

**Harvard Medical School/Harvard School of Dental Medicine
Format for the Curriculum Vitae**

Name: Ali AKPEK

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Place of Birth: TURKEY

Education

2014	Doctor of Engineering	Mechano-Micro Engineering, Fluid Mechanics	Tokyo Institute of Technology, Yokohama, Japan
2011	Post Graduate International Research Student	Bioengineering, Bionanotechnology	University of Tokyo, Tokyo, Japan
2009	Master of Science	Biotechnology, Surface Engineering	Ege University, Izmir, Turkey
2006	Bachelor Degree	Biomedical Engineering	Baskent University, Ankara, Turkey

Affiliated Institutions

2015 - 2016	Visiting Professor	Medical Engineering	Harvard-MIT Health Science and Technology Division, MA, USA
2015 - 2016	Visiting Professor	Biomaterials Innovative Research Center	Harvard Medical School, MA, USA
2015 - 2016	Visiting Professor	Renal Division	Brigham and Women's Hospital, MA, USA

Faculty Academic Appointments

06/2017 - Present	Assistant Professor Doctor	Bioengineering	Gebze Technical University, Kocaeli, Turkey
09/2014 - 06/2017	Assistant Professor Doctor	Biomedical Engineering	Istanbul Yeni Yuzyil University, Istanbul, Turkey

Other Professional Positions

04/2011 - 03/2014	Research Assistant	Mechano-Micro Engineering, Tokyo Institute of Technology
04/2012 - 03/2013	Research Engineer	Showa-Shell Company, Yokohama, Japan
04/2011 - 03/2012	Research Assistant	Tokyo Medical and Dental University, Tokyo, Japan
04/2010 - 03/2011	Research Assistant	University of Tokyo
02/2008 - 09/2009	Research Assistant	Ege University

Major Administrative Leadership Positions

06/2015 - 09/2015	Deputy Director, Graduate School of Science	Graduate School of Science, Istanbul Yeni Yuzyil University
06/2015 - 09/2015	Acting Chair, Biomedical Engineering	Faculty of Engineering and Architecture, Istanbul Yeni Yuzyil University
10/2014 - 09/2015	Director, Biomedical Engineering Graduate Program	Graduate School of Science, Istanbul Yeni Yuzyil University
09/2014 - 09/2015	Erasmus Program Coordinator	Faculty of Engineering and Architecture, Istanbul Yeni Yuzyil University
09/2014 - 09/2015	Conference Organizer	Istanbul Yeni Yuzyil University

Committee Service

06/2015 - 09/2015	Member of the Board, Graduate School of Science	Graduate School of Science, Istanbul Yeni Yuzyil University
09/2014 - 09/2015	Chair, Biomedical Engineering Graduate Program Admission Committee	Graduate School of Science, Istanbul Yeni Yuzyil University
09/2014 - 09/2015	Member, Biomedical Engineering Graduate Transfer Admission Committee	Faculty of Engineering and Architecture, Istanbul Yeni Yuzyil University
09/2014 - 09/2015	Member, Intern Committee	Biomedical Engineering Department, Istanbul Yeni Yuzyil University
09/2014 - 09/2015	Member, Undergraduate Dissertation Thesis Committee	Biomedical Engineering Department, Istanbul Yeni Yuzyil University

Professional Societies

09/2014 - 09/2015	Istanbul Yeni Yuzyil University Biomedical Engineering Student Society	Society Consultant
09/2014 - Present	Biomedical Engineering Society of Turkey	Member
04/2014 - Present	Society of Tokyo Institute of Technology Alumni	Member
04/2012 - Present	Japan Fluid Power System Society	Member
04/2009 - Present	Japan Turkish Students Organization	Member and Elected President (2011-2012)
04/2008 - Present	National Biotechnology Association	Member

Honors and Prizes

2015	Post-Doctoral Grant	The Scientific and Technological Research Council of Turkey	Research
2014	Graduation with First Grade Honor with Distinction	Tokyo Institute of Technology	Graduation
2010	Monbukagakusho Scholarship	Japan Ministry of Education, Technology and Sport	Education
2009	Graduation with First Grade honor with Distinction	Ege University	Graduation

