

## **Prof. MURAT KAZANCI**

### **Personal Information**

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### **Education Information**

Post Doctorate, Karlsruhe Institute Of Technology, Institute Of Genetics And Interfaces, Germany 2010 - 2011

Post Doctorate, Ruprecht-Karls-Universitaet Heidelberg, Institute Of Physical Chemistry, Biophysics, Germany 2009 - 2010

Post Doctorate, St. Francis Xavier University, Faculty Of Science, Chemistry, Canada 2008 - 2009

Post Doctorate, Max-Planck Institute Of Colloids And Interfaces, Department Of Biomaterials, Germany 2004 - 2007

Post Doctorate, Hanusch Krankenhaus, Ludwig Boltzmann-Institut - Osteologie, Austria 2006 - 2006

Doctorate, The Hebrew University Of Jerusalem, Casali Institute Of Applied Chemistry, Israel 1998 - 2003

Postgraduate, Cornell University, School Of Human Ecology, United States Of America 1991 - 1995

Undergraduate, İstanbul Teknik Üniversitesi, Makina Fakültesi, Turkey 1986 - 1990

### **Foreign Languages**

German, B2 Upper Intermediate

English, C2 Mastery

### **Research Areas**

Biomedical Engineering, Clinical Engineering, Life Sciences, Biophysics, Biological Spectroscopy, Natural Sciences, Engineering and Technology

### **Academic Titles / Tasks**

Professor, Istanbul Medeniyet University, Faculty Of Engineering And Natural Sciences , Biomedical Engineering , 2021 - Continues

Associate Professor, Istanbul Medeniyet University, Faculty Of Engineering And Natural Sciences , Biomedical Engineering , 2017 - 2021

Expert, European Union Commission, Bilim Kurulu, Nano-Bio Sciences, 2015 - 2019

Associate Professor, Bahcesehir University, Faculty Of Medicine, Department Of Basic Medical Sciences, 2015 - 2017

Assistant Professor, Bahcesehir University, Faculty Of Medicine, Department Of Basic Medical Sciences, 2013 - 2015

Expert PhD, Universitat Karlsruhe, Microbiology and Toxicology, Microbiology and Toxicology, 2010 - 2011

Expert PhD, Universitaet Heidelberg, Physical Sciences, Physics, 2009 - 2010

Expert PhD, St. Francis Xavier University, Physical Sciences, Chemistry, 2007 - 2009

Expert PhD, Max Planck Institute , Colloids and Interphases, Biomaterials, 2004 - 2007

Expert PhD, Medizinische Universitaet Wien, Hanusch Krankenhaus, Osteoporosis Institute, 2006 - 2006

Assistant Professor, Istanbul Technical University, Faculty of Aeronautics and Astronautics, Tekstil Teknolojileri, 2003 - 2004

Research Assistant, Istanbul Technical University, Faculty of Aeronautics and Astronautics, Tekstil Teknolojileri, 1995 - 2003

## Courses

Design of Biomaterials and Medical Applications, Undergraduate, 2020 - 2021

Bilimsel Araştırma Teknikleri ve Yayın Etiği, Doctorate, 2020 - 2021

Nanomaterials: Characterization and Production Methods, Doctorate, 2020 - 2021

Bilimsel Araştırma Yöntemleri ve Etik, Postgraduate, 2020 - 2021

Medical Materials, Doctorate, 2020 - 2021

Introduction to Nanoscience and Nanoengineering, Postgraduate, 2020 - 2021

## Advising Theses

Kazancı M., Halkalı fosfazenerin polimerler ile oluşturduğu nanofiber yapılar, Postgraduate, M.Berk(Student), 2020

Kazancı M., Doku Mühendisliği Uygulamalarında kullanılmak üzere grafen oksit temelli polimerik nanofibröz doku iskelelerinin geliştirilmesi ve karakterizasyonu, Postgraduate, R.Hilal(Student), 2018

Kazancı M., Tanrıseven A., Kollajen nanofiber bazlı katmanlı yara örtü tiplerinin geliştirilmesi ve karakterizasyonu, Postgraduate, O.Aras(Student), 2018

KAZANCI M., Elektriksel Eğirme Yöntemiyle Üretilen Kollajen Nanofiberlerin Suya Karşı Dayanıklı Hale Getirilmesi, Postgraduate, S.Kaan(Student), 2017

Kazancı M., Tanaka M., Analysis of structural properties of electrospun collagen fibers, Postgraduate, C.Harak(Student), 2009

Kazancı M., Tanaka M., Characterization of biopolymer surfaces using nanoindentation method., Postgraduate, A.Başer(Student), 2009

