Sciences(4), Sensors(4), Optical Materials Optoelectronics and Advanced Materials, Rapid Communications(1)

## MEMBERSHIPS OF SCIENTIFIC SOCIETIES

- 2021 - **Member**, The Graphene Council
- 2021 - **Member**, Bilim Akademisi
- 2016 - **Member**, Graphene Flagship

## PUBLICATIONS (Current h-index: 15, Current Citations: 1901)

### Research Articles

1. G. Mercier, **E. O. Polat**, S. Shi, S. Gupta, G. Konstantatos, S. Goossens, F. H. L. Koppens, Semi-transparent image sensors for eye tracking applications, *ACS Photonics*, xx(x), 2022 (under evaluation)
2. **E. O. Polat**, M.M Cetin, A.F. Tabak, E.B Guven, B. O. Uysal, , T. Arsan, A. Kabbani, H. Hamed, Review of Transducer Technologies for Wearable Biosensors, *Biosensors*,xx(x), 2022 (under evaluation)

3. **E. O. Polat**, Seamlessly Integrable Optoelectronics for Clinical Grade Wearables, *Advanced Material Technologies*, vol. 6, 2000853, 2021.
4. **E. O. Polat**, G. Mercier, I. Nikitskiy, E. Puma, T. Galan, S. Gupta, M. Montagut, J. J. Piqueras, M. Bouwens, T. Durduran, G. Konstantatos, S. Goossens, F. Koppens, Flexible Graphene Photodetectors for Wearable Fitness Monitoring. *Science Advances*, vol. 5, no. 9, eaaw7848, 2019.
5. O. Balci, N. Kakenov, E. Karademir, S. Balci, S. Cakmakyapan, **E. O. Polat**, H. Caglayan, E. Özbay, and C. Kocabas, Electrically switchable metadevices via graphene. *Science Advances*, vol. 4, no. 1, eaao1749, 2018.
6. C. G. Núñez, W. T. Navaraj, **E. O. Polat**, and R. Dahiya, Energy-Autonomous, Flexible, and Transparent Tactile Skin, *Advanced Functional Materials*, vol. 27, 1606287, 2017.
7. P. Aydogan, **E. O. Polat**, C. Kocabas, and S. Suzer, X-ray photoelectron spectroscopy for identification of morphological defects and disorders in graphene devices. *Journal of Vacuum Science & Technology A* 34, 041516, 2016.
8. **E. O. Polat**, H. B. Uzlu, O. Balci, N. Kakenov, E. Kovalska, and C. Kocabas, Graphene-Enabled Optoelectronics on Paper. *ACS Photonics*, vol. 3, no. 6, pp. 964–971, 2016.
9. **E. O. Polat**, O. Balci, N. Kakenov, H. B. Uzlu, C. Kocabas, and R. Dahiya, Synthesis of Large Area Graphene for High Performance in Flexible Optoelectronic Devices. *Scientific Reports*, vol. 5, Article number: 16744, 2015.
10. N. Yogeswaran, W. Dang, W. T. Navaraj, D. Shakthivel, S. Khan, **E. O. Polat**, S. Gupta, H. Heidari, M. Kaboli, L. Lorenzelli, G. Cheng, and R. Dahiya, New materials and advances in making electronic skin for interactive robots. *Advanced Robotics*, vol. 29, pp. 1359-1373, 2015.
11. N. Kakenov, O. Balci, **E. O. Polat**, H. Altan, and C. Kocabas, Broadband terahertz modulators using self-gated graphene capacitors. *Journal of the Optical Society of America B*, vol. 32, no. 9, p. 1861, 2015.
12. N. Kakenov, T. Takan, V. A. Ozkan, O. Balci, **E. O. Polat**, H. Altan, and C. Kocabas, Graphene-enabled electrically controlled terahertz spatial light modulators. *Optic Letters*, vol. 40, no. 9, pp. 1984–7, 2015.
13. R. Dahiya, W.T. Navaraj, S. Khan and **E. O. Polat**, Developing Electronic Skin with the Sense of Touch. *Information Display*, 31: 6-10, 2015
14. O. Balci, **E. O. Polat**, N. Kakenov, and C. Kocabas, Graphene-enabled electrically switchable radar-absorbing surfaces. *Nature Communications*, vol. 6, Article number: 6628, 2015.
15. E. Tunkara, C. Albayrak, **E. O. Polat**, C. Kocabas, and Omer Dag, Highly proton conductive phosphoric acid-nonionic surfactant lyotropic liquid crystalline mesophases and application in graphene optical modulators. *ACS Nano*, vol. 8, no. 10, pp. 11007–11012, 2014.
16. **E. O. Polat**, O. Balci, and C. Kocabas, Graphene based flexible electrochromic devices. *Scientific Reports*, vol. 4, Article number: 6484, 2014.
17. M. Copuroglu, P. Aydogan, **E. O. Polat**, C. Kocabas, and S. Suzer, Gate-tunable photoemission from graphene transistors. *Nano Letters*, vol. 14, no. 5, pp. 2837–2842, 2014.
18. **E. O. Polat** and C. Kocabas, Broadband optical modulators based on graphene supercapacitors. *Nano Letters*, vol. 13, no. 12, pp. 5851–7, 2013.
19. T. Oznuluer, E. Pince, **E. O. Polat**, O. Balci, O. Salihoglu, and C. Kocabas. Synthesis of graphene on gold. *Applied Physics Letters*, vol. 98, no. 18, 2011.