Report of Funded and Unfunded Projects

Funding Information

2015 - 2016	PI, <i>Design of an air sterilization unit for medical purposes</i> . A new design of an air sterilization unit that sterilizes air with great efficiency from pollution and hospital infections and protects hospital residences health. This research will be funded by Ministry of Science, Technology and Industry of Turkey.
2015 - 2016	PI, <i>Improvement of Biomechanical Properties of Stereolithography Applied Tissue Engineered Heart valve Constructs</i> , TEHV Constructs are the cutting edge technology in artificial organ science however TEHVs have restricted lifetime due to their limited biomechanical specifications. This research is targeted to improve biomechanical properties of TEHV Constructs. This research will be funded by Harvard Medical School, Harvard-MIT Health Science & Technology Division and TUBITAK.
2012 - 2014	Researcher, <i>Non-uniform Temperature Field Problem In Viscosity Measurement</i> , In this study, the effects of non-uniform temperature field to viscosity measurement is investigated. Non-uniform temperature field is a serious problem that degrades the viscosity measurement accuracy and causes severe problems for the researches in academia and industry. This research is funded by A&D Company, Showa-Shell Company, Tokyo Institute of Technology and Monbukagakusho.
2011 - 2012	Researcher, <i>Adapting Magnetic Levitating Artificial Blood Pump As a Vibrational Viscometer</i> , When an artificial blood pump (or simply an artificial heart) is used in a patient, thrombosis occurs and red blood cells start to accumulate within the interior surface of the blood pump. In a couple of years, this accumulated red blood cells cause serious damages to the pump and

therefore patients need to replace their pumps. This research is funded by Tokyo Institute of Technology, Tokyo Medical Dental University, MedTech Heart Company and Monbukagakusho.

2010 - 2011 Researcher, *Nanochannel Fabrication Methodologies For Cell Fusion*, The purpose of this project was to convert somatic cells into embryonic stem cells by the help cell fusion technology that is a new brach of regenerative medicine which aims to fuse somatic cells and embryonic cells and converts somatic cells into embryonic cells. This research is funded by University of Tokyo and Monbukagakusho.

2009 - 2010 Researcher, *Comparision of antibacterial properties of Ion implanted and conventionel nanoparticle treated medical textiles*, Project aims to compare the antibacterial efficiencies of TiO₂ and Ag ion beam implanted and Ag nanoparticle applied medical textiles against one of the most deathliest hospital infection called Medicinal Resistant Staphylococcus Aureus (MRSA). The project aims to develop medical textiles with antibacterial ability. This project is funded by TUBITAK and Russian Foundation for Basic Research (RFBR)

