ASSOC. PROF. DR. ISMAIL KARAKURT
Işık University
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1. **Name** : Ismail Karakurt
2. **Birth Date** : 1970
3. **Academic Title** : Associate Professor
4. **Education :**

DATES	DEGREE	UNIVERSITY	DEPARTMENT
1987-1991	BS	Istanbul Technical University	Engineering Physics
1994-1996	MS	Case Western Reserve University	Physics
1996-2000	PhD	Case Western Reserve University	Physics

5. **Academic Titles**

YEAR	TITLE	UNIVERSITY	DEPARTMENT
2005	Asst. Prof.	Işık University	Physics
2008	Assoc. Prof.	Işık University	Physics

6. **Supervised MS and PhD Theses**

7. Publications

7. 1. Journal Publications (SCI-Expanded)

1. Karakurt, I., Adams C.H., Leiderer, P., Boneberg, J., & Haglund, R.F., (2010). Nonreciprocal switching of VO_2 thin films on microstructured surfaces, *Optics Letters* 35, 1506-1508, (2010).

2. Karakurt I. (2009), Tunneling Rates of Single Electrons on Liquid Helium in an Extracting Field (Correction). *J. Low Temp. Phys*. Vol. 156, 48-48.

3. Karakurt I. (2009), Tunneling Rates of Single Electrons on Liquid Helium in an Extracting Field. *J. Low Temp. Phys*. Vol. 154, 77-84.

4. Karakurt, I., Boneberg, J., Leiderer, P., Lopez, R., Halabica, A. & Haglund, R.F., (2007). Transmission increase upon switching of VO_2 films on micro-structured surfaces. *Applied Physics Letters*, 91, 091907.

5. Karakurt, I., Boneberg, J., Leiderer (2006). Electrochromic switching of WO_3 nanostructures and thin films. *Appl. Phys.*, A 83, 1–3.

6. Karakurt, I., Boneberg, J., Leiderer (2006). Size-dependent self-organization of colloidal particles on chemically patterned surfaces. *Langmuir*, 22, 2415-2417.

7. Dahm, A.J., Karakurt, I., Heilman, J.A., & Peshek, T.J. (2004). Quantum computing with qubits made from electrons on a helium film. *Proceedings of SPIE* Vol. 5472.

8. Dahm, A.J., Heilman, J.A., Karakurt, I., & Peshek, T.J. (2003). Quantum computing with electrons on helium. *Physica E* 18, 169

9. Karakurt, I. & Dahm, A.J. (2003). Density of states in a magnetic field and electron-electron interactions. *Physica E* 18, 182.

10. Herman, D. Karakurt, I., Mathur, H., & Dahm, A.J. (2003). Damping of quantum interference of electrons on helium. *Phys. Rev. B*. 68 33402

11. Dahm, A.J., Goodkind, J.M., Karakurt, I., & Pilla, S. (2002). Using electrons on liquid helium for quantum computing. *J. Low Temp. Phys.* 126, 709.

12. Karakurt, I., Goldman, V.J., Liu Jun, & Zaslavsky, A. (2001). Absence of compressible edge channel rings in quantum antidots. *Phys. Rev. Lett.* 87 146801.

13. Karakurt, I., Goldman, V.J., Liu Jun, & Zaslavsky, A. (2001). Invariance of charge of Laughlin quasiparticles. *Phys. Rev. B.* 64 085319.

14. Karakurt, I. & Dahm, A.J. (2001). Route to localization: Electrons on liquid helium. *Phil. Mag. B* 81 855.

15. Karakurt, I., Herman, D., Mathur, H., & Dahm, A.J. (2000). Dephasing times in a non degenerate two-dimensional electron gas. *Phys. Rev. Lett.* 85 1072.

16. Karakurt, I. & Dahm, A.J. (2000). Dephasing times due to 2D electron-vapor atom scattering. *Physica B* 284-288, 1924-1925

17. Karakurt, I. & Dahm, A.J. (1998). Weak localization of electrons on a helium surface. *J. Low Temp. Phys.* 113, 1091.

7. 2. Journal Publications (Non SCI-Expanded)

7.3. International Conference Papers

7.4. Book Chapters

7.5. National Journal Publications

1. Karakurt, I. **(2003).** Quantum computing with electrons on liquid helium, *Turkish Journal of Physics*, vol.27, no.5, pp.383-93.

7.6. National Conference Papers

1. Karakurt, **(**2011). Nonreciprocal optical switching of VO_2 thin films on microstructured surfaces. *Turkish Physical Society 28th International Physics Congress*, September 6-9, 2011, Bodrum, Turkey.

2. Karakurt, I. (2009). Bidirectional switching of VO_2 thin films on microstructured surfaces. *International Workshop on Nanostructured Materials*, August 10-13, 2009, Istanbul, Turkey.

3. Karakurt, I. Boneberg, J & Leiderer, P. (2006). Nonlinear optical response of vanadium dioxide films deposited on curved surfaces. *International Workshop on Nanostructured Materials*, June 21-23, 2006, Antalya, Turkey.

4. Karakurt, I. (2005). Tungsten Trioxide Films, Nanostructures and their Electrochromic Manipulations, *XIV. Ulusal Mekanik Kongresi*, September 12-16, 2005, Hatay, Turkey.

7.7. Other Publications

8. Research Projects

1. BAP Project supported by Işık University (Principal Investigator), 2006
Project Number: 06A101
Project Title : Functional Metal-oxide Films, Nanostructures and their Manipulations.

2. BAP Project supported by Işık University (Principal Investigator), 2010
Project No: 10A101
Project Title : Tunable Plasmonic Mikrostructures

9. Administrative Positions and Employment History

9.1. Administrative Positions

DATES	UNIVERSITY/ INSTITUTION	POSITION
2011-2012	Işık University	Head of Department, Physics

9.2. Employment History

DATES	TITLE	UNIVERSITY/ INSTITUTION	DEPARTMENT
1989-1998	Research Assistant	Case Western Reserve University	Physics
1998-2000	Postdoctoral Researcher	State University of New York, Stony Brook	Physics
2000-2003	Postdoctoral Researcher	Case Western Reserve University	Physics
2003-2004	Guest Scientist	University of Konstanz	Physics
2005-2007	Assistant Professor	Işık University	Physics
2008-	Associate Professor	Işık University	Physics

10. Scientific and Professional Membership

11. Awards and Honours

1.Sonderforschungbereich Research Fellowship of Deutsche Forschung Gemeinschaft (DFG), 2003
2. Alexander von Humboldt Research Fellowship, 2005

12. Courses Taught (Last Two Years)

* Quantum Mechanics I
* Quantum Mechanics II
* Statistical and Thermal Physics
* Solid State Physics
* General Physics I
* General Physics II
* Modern Physics

13. Other Academic and Scientific Activities

13.1. Reviewer Activities (SCI-Expanded Journals)

1. Langmuir
2. Journal of Low Temperature Physics
3. Science of Advanced Materials
4. Optica Applicata

13.2. Editorship (SCI-Expanded Journals)

13.3. Other

14. Research Interests

* Metal oxide functional films and nanostructures
* Plasmonic micro- and nanotructures
* Electrons on helium
* Quantum Computing
* Transport properties of low dimensional electronic systems