

## PERSONAL INFORMATION

**Name, Surname** : Ebru Demir  
**Date Of Birth** : 29.04.1989  
**Nationality** : Republic of Turkey  
**Driving License** : B (2007)

## CONTACT INFORMATION

**Address** : Nişanca Mah. Abdurrahman Şeref Bey Cad. Beliz Apt. No:53 Daire:8 Eyüp/Istanbul  
**E-mail** : ebrudemir@sabanciuniv.edu

## EDUCATION

**09.2011 – 07.2018** **Sabanci University, PhD**, Istanbul, Turkey  
**Dissertation Advisor:** Prof. Serhat Yeşiyurt  
**Dissertation Title:** Low Reynolds Number Swimming of Helical Structures and Rigid Spheres  
Mechatronics Engineering, GPA: 3.78 / 4.00, Full Scholarship

**09.2007 – 06.2011** **Sabanci University, BSc**, Istanbul, Turkey  
Mechatronics Engineering, GPA: 3.60 / 4.00, %100 Tuition Fee Waiver  
Physics (Minor)

**09.2002 – 06.2007** **Istanbul High School (IEL)**, Istanbul, Turkey  
Science and Mathematics Branch, GPA: 94.62/100  
ABITUR (German High School Diploma)

## EXPERIENCE

**09.2014 – ...** **Sabanci University**, Istanbul, Turkey  
**Research Assistant**, Faculty of Engineering and Natural Sciences  
**Description:** Mechatronics Engineering Research Assistant

**02. 2011 – 06.2018** **Sabanci University**, Istanbul, Turkey  
**Teaching Assistant**, Faculty of Engineering and Natural Sciences  
**Description:** Calculus I/II (2014 Fall- 2018 Spring), Computational Analysis and Simulation (2013 Spring, 2014 Spring), Foundations of Microsystems (2012 Fall, 2013 Fall), Manufacturing Processes (2011 Fall, 2012 Spring), Heat and Mass Transfer (2011 Spring)

**08-2010-12.2010** **Mercedes-Benz Turk**, Istanbul, Turkey  
**R&D Engineer**, Part Time, HVAC Department  
**Description:** Design and implementation of ventilation and air conditioning systems.

**06.2010-07.2010** **TUSAŞ Aerospace Industries (TAI)**, Kazan, Ankara  
**Intern**  
**Description:** Manufacturing and mounting processes in aeroplane production.  
Design of a CNC Machine simulator.

## LANGUAGE SKILLS

<b>English</b>	<b>Reading:</b> Advanced	<b>Writing:</b> Advanced	<b>Speaking:</b> Advanced
<b>German</b>	<b>Reading:</b> Advanced	<b>Writing:</b> Advanced	<b>Speaking:</b> Advanced
<b>Turkish</b>	Native Speaker		
<b>Turkish Sign Language</b>	Advanced (Ministry of National Education Approved Certificate for Interpretation)		

## COMPUTER SKILLS

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**Software:** COMSOL, MATLAB, Simulink, SolidWorks, CATIA, NI LabView, Cura, Preform, LaserWork, Mendeley, MS Office  
**Programming Languages:** C/C++, Python  
**Operating Systems:** Linux, Windows

## PUBLICATIONS

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### Journal Articles:

- **Demir, E.** and Yeşilyurt S., “Rolling, Sliding and Focusing of Magnetic Rigid Spheres”, (*In Preparation*)
- **Demir, E.** and Yeşilyurt S., “Low Reynolds Number Swimming of Helical Structures in Circular Channels”, *Journal of Fluids and Structures* 74, pp. 234-246, 2017.
- Üzüşen, D., **Demir, E.**, Perk, O.Y., Oral, Ö., Ekici, S., Ünel, M., Gözüaçık, D., and Koşar, A., “Assessment of Probe-to-Specimen Distance Effect in Kidney Stone Treatment with Hydrodynamic Cavitation”, *ASME Journal of Medical Devices* 9.3, doi: 10.1115/1.4030274, 2015.
- **Demir, E.**, İzci, T., Alagöz, A.S., Khudhayer, W.J., Karabacak, T., and Koşar, A., “The Effect of Nanostructure Distribution on Subcooled Boiling Heat Transfer Enhancement on Nanostructured Plates Integrated into a Rectangular channel”, *Nanoscale and Microscale Thermophysical Engineering*, 18, pp. 313-328, 2014.
- **Demir, E.**, İzci, T., Alagöz, A.S., Karabacak, T., and Koşar, A., “Effect of Silicon Nanorod Length on Horizontal Nanostructured Plates in Pool Boiling Heat Transfer with Water”, *International Journal of Thermal Sciences*, 82, pp.111-121, 2014.
- Itah, Z., Oral, O., Perk, O. Y., Şeşen, M., **Demir, E.**, Erbil, S., Doğan-Ekici A.I., Ekici S., Koşar, A., Gozuacik, D., “Hydrodynamic Cavitation Kills Prostate Cells and Ablates Benign Prostatic Hyperplasia Tissue”, *Experimental Biology and Medicine*, 2013.
- Şeşen, M., **Demir, E.**, İzci, T., Khudhayer, W., Karabacak, T., Koşar A., “Jet Impingement Cooling of Nanostructured Plates,” *International Journal of Heat and Mass Transfer*, 59, pp. 414-422, 2013.

### Proceedings:

- **Demir E.** and Serhat Yeşilyurt, “Rolling, Sliding and Focusing of Magnetically Rotated Rigid Spheres Inside Cylindrical Channels”, *Bio-inspired Magnetic Systems Workshop*, 2018.
- **Demir E.** and Serhat Yeşilyurt, “Rolling and Sliding of Spheres Inside Horizontal Channels”, *International Conference on Manipulation, Automation and Robotics at Small Scales*, 2018.
- **Demir E.** and Serhat Yeşilyurt, “Propulsion by Helical Strips in Circular Channels”, *Bulletin of the American Physical Society* 61, 2016.
- **Demir E.** and Serhat Yeşilyurt, “Geometric Optimization of Helical Tail Designs to Calibrate Swimming Velocities of Microswimmers”, *Bulletin of the American Physical Society* 59, 2014.
- **Demir, E.**, İzci, T., Şeşen, M., Khudhayer, W., Karabacak, T., and Koşar, A., “Subcooled Flow Boiling Over Nanostructured Plate Integrated into a Rectangular Channel”, *Proceedings of the ASME 2013 11th International Conference on Nanochannels, Microchannels, and Minichannels*, Sapporo, Japan, June, 2013.
- **Demir, E.**, İzci, T., Perk, O.Y., Şeşen, M., Khudhayer, W., Karabacak, T., and Koşar, A., “Multiphase Submerged Jet Impingement Cooling Utilizing Nanostructured Plates”, *Proceedings of the ASME 2012 10th International Conference on Nanochannels, Microchannels, and Minichannels*, Puerto Rico, July, 2012.
- İzci, T., **Demir, E.**, Alagoz, A.S., Karabacak, T., and Koşar, A., “A Compact Pool Boiler Utilizing Nanostructures dor Microscale Cooling Applications”, *Proceedings of 8th ECI International Conference on Boiling and Condensation*, Lausanne, Switzerland, June, 2012.

- Şeşen, M., Koşar, A., **Demir, E.**, Kurtođlu, E., Kaplan, N., Erk, H.C., Khudhayer, W. and Karabacak, T., “Jet Impingement Cooling of Nanostructured Plates”, *ASME International Mechanical Engineering Congress & Exposition*, Canada, November, 2010.

## **AWARDS & HONORS**

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- Gürsel Sönmez Research Award, Sabanci University, June 2018
- 3MT® Three Minute Thesis, Sabanci University, May 2018 / Winner & Most Voted for People’s Choice Award
- Best Student Paper Awards, MARSS 2018, Japan / Nominee
- TÜBİTAK BİDEB Merit Scholarship, September 2011 – August 2016

## **SOCIAL ACTIVITIES & INTEREST**

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Arduino, RaspberryPi, 3D Printing, LEGO and 3D Models  
Former licenced Chess, Ping-Pong, Volleyball and Basketball player.

## **REFERENCES**

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1. **Prof. Serhat Yeşilyurt**, Faculty Member, Sabanci University, Istanbul
2. **Prof. Cem Güneri**, Vice President, Sabanci University, Istanbul
3. **Assoc. Prof. Güllü Kızıldaş-Şendur**, Faculty Member, Sabanci University, Istanbul