Report of Local Teaching and Training

Teaching of Students in Courses

Autumn 2014 - 2015 2016 - 2017	Biomechanics 3rd year students	Istabil Yeni Yuzyil University, 35 students, 3 hr session per week for 15 weeks
Autumn 2014 - 2015 2016 - 2017	Microelectromechanical Systems 4th year students	Istanbul Yeni Yuzyil University, 41 students, 3 hr session per week for 15 weeks
Autumn 2014 - 2015	Calibration and Maintenance of Medical Equipments 4th year students	Istanbul Yeni Yuzyil University, 32 students, 3 hr session per week for 15 weeks
Autumn 2014 - 2015 2016 - 2017	English for Biomedical Engineers I 4th year students	Istanbul Yeni Yuzyil University, 6 students, 3 hr session per week for 15 weeks
Autumn 2014 - 2015	English for Electric- Electronic Engineering I 4th year students	Istanbul Yeni Yuzyil University, 47 students, 3 hr session per week for 15 weeks
Autumn 2014 - 2015 2016 - 2017	Dissertation Project I 4th year students	Istabil Yeni Yuzyil University, 26 students, 3 hr session per week for 15 weeks
Spring 2014 - 2015	Nanotechnology in Medical Field 3rd year students	Istabil Yeni Yuzyil University, 52 students, 3 hr session per week for 15 weeks
Spring 2014 - 2015	Healthcare Technology Management 3rd year students	Istabil Yeni Yuzyil University, 32 students, 3 hr session per week for 15 weeks
Spring 2014 - 2015	Physiology for Engineers 2nd year students	Istabil Yeni Yuzyil University, 33 students, 3 hr session per week for 15 weeks
Spring 2014 - 2015	English for Biomedical Engineers II 4th years students	Istabil Yeni Yuzyil University, 21 students, 3 hr session per week for 15 weeks
Spring 2014 - 2015	English for Electric Electronic Engineers II 4th year students	Istabil Yeni Yuzyil University, 37 students, 3 hr session per week for 15 weeks
Spring 2014 - 2015	Dissertation Project II 4th year students	Istabil Yeni Yuzyil University, 26 students, 3 hr session per week for 15 weeks
Spring 2014 - 2015	Leadership and Innovation in Healthcare Technology Management 1 year Master students	Istabil Yeni Yuzyil University, 2 students, 3 hr session per week for 15 weeks
Spring 2014 - 2015	Biomedical Nanotechnology 1st year Master students	Istabil Yeni Yuzyil University, 2 students, 3 hr session per week for 15 weeks
Spring 2014 - 2015	Advanced Studies in Mathematical Physiology 1st year Master students	Istabil Yeni Yuzyil University, 2 students, 3 hr session per week for 15 weeks

Formally Supervised Graduate Trainees

2015 - 2017 Doğan Esen, A New Concept Design for Bionic Arms, Master Thesis, Graduation expected in March 2017

Formally Supervised Undergraduate Trainees (Only Notable Students)

- 2014 - 2015 Çağlar Çiftçiöğlü, Biomedical Engineer, *MATLAB ve ARDUNIO ile uzaktan kontrollü Santrifuj Çalıştırma* /Remote Control Operating Centrifuge with MATLAB and ARDUNIO
- 2014 - 2015 Sabri Bulut, Alican Özçınar, Biomedical Engineer, *X-Işını Görüntülerinde Kırık Tespitini Kolaylaştıran Segmentasyon Çalışmaları* /Segmentation Studies in X-Ray Images to Easify Bone Fractures
- 2014 - 2015 Betül Altınsu, Biomedical Engineer, *Otoklav Cihazının MATLAB ve Simulink Ortamında İncelenmesi ve Modellenmesi* /Autoclave Simulation Using MATLAB/SIMULINK
- 2014 - 2015 Tuba Uçar, Biomedical Engineer, *Görme Kaybı veya Engeli Olan Diyabet Hastaları İçin İnsulin Kalem Tasarımı* /A New Design of Insulin Pen for Diabetes Mellitus Patients With Loss of Sight or Handicapped
- 2014 - 2015 Enes Üstündağ, Biomedical Engineer, *Küvöz içi Gürültü Ölçümü* /Noise Measurement in Infant Incubator
- 2014 - 2015 Burak Kutlu, Biomedical Engineer, *Mekanik Kalp Kapağı Obstrüksiyonu, Gürültü Analizi ve Kalp Kapağı Tasarımı Üzerine Bir Çalışma* /Obstruction, Noise Analysis and New Designes of Mechanical Heart Valves
- 2014 - 2015 Özgür Devran Koyun, Biomedical Engineer, *Pnömatik Tüp Taşıma Sistemlerinde Yeni Yaklaşımlar*, New Approaches in Pneumatic Tube Transport Systems
- 2014 - 2015 Aylin Çetin, M. Bilal Kayacıoğlu, Önder Efe, Biomedical Engineer, *Milli Ritim Holter Tasarımı* /A New Design for a National Rhythm Holter
- 2014 - 2015 Sercan Sarı, Biomedical Engineer, *Yerli Ultrasonik Nebülizatör Tasarımı* /A New Design for a National Ultrasonic Nebulizer