## Articles Published in Journals That Entered SCI, SSCI and AHCI Indexes

- I. **Synchrotron Fourier transform infrared microspectroscopy (sFTIRM) analysis of unfolding behavior of electrospun collagen nanofibers**  
Kazancı M., Haciosmanoglu S. K. , Kamal G.  
SPECTROCHIMICA ACTA PART A-MOLECULAR AND BIOMOLECULAR SPECTROSCOPY, vol.251, pp.1-15, 2021  
(Journal Indexed in SCI Expanded)
- II. **Optical characterization of heat dependent collagen denaturation via Mueller matrix polarimetry in combination with principal component analysis**  
Derman D., Opar E., Ferhanoğlu O., POLAT Ö., KAZANCI M.  
APPLIED OPTICS, vol.60, no.9, pp.2543-2548, 2021 (Journal Indexed in SCI)
- III. **Effect of Heat Level and Expose Time on Denaturation of Collagen Tissues**  
Derman I. D. , Senel E. C. , Ferhanoğlu O., Çilesiz F. İ. , KAZANCI M.  
CELLULAR AND MOLECULAR BIOENGINEERING, 2020 (Journal Indexed in SCI)
- IV. **Observation of triple helix motif on electrospun collagen nanofibers and its effect on the physical and structural properties**  
BUERCK J., Aras O., BERTINETTI L., Ilhan C. A. , ERMEYDAN M. A. , SCHNEIDER R., ULRICH A. S. , Kazancı M.  
JOURNAL OF MOLECULAR STRUCTURE, vol.1151, pp.73-80, 2018 (Journal Indexed in SCI)
- V. **Production of collagen micro- and nanofibers for potential drug-carrier systems**  
Aras O., Kazancı M.  
JOURNAL OF ENZYME INHIBITION AND MEDICINAL CHEMISTRY, vol.30, no.6, pp.1013-1016, 2015 (Journal Indexed in SCI)

- VI. **Solvent and temperature effects on folding of electrospun collagen nanofibers**  
Kazanci M.  
MATERIALS LETTERS, vol.130, pp.223-226, 2014 (Journal Indexed in SCI)
- VII. **Resemblance of Electrospun Collagen Nanofibers to Their Native Structure**  
BUERCK J., HEISSLER S., GECKLE U., ARDAKANI M. F., SCHNEIDER R., ULRICH A. S., Kazanci M.  
LANGMUIR, vol.29, no.5, pp.1562-1572, 2013 (Journal Indexed in SCI)
- VIII. **In vitro observation of dynamic ordering processes in the extracellular matrix of living, adherent cells**  
DIESNER M., WELLE A., Kazanci M., KAISER P., SPATZ J., KOELSCH P.  
BIOINTERPHASES, vol.6, no.4, pp.171-179, 2011 (Journal Indexed in SCI)
- IX. **Cortical bone composition and orientation as a function of animal and tissue age in mice by Raman spectroscopy**  
GAMSJAEGER S., MASIC A., ROSCHGER P., Kazanci M., DUNLOP J. W. C., KLAUSHOFER K., PASCHALIS E. P., FRATZL P.  
BONE, vol.47, no.2, pp.392-399, 2010 (Journal Indexed in SCI)
- X. **Tuning the Surface-Enhanced Raman Scattering Effect to Different Molecular Groups by Switching the Silver Colloid Solution pH**  
Kazanci M., SCHULTE J. P., DOUGLAS C., FRATZL P., PINK D., SMITH-PALMER T.  
APPLIED SPECTROSCOPY, vol.63, no.2, pp.214-223, 2009 (Journal Indexed in SCI)
- XI. **Microstructure of cortical bone as studied by Raman spectroscopy (composition vs orientation)**  
Gamsjaeger S., KAZANCI M., Manjubala I., Gupta H. S., Roschger P., Paschalis E. P., Klaushofer K., Fratzl P.  
CALCIFIED TISSUE INTERNATIONAL, vol.82, 2008 (Journal Indexed in SCI)
- XII. **Raman imaging of two orthogonal planes within cortical bone**  
Kazanci M., WAGNER H. D., MANJUBALA N. I., GUPTA H. S., PASCHALIS E., ROSCHGER P., FRATZL P.  
BONE, vol.41, no.3, pp.456-461, 2007 (Journal Indexed in SCI)
- XIII. **Bone osteonal tissues by Raman spectral mapping: Orientation-composition**  
Kazanci M., ROSCHGER P., PASCHALIS E. P., KLAUSHOFER K., FRATZL P.  
JOURNAL OF STRUCTURAL BIOLOGY, vol.156, no.3, pp.489-496, 2006 (Journal Indexed in SCI)
- XIV. **Complementary information on in vitro conversion of amorphous (precursor) calcium phosphate to hydroxyapatite from raman microspectroscopy and wide-angle X-ray scattering**  
Kazanci M., FRATZL P., KLAUSHOFER K., PASCHALIS E. P.  
CALCIFIED TISSUE INTERNATIONAL, vol.79, no.5, pp.354-359, 2006 (Journal Indexed in SCI)
- XV. **Micromechanical properties of biological silica in skeletons of deep-sea sponges**  
WOESZ A., WEAVER J. C., Kazanci M., DAUPHIN Y., AIZENBERG J., MORSE D. E., FRATZL P.  
JOURNAL OF MATERIALS RESEARCH, vol.21, no.8, pp.2068-2078, 2006 (Journal Indexed in SCI)
- XVI. **Preparation and characterization of Bombyx mori silk fibroin and wool keratin**  
IRIDAG Y., Kazanci M.  
JOURNAL OF APPLIED POLYMER SCIENCE, vol.100, no.5, pp.4260-4264, 2006 (Journal Indexed in SCI)
- XVII. **Flow behavior of regenerated wool-keratin proteins in different mediums**  
ALEMDAR A., IRIDAG Y., Kazanci M.  
INTERNATIONAL JOURNAL OF BIOLOGICAL MACROMOLECULES, vol.35, pp.151-153, 2005 (Journal Indexed in SCI)
- XVIII. **Carbon fiber reinforced microcomposites in two different epoxies**  
Kazanci M.  
POLYMER TESTING, vol.23, no.7, pp.747-753, 2004 (Journal Indexed in SCI)
- XIX. **A review of polymeric smart materials for biomedical applications**  
Kazanci M.  
MATERIALS TECHNOLOGY, vol.18, no.2, pp.87-93, 2003 (Journal Indexed in SCI)
- XX. **Creep and wear behaviour of ethylene-butene copolymers reinforced by ultra-high molecular weight polyethylene fibres**  
JACOBS O., Kazanci M., COHN D., MAROM G.