### Conference Proceedings

1. N. Kakenov, T. Takan, V. A. Ozkan, O. Balci, **E. O. Polat**, H. Altan, and C. Kocabas, Electrically controlled terahertz spatial light modulators with graphene arrays, *2016 IEEE MTT-S International Microwave Symposium (IMS)*, San Francisco, CA, 2016, pp. 1-4
2. N. Yogeswaran, S. Khan, W. Dang, **E.O. Polat**, L. Lorenzelli, V. Vinciguerra, R. Dahiya, Tuning electrical conductivity of CNT-PDMS nanocomposites for flexible electronic applications, *2015 IEEE 15th International Conference on Nanotechnology (IEEE-NANO)*, Rome, 2015, pp. 1441-1444

3. **E. O. Polat**, Osman Balci, Nurbek Kakenov, Coskun Kocabas, Ravinder Dahiya, Synthesis of graphene on ultra-smooth copper foils for large area flexible electronics, *11th Conference on Ph.D. Research in Microelectronics and Electronics (PRIME), Glasgow, 2015*, pp. 53-56
4. I. Baylam, M. N. Cizmeciyan, S. Ozharar, **E. O. Polat**, C. Kocabas, and A. Sennaroglu, Graphene supercapacitor as a voltage controlled saturable absorber for femtosecond pulse generation, *Conference on Lasers and Electro-Optics (CLEO) - Laser Science to Photonic Applications, San Jose, CA, 2014*, pp. 1-2

### Books and Book Chapters

1. **E. O. Polat**, Giyilebilir Teknolojiler, in *Meraklısına Bilim 2021* (Edited by M. Sabancıoğlu and D.U. Saylan), Bilim Akademisi Yayınları, p.104-108, 2022
2. S. Balci, **E. O. Polat**, C. Kocabas, Graphene-Based Plasmonics, in *Introduction to plasmonics: Advances and applications.*(Edited by S. Szunerits and R. Boukherroub ), Pan Stanford Publishing, p. 319-346, 2015.

### Communications

1. **E. O. Polat**, A new generation of wearable devices for telemedicine. *Research Outreach*, 128. Available at: <https://researchoutreach.org/articles/a-new-generation-of-wearable-devices-for-telemedicine>

### Letters

1. **E. O. Polat**, “Meals on the Go” in “Foods of the future”, *Science* 366 (6471), 1306-1307, 2019
2. **E. O. Polat**, “Trust Yourself” in “Challenging transitions”, *Science* 363 (6422), 24-26, 2019
3. **E. O. Polat** “Broad interests reap benefits for science”, *Science* 361 (6397), 24-26, 2018
4. **E. O. Polat**, “Diversity in Science” in “NextGen VOICES: Research resolutions”, *Science* 359 (6371), 26-28, 2018
5. **E. O. Polat**, “Right to Health” in “Promoting human rights through science”, *Science* 358 (6359), 34-37, 2017
6. **E. O. Polat**, “Hope Generator” in “NextGen's tools for the future”, *Science* 348 (6230), 32-35, 2015

### PROJECTS

#### Completed Projects with Grants

<i>Project Title</i>	<i>Funding source</i>	<i>Amount (Euros)</i>	<i>Period</i>	<i>Role</i>
Graphene Flagship Core Project 2	H2020-EU.1.2.3. - FET Flagships. SGA-FET-GRAPHENE-2017	88.000.000	2018-2020	Researcher
Hybrid quantum dot and graphene wearable sensor for eye tracking	H2020-EU.1.1. - EXCELLENT SCIENCE - European Research Council ERC-2017-Proof of Concept	150.000	2018-2019	Researcher
Hybrid quantum dot and graphene wearable sensor for systemic hemodynamics and hydration monitoring	H2020-EU.1.1. - EXCELLENT SCIENCE ERC-PoC-2015 - ERC Proof of Concept Grant	150.000	2016-2017	Researcher

Collaborative Network for Training in Electronic Skin Technology	FP7-PEOPLE-2012-ITN - Marie-Curie Action: "Initial Training Networks"	3.810.437	2015-2016	Researcher
Graphene tuneable radar surfaces 113F278	TUBITAK	>100.000	2014-2015	Researcher
Controlling the optical properties of graphene using novel capacitor structures 112T686	TUBITAK	>100.000	2013-2014	Researcher
Controlling the Electronic Band Structure of Graphene by Using Nanocomposite Materials 109T259	TUBITAK	>100.000	2012-2013	Researcher
Synthesis of Aligned Carbon Nanotube Arrays, Optical Characterization and Applications to Thin Film Electronics	TUBITAK	>100.000	2010-2012	Researcher