Local Invited Presentations

- 2014 Invited Speaker, What is Biomedical Engineering?, Gaziosmanpaşa High School, Istanbul, Turkey
- 2015 Invited Speaker, What is Biomedical Engineering?, Kemal Has High School, Istanbul, Turkey
- 2015 Invited Speaker, What is Biomedical Engineering?, Trakya College, Tekirdag, Turkey
- 2014 Panel Chair, Career of a Biomedical Engineer in Government, Istanbul Yeni Yuzyil University
- 2015 Panel Chair, New Trends in Diagnostic Technologies, Siemens, Istanbul Yeni Yuzyil University
- 2015 Panel Chair, Career paths in Biomedical Engineering, Istanbul Yeni Yuzyil University
- 2015 Panel Chair, Auction and Sales Management in Biomedical Engineering, Istanbul Yeni Yuzyil University
- 2015 Panel Chair, Calibration Technologies in Biomedical Engineering and Effect in Diagnostic and Treatment, Istanbul Yeni Yuzyil University
- 2015 Panel Chair, New Trends in Diagnostic Technologies, Toshiba, Istanbul Yeni Yuzyil University

Report of Regional, National and International Invited Teaching and Presentations

- 2014 Designing a Magnetic Levitated Artificial Blood Pump as a Vibrational Viscometer, Fatih University Institute of Biomedical Engineering
- 2014 Designing a Magnetic Levitated Artificial Blood Pump as a Vibrational Viscometer, Bogazici University Institute of Biomedical Engineering
- 2012 Effect of Non-Uniform Temperature Field in Viscosity Measurement, Japan Fluid Power Society, Fukuoka, Japan
- 2009 Ion Implantation on Textile Surfaces, National Biotechnology Conference, Antalya, Turkey

Report of Clinical Activities and Innovations

Clinical Innovations

Maglev Blood Pump as a Blood Viscometer

This project aims to detect the amount of thrombosis within the artificial blood pumps and help the experts to decide when to replace the pumps. When thrombosis occurs and red blood cells accumulate inside the blood pump, the viscosity of the blood inside the pump starts to increase. In our study, the impeller of the blood pump is improved not only to rotate but also to vibrate with a specific frequency. As the viscosity of the blood starts to increase, the force which is necessary to keep the vibration frequency of the impeller constant starts to increase. Therefore, there is a linear relationship between the electromagnetic driving force that keeps the impeller in constant frequency and the viscosity of the blood. By capitalizing this relationship, the viscosity of the blood and also ideal replacement time for blood pumps may be determined.

Infinite antibacterial effect
in Medical Textiles

Project aims to compare the antibacterial efficiencies of TiO₂ and Ag ion beam implanted and Ag nanoparticle applied medical textiles against one of the most deathliest hospital infection called Medicinal Resistant Staphylococcus Aureus (MRSA). The project aims to develop medical textiles with infinite antibacterial ability. Ag and TiO₂ are very well known antibacterial agents. Metal Vapour Vacuum Arc (MEVVA) ion implantation device was used to implant Ag and TiO₂ ion beams to the surfaces of medical textiles.

Report of Technological and Other Scientific Innovations

Non-uniform Temperature
Field Problem In Viscosity
Measurement

The magnitude of this non-uniform temperature field and its effect to viscosity measurement is detailly investigated and based on the research results, a design of new vibrational viscometer with minimum non-uniform temperature field is proposed. In addition to that, a non-dimensional parameter (Akpek number) for acceptable heating speed is proposed for current viscometers as a solution to non-uniform temperature field problem they have.