WEAR, vol.253, pp.618-625, 2002 (Journal Indexed in SCI)

- XXI. **Surface oxidation of polyethylene fiber reinforced polyolefin biomedical composites and its effect on cell attachment**  
Kazancı M., COHN D., MAROM G., BEN-BASSAT H.  
JOURNAL OF MATERIALS SCIENCE-MATERIALS IN MEDICINE, vol.13, no.5, pp.465-468, 2002 (Journal Indexed in SCI)
- XXII. **Fatigue characterization of polyethylene fiber reinforced polyolefin biomedical composites**  
Kazancı M., COHN D., MAROM G., MIGLIARESI C., PEGORETTI A.  
COMPOSITES PART A-APPLIED SCIENCE AND MANUFACTURING, vol.33, no.4, pp.453-458, 2002 (Journal Indexed in SCI)
- XXIII. **The effect of matrix stiffness on the creep-rupture lifetime of carbon fiber/epoxy composites**  
Kazancı M., SCHWARTZ P., PHOENIX S.  
COMPOSITE STRUCTURES, vol.54, pp.221-223, 2001 (Journal Indexed in SCI)
- XXIV. **Air oxidation of benzene to biphenyl - A dual catalytic approach**  
MUKHOPADHYAY S., ROTHENBERG G., LANDO G., AGBARIA K., Kazancı M., SASSON Y.  
ADVANCED SYNTHESIS & CATALYSIS, vol.343, no.5, pp.455-459, 2001 (Journal Indexed in SCI)
- XXV. **The effect of transcrystalline interface on the mechanical properties of polyethylene/polyethylene composites**  
LEVITUS D., KENIG S., Kazancı M., HAREL H., MAROM G.  
ADVANCED COMPOSITES LETTERS, vol.10, no.2, pp.61-65, 2001 (Journal Indexed in SCI)
- XXVI. **Elastic and viscoelastic behavior of filament wound polyethylene fiber reinforced polyolefin composites**  
Kazancı M., COHN D., MAROM G.  
JOURNAL OF MATERIALS SCIENCE, vol.36, no.12, pp.2845-2850, 2001 (Journal Indexed in SCI)

## Articles Published in Other Journals

- I. **Kullanılan Farklı Çözücülerin İpek Fibroin-PVA Kompozit Süngerlerin Yapısına Olan Etkisi**  
Kazancı M., Aras O.  
Tekstil ve Mühendis, vol.26, no.115, pp.224-232, 2019 (Other Refereed National Journals)
- II. **Production of Collagen Nanofibers and Unfolding of the Structure**  
Haciosmanoğlu S. K., Buerck J., Kazancı M.  
Biological and Chemical Research, vol.5, no.3, pp.41-47, 2018 (Refereed Journals of Other Institutions)