### Submitted Projects For Evaluation

<i>Project Title</i>	<i>Funding source</i>	<i>Amount (Euros)</i>	<i>Period</i>	<i>Role</i>
SNOW- Wearable Nano-opto-electro-mechanic Systems	CHIST-ERA Call 2021, European Union	>1.000.000	2022-2025	PI

### Rejected Projects

<i>Project Title</i>	<i>Funding source</i>	<i>Amount (Euros)</i>	<i>Period</i>	<i>Role</i>
Graphene-based Flexible Wearable Device Design for Active Biomarker Tracking and Improving Athlete Performance with Virtual Reality System	TUBITAK 1001 MAG-Spor Arařtırmaları Özel Çaęırısı	<100.000	2022-2024	Researcher
Sürdürülebilir Sistem Tasarımları Merkezi TR10/21/YEP/0168	Yenilikçi İstanbul Mali Destek Programı, İstanbul Kalkınma Ajansı	>100.000	2022-2025	Researcher

Ultra-efficient Magnetron Sputtering for High Quality Aluminum doped Zinc Oxide [AZO] Thin Films-UMAST	2532 TÜBİTAK - Rusya RFBR Ortak Proje Çağrısı	<100.000	2021-2023	Researcher
Graphene Laminated Ubiquitous Electrochromic Displays (GLUED)	H2020-MSCA-IF-2020 (Marie Skłodowska-Curie Individual Fellowships)	>100.000	2021-2023	PI

## SELECTED MEDIA COVERAGE

- 2021      “A New Generation of Wearable Devices for Telemedicine”, **Researcher**  
 “A New Generation of Wearable Devices for Telemedicine”, **The Good Man Project**  
 “A New Generation of Wearable Devices for Telemedicine”, **Pioneering Minds**  
 “Meraklısına Bilim: Dr. Emre Ozan Polat ile giyilebilir teknolojiler”, **Medyascope.tv**  
 “Meraklısına Bilim: Giyilebilir teknolojiler”, **Sarkac.org**
- 2019      “Wearable graphene sensors use ambient light to monitor health”, **Nature**  
 “Transparent graphene wearables monitor signs of health”, **Physics World**  
 “New Health Monitors Are Flexible, Transparent and Graphene Enabled”, **Nanowerk**  
 “New Graphene-based Flexible and Transparent Wearable Health Trackers”, **Graphene-info**  
 “Graphene Enables Flexible, Transparent Health Monitors”, **Graphene Flagship**
- 2017      “Spotlight: Emre Ozan Polat”, **Graphene Flagship**  
 “Chequeos a un euro... y a distancia (Medical Checks for One Euro and at a distance)”,  
**Retina, El Pais**
- 2016      “Graphene enables optoelectronics on regular paper” **Nanowerk**  
 “Graphene Displays on a Piece of Paper” **R&D Mag**

## INVITED TALKS

- Nükleer Bilimler Enstitüsü Seminerleri, “Grafen Sensör Teknolojileri”, Hacettepe University, Ankara, Online Webinar (2022)
- KHAS Öğretmen Akademisi 2, “Işığı Kullanmak:Sensörler ve Giyilebilir Teknolojiler” Kadir Has University, Istanbul, Online (2021)
- Open Colloquium “Grafen Bilimi ve Yaşamımızı Değiştiren Aygıtlar” Kadir Has University, Istanbul, Online (2021)
- Invited Talk for Association of Turkish Alumni and Students in Scotland (ATAS), “Giyilebilir Teknoloji Nedir?” Glasgow, Scotland, Online (2021)
- Faculty Seminar, “Quantum Materials Integrated Photonics: Smart Applications on Light-Matter Interaction” Kadir Has University, Faculty of Engineering and Natural Sciences, Istanbul, Turkey (2019)
- Istanbul Condensed Matter Physics Meeting (IstanbulYMF) “Broadband Graphene Photodetectors for Monitoring Personal Wellbeing” Istanbul University, Istanbul, Turkey (2019)
- Graphene Industry-Challenges & Opportunities (GraphIn), “Broadband Graphene Based Photodetectors for Monitoring Personal Wellbeing”, Real Jardín Botánico, Madrid, Spain (2019).
- Electronic Materials and Nanotechnology for Green Environment (ENGE), “Broadband Graphene Based Photodetectors for Monitoring Personal Wellbeing”, Jeju, South Korea (2018).

- Physics Department Seminar, “Graphene Based Optoelectronics: Smart applications on light-matter interaction”, Izmir Institute of Technology, Izmir, Turkey (2018)
- Wearable Technologies Conference 2018 EUROPE, “Personal Health Monitoring by Smart Medical Patches”, Internationales Congress Center, Munich, Germany (2018)
- Falling Walls Lab, “Breaking the Wall of Personal Health Monitoring”, Academie der Kunste, Berlin, Germany (2017)
- Wearable Technologies Picnic, “Smart Wearables by Graphene- Flexible and Transparent Wearable Sensors”, Mobile World Centre, Barcelona, Spain (2017).