Report of Scholarship

Publications

1. **Ali Akpek**, “Stereolitografi ile Üç Boyutlu (3B) olarak Yazılmış olan Yapay Kalp Kapakçıklarının Biyouyumluluk Özelliklerinin Analizi”, GU-Journal of Engineering and Architecture
2. **Ali Akpek**, “Yapay Kalp Destek Ünitesinin Kanda Trombojeniz Ölçümü Gerçekleştiren Titreşimli Viskometre Olarak Adapte Edilmesi”, GU-Journal of Engineering and Architecture
3. **A. Akpek**, “Effect of Non-Uniform Temperature Field in Viscosity Measurement”, **Journal of Visualization**, May 2016, **Volume 19, Issue 2, pp 291–299 (2015), DOI: 10.1007/s12650-015-0311-0**
4. **A. Akpek**, A.G. Nikolaev, G.Yu. Yushkov, E.M. Oks, A. Oztarhan, E. Kocabas, E.S. Urkac I.G. Brown, “Modification of anti-bacterial surface properties of textile polymers by vacuum arc ion source implantation”, **Applied Surface Science**, **Vol: 310, P: 51-55(2014)**
5. **Ali Akpek**, Chongho Youn, Atsushi Maeda, Nobuyuki Fujisawa, Toshiharu Kagawa, “Effect of Thermal Convection on Viscosity Measurement in Vibrational Viscometer”, **Journal of Flow Control, Measurement & Visualization Volume 2:1 (2014)**
6. **Ali Akpek**, Chongho Youn, Toshiharu Kagawa, “A Study on Vibrational Viscometers Considering Temperature Distribution Effect”, **International Journal of the Japan Fluid Power System Society Vol. 45 No. 3**
7. Y.C. Li, Y.S. Zhang, **A. Akpek**, S.R. Shin, A. Khademhosseini, “4D bioprinting: the next-generation technology for biofabrication enabled by stimuli-responsive materials”, **Biofabrication 9 (2017) 012001**, DOI: 10.1088/1758-5090/9/1/012001
8. W. Liu, M. A. Heinrich, Y. Zhou, **A. Akpek**, N. Hu, X. Liu, Z. Zhong, X. Jin, Y.S. Zhang, A. Khademhosseini, “Direct Extrusion Bioprinting of 3D Cell-Laden Gelatin Methacryloyl (GelMA) Constructs with High Structural Fidelity and Enhanced Bioactivity”, **Advanced Healthcare Materials (DOI: 10.1002/adhm.201601451)**
9. Huseyin Avci, Fatma Dogan Guzel, Salim Erol, **Ali Akpek**, “Recent advances in organ-on-a-chip technologies and future challenges: A Review”, **Turkish Journal of Chemistry, (DOI: 10.3906/kim-1611-35)**
10. **Ali Akpek**, “Effect of Ambient Temperature Variations on Particle Dimensions in Ultrasonic Nebulizers during Cold Vaporization”, **Advances in Science, Technology and Engineering System Journal, Vol. 2 No.3 946 - 950, 2017, (DOI: 10.25046/aj0203119)**
11. Wei, W., Li, Y., Yang, H., Nassab, R., Shahriyari, F., **Akpek, A.**, ... & Zhang, Y. S. (2017). **3D Printed Anchoring Sutures for Permanent Shaping of Tissues. Macromolecular bioscience, 17(12).**