## Books & Book Chapters

- I. **Raman Application in Bone Imaging**  
Gamsjaeger S., Kazancı M., Paschalis L., Fratzl P.  
in: Raman Spectroscopy for Soft Matter Applications, Maher S. Amer, Editor, John Wiley & Sons, West Sussex, UK , London, pp.227-268, 2009

## Refereed Congress / Symposium Publications in Proceedings

- I. **Grafen Oksit Temelli Polimerik Nanofibröz Doku İskelelerinin Geliştirilmesi ve Karakterizasyonu**  
Çelik R. H., Kazancı M.  
BIOMED2018-TR, İstanbul, Turkey, 15 - 16 December 2018, pp.78
- II. **Halkalı Fosfazen Türevleri İçeren Kompozit Yapılı Nanofiberlerin Eldesi ve Karakterizasyonu**  
Berk M., Kazancı M.

- BIOMED2018-TR, İstanbul, Turkey, 15 - 16 December 2018, pp.79
- III. **İpek Fibroin İskelelerin Sentezlenmesi ve Karakterizasyonu**  
Aras O., Kazancı M.  
BIOMED2018-TR, İstanbul, Turkey, 15 - 16 December 2018, pp.94
- IV. **Comparison of Electrospun Collagen Nanofibers with their Native Structure**  
Haciosmanoğlu S. K. , Kazancı M.  
16th SESAME Users Meeting, Amman, Jordan, 15 - 16 December 2018
- V. **Kollajen Nanofiber Doku İskelelerinin Üretimi, Karakterizasyonu**  
Haciosmanoğlu S. K. , Kazancı M.  
BIOMED2018-TR, İstanbul, Turkey, 15 - 16 December 2018, pp.45
- VI. **Synthesizing Graphene Oxide at Large-Scale via Modified Hummers Method as Drug Carrier Systems**  
Çelik R. H. , Kazancı M.  
6th International BAU Drug Design Congress, İstanbul, Turkey, 13 - 15 December 2018, pp.190-191
- VII. **Extraction of Collagen and In-situ Crosslinking of Electrospun Collagen Nanofibers**  
Haciosmanoğlu S. K. , Kazancı M.  
14th Nanoscience and Nanotechnology conference, İstanbul, Turkey, 22 - 25 September 2018, pp.283-284
- VIII. **Production of collagen nanofibers and unfolding of the structure**  
Haciosmanoğlu S. K. , Bürck J., Kazancı M.  
13.Nanoscience and nanotechnology conference, Antalya, Turkey, 22 - 25 October 2017, pp.213-214
- IX. **An alternative production method for collagen to obtain scaffolds**  
Derman İ. D. , Şenkal E. C. , Kazancı M.  
5. International BAU Drug Design Congress, İstanbul, Turkey, 19 - 21 October 2017
- X. **Production of Organic Nanoparticles by Using Nanoporous Membranes**  
Tuz A. A. , Simsek A. K. , Kazancı M.  
6th Congress and Exhibition on International Advances in Applied Physics and Materials Science (APMAS), İstanbul, Turkey, 1 - 03 June 2016, vol.1809
- XI. **Raman spectral mapping of bone osteonal tissues**  
Kazancı M., ROSCHGER P., PASCHALIS E. P. , KLAUSHOFER K., FRATZL P.  
International Conference on Progress in Bone and Mineral Research 2006, Vienna, Austria, 16 - 18 November 2006, vol.39

## Supported Projects

- Ataş E., Kazancı M., TUBITAK Project, Design and construction of a machine that produce bionanofibers by electrospinning and centrifuge spinning methods, 2020 - 2022
- Kazancı M., Tavman Ş., TUBITAK Project, Glukozaminoglikan (GAG) İçeren Kollajen Nanofiblerinin (KGN) Elektro Eğirme İşlemi ile Elde Edilmesi ve Gıda Matrisinde Kullanımının Araştırılması, 2019 - 2022
- Kazancı M., Ataş E., Project Supported by Higher Education Institutions, Nanofiber Üretim Laboratuvarı Kurulmasına Yönelik Altyapı Projesi, 2020 - 2021
- Kazancı M., Arıcan F., TUBITAK Project, Medikal Sektöründe Kullanılmak Üzere Boş Sert Jelatin Kapsül Üretiminin Geliştirilmesi, 2019 - 2021
- Kazancı M., Demir Ü., Kısaayak Çollak F., TUBITAK Project, Alternatif Metotlarla Deriden Elde Edilen Kollajenden Elektriksel Eğirme Yöntemi Kullanılarak Fizyolojik Koşullara Dayanıklı Nanofiber Üretim, 2018 - 2021
- Kazancı M., Uyaver