12. **Akpek, Ali.** Triküspit Kalp Kapakçıklarının Üç Boyutlu (3B) Biyobaskı Metotları ile Fabrikasyonu. *Süleyman Demirel Üniversitesi Fen Bilimleri Enstitüsü Dergisi*, 2017, DOI: 10.19113/sdufbed. 57066-Online Yayınlanma: 27.10. 2017.
13. **Ali Akpek**, “*Hücre Füzyonu için Nano-Kanal tasarlanması*”, Uluslararası katılımlı 19. Biyoteknoloji Kongresi, Eskişehir, Aralık 1-3, 2017
14. **Ali Akpek**, “*Organ Çipleri*”, Uluslararası katılımlı III. Tıbbi Tedarik Zinciri Yönetimi kongresi, Antalya, Aralık, 7-10, 2017
15. **Ali Akpek**, “*Uluslararası Arenada Biyomedikal Mühendisliği Eğitimi (Japonya Modeli)*”, Uluslararası katılımlı III. Tıbbi Tedarik Zinciri Yönetimi kongresi, Antalya, Aralık, 7-10, 2017
16. **Ali Akpek**, “*Stereolitografi Yöntemi ile Kardiyovasküler Dokuların 3B Olarak Yazılması*” , **The Proceedings of XXI. National Biomedical Engineering Congress**, Istanbul, Turkey, November 24-26, 2017
17. **Ali Akpek**, “*Stereolitografi ve FDM Yöntemleri ile çok katmanlı kalp kası dokularının 3B Olarak Yazılması*” , **The Proceedings of XXI. National Biomedical Engineering Congress**, Istanbul, Turkey, November 24-26, 2017
18. **Ali Akpek**, Y.S. Zhang, A. Khademhosseini, Three Dimensional (3D) Bioprinting of Stereolithography Applied Tissue Engineered Artificial Heart Valves, **The Proceedings of XX. National Biomedical Engineering Congress**, Page: 45 - 49, İzmir, Turkey, November 3-5, 2016
19. Onur Koçak, Elif Gürel, **Ali Akpek**, Arif Koçoğlu, “*Control Of Wheel Chair For Quadriplegia Patients: Design A Bioremotecontrol*” **The Proceedings of 9th International Conference on Electrical and Electronics Engineering(ELECO) 2015**, Bursa, Turkey, 26-28 November 2015
20. **Ali Akpek**, Chongho Youn, Toshiharu Kagawa, “*Temperature Control Problem of Vibrational Viscometers Considering Heat Generation and Heat Transfer Effect of Oscillators*”, **The Proceeding of Asian Control Conference (ASCC) 2013**, Istanbul, Turkey 23-26 June 2013
21. **Ali Akpek**, Chongho Youn, Toshiharu Kagawa, “*Analysis of vibrational viscometer considering heat generation and heat transfer problem*”, **The Proceedings on Autumn Conference of Japan Fluid Power System Society 2012**, p:154-156
22. **A. Akpek**, A.G. Nikolaev, K.P. Savkin, G.Yu. Yushkov, E.M. Oks, A. Oztarhan, E.H. Kocabas, E.S. Urkac, and I. Cireli, “*Modification of the Textile Materials by Vacuum Arc Ion Source Implantation*” **The Proceedings of 10th Int. Conf. On Material Modification with Particle Beams and Plasma Flows**, Page: 401:404
23. Ahmet Öztarhan, **Ali Akpek**, Efim Oks, Alexey Nikolaev. “*Modifying textiles with antibacterial effect, friction resistance, UV protection and electrostatic charge decay abilities by an alternative nanotextile technology called MEVVA ion implantation technique*”, **The Proceedings of VI. Nanoscience and Nanotechnology Conference**, Izmir, Turkey, June 15-18, 2010
24. Ahmet Öztarhan, **Ali Akpek**, Efim Oks, Alexey Nikolaev, “*Modifying medical textiles with antibacterial and frictionresistance abilities by an alternative nanotextile technology called ion implantation technique*”, **The Proceedings of XV. National Biomedical Engineering Congress**, Antalya, Turkey, April 21-24, 2010
25. Tuba Uçar, Onur Koçak, **Ali Akpek**, “*A New Design of An Insulin Pen for Visually Impaired or Blind Diabetes Mellitus Patients*”, **The Proceeddings of Medical Technologies National Congress (TIP TEKNO) 2016**, Page: 165 - 168, Antalya, Turkey, 27-29 October 2016
26. Betül Altınsu, Onur Koçak, **Ali Akpek**, “*Design and Analysis of an Autoclave Simulation Using MATLAB/Simulink*”, **The Proceeddings of Medical Technologies National Congress (TIP TEKNO) 2016**, Page: 246 - 249, Antalya, Turkey, 27-29 October 2016

27. Sercan Sarı, **Ali Akpek**, “*Design of a System That Measures the Effect of Environmental Temperature on Ultrasonic Nebulizers*”, **The Proceedings of National Conference on Electrical and Electronics Engineering (ELECO) 2016**, Bursa, Turkey, 1 - 3 December 2016
28. Onur Koçak, Hüseyin Kurtuldu, **Ali Akpek**, Arif Koçoğlu, Osman Eroğul, “*A Medical waste Management Model for Public Private Partnership Hospitals*”, **The Proceedings of Medical Technologies National Congress (TIP TEKNO) 2016**, Page: 231 - 234, Antalya, Turkey, 27-29 October 2016
29. Çağlar Çiftçioğlu, Onur Koçak, **Ali Akpek**, “*Remote Control of Centrifuge and Injection Systems via MATLAB and ARDUINO*”, **The Proceedings of Medical Technologies National Congress (TIP TEKNO) 2015**, Page: 137-140, Muğla, Turkey, 15-18 October 2015
30. Semih Ahmet Cebeci, Çağlar Çiftçioğlu, Onur Koçak, **Ali Akpek**, “*Electronic Pillbox Design for Demantia Patients*”, **The Proceedings of Medical Technologies National Congress (TIP TEKNO) 2015**, Page: 444 - 446, Muğla, Turkey, 15-18 October 2015
31. Sabri Bulut, Alican Özçınar, Çağlar Çiftçioğlu, **Ali Akpek**, “*A New Algorithm for Segmentation and Fracture Detection in X-Ray Images*”, **The Proceedings of Medical Technologies National Congress (TIP TEKNO) 2015**, Page: 447- 450, Muğla, Turkey, 15-18 October 2015
32. **Ali Akpek**, E. E. Hameş-Kocabaş, Ö.Gübe, E.Oks, G. Yushkov, A. Nikolaev, A. Oztarhan “*İyon İmplantasyon Teknolojisini Nano Tekstil Alanında Kullanarak Özel Geliştirilmiş Medikal Tekstillerinin Üretilmesi*”, **The Proceedings of XVI. National Biotechnology Congress**, Antalya, Turkey, December 13-16, 2009
33. **Ali Akpek**, E. E. Hameş-Kocabaş, Ö.Gübe, E.Oks, G. Yushkov, A. Nikolaev, A. Oztarhan “*Medikal kumaşlarda iyon implantasyon ve konvansiyonel nanoteknolojilerinin antibakteriyel etkilerinin karşılaştırılması*”, **The Proceedings of XVI. National Biotechnology Congress**, Antalya, Turkey, December 13-16, 2009
34. **Ali Akpek**, E. E. Hameş-Kocabaş, Ö.Gübe, E.Oks, G. Yushkov, A. Nikolaev, A. Oztarhan, “*Comparison of antibacterial properties of ion implanted and conventional nano particle treated medical textiles*”, **The Proceedings of 16th International Conference on Surface Modification of Materials by Ion Beams (SMMIB)**,Odaiba, Tokyo, Japan, September 13-18 2009

Thesis

1. **Ali Akpek**, “*A Study on Non-Uniform Temperature Distribution Effect in Viscosity Measurement of Vibrational Viscometer*”, **Doctoral Thesis**, March 2014
2. **Ali Akpek**, “*Comparison of antibacterial effects of medical textiles which ion beam implantation techniques or conventional nanotechnology techniques applied*”, **Master Thesis**, October 2009.

Report of Professional Work Experience

04/2014 - Present	Managing Partner	Advanced Biomedical Engineering Center (IBUTEM Ltd. Co.), Ankara, Turkey
04/2014 - Present	Founder & General Manager	Alia Initiative Ltd. Co., Ankara, Turkey
04/2010 - 03/2014	Consultant	Advanced Biomedical Engineering Center (IBUTEM Ltd. Co.), Ankara, Turkey
03/2008 - 03/2010	General Manager	Akpek Textile Co., Izmir, Turkey
03/2008 - 03/2010	Founder & General Manager	Alaq Technology Ltd. Co., Izmir, Turkey

Position Information

- 04/2014 - Present
 - *Managing Partner, IBUTEM Ltd. Co.* -ibutem.com.tr- is actively involved in S2B platform (Cooperation of Medical Defense and Informatics Industrial Firms) which began studies as of the year 2011, brings together with the knowledge and know-how of the defense industry and the health sector. The aim is, the production culture was created by design and production of knowledge from the defense companies, transferred to the producer's in our country's health and mainly used in domiciled abroad medical devices in the health care field nationalized.
 - As a Managing Partner, I am responsible from developing Business Plans, Product & Concept Design, Branding, Fundraising and Founder's issues
- 04/2014 - Present
 - *Founder & General Manager, Alia Initiative Ltd. Co* is a R&D Company dedicated to improve highly efficient sterilization units for hospitals. Seed Capital is directly obtained from Ministry of Science, Technology and Industry of Turkey.
- 04/2010 - 03/2014
 - *Consultant, IBUTEM Ltd. Co.* is doing as "angel entrepreneurship" to conducting biomedical engineering works qualified as "incubator company". Up to date IBUTEM helped the initiation of more than twenty bio related start-ups in Turkey and raised more than 14,000,000\$.
 - As a Consultant, I was responsible from developing Product & Concept Design, Pitching, Team Formation, Education for Edge Technology
- 03/2008 - 03/2010
 - *General Manager, Akpek Textile Ltd. Co.* is a 25 years old family company employes more than 40 employees. Company focuses on denim fabrication & marketing.
 - As General Manager, I was responsible of Branding, Business Plans, Product Design, Operations and Marketing
- 03/2008 - 03/2010
 - *Founder & General Manager, Alaq Technology Ltd. Co.* was one of the first nanotextile company of Turkey. The aim of the company was to produce antibacterial denims & underwears by the help of Ag Nanoparticles.
 - As General Manager, I was responsible from Branding, Marketing and Operations. Company failed due to Marketing issues.
- 09/2006 - 02/2008
 - *Business Analyst, IIBA* consists of more than 400 Businessmen and Industrialists that are leading different business sectors including construction, retail, food, furniture and textile production in Turkey
 - As a Business Analyst, I was responsible from Human Resources and Technology Education of the member companies.

Narrative Report

- As a person; I'm a hardworking and ambitious. When I work on a project, whatever happens I always complete the project. I don't know the word "give up" and If I fail I don't show any excuses, I take all the responsibility. This is my best personality characteristic. Since my childhood, I always loved the world of research. Creating new ideas, developing experimental setups, analyzing datas and finally achieving goals are my greatest pleasures in life. Due to my academic background, I get used to work interdisciplinary thus this made me a very good team player by working with scientists from very different research fields. I'm good at connecting new people and making friends.
- As a researcher; my academic background has given me the opportunity to expand my research experience by being part of multiple interdisciplinary research projects sponsored by both private and public institutions. As a result, not only have I learned to design well defined research projects that exhibit granting or contract potential, but also have developed relationships that could result in potential research collaborations with both industry and academia. Therefore, I believe the benefits of working alongside with partners from both the academic and industry realms will expand beyond the research community and will positively impact students, the university, and the general community. I firmly believe that a biomedical engineering research without an industrial impact is an unfinished research. Beyond everything my research philosophy can simply be explained by this five principles; vision, collaboration, dedication, adaptability and hard working.
- As a teacher; I try to emulate the passion, precision, and humor that I admired in my own best teachers when I am teaching. I am very well aware that universities and also government primarily promotes research activity but yet I do not consider teaching as an obligatory evil and try to ensure that my students know that their success in my classes and subsequent educational and professional enterprises are of my utmost concern. In my laboratory, I have extended a 7/24 welcome policy to bachelor, master and doctoral students who ask for my help. They are always welcome to ask help from me, whether or not I am directly related with their research. My role in here is to help them to feel and to be successful inside and also outside of the laboratory. I do not see a rigid dividing line between research and teaching. Good teachers need to be at the cutting edge of recent scholarship, in order to help students see the dynamism of Biomedical Engineering. Therefore, it is an inevitable conclusion that; a good teacher should also be a good researcher. My research strengthens my teaching and my teaching enlightens my research. Finally, I believe that my utmost goal as a teacher is to provide challenging courses that create self-confidence and perceptiveness of the importance of team work for the students. Therefore, students will increase their willingness to undertake more challenging subsequent coursework in outside departments and take a more rigorous approach to their own research at the end of my lectures.

References

1. Prof. Ali KHADEMHOSEINI
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2. Prof. Dr. Kadir ESMER (Dean, Faculty of Engineering and Architecture)
Istanbul Yeni Yuzyil University, Faculty of Engineering and Architecture
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E-Mail: kadir.esmer@marmara.edu.tr
3. Prof. Dr. Toshiharu KAGAWA (Dr. Eng Thesis Supervisor)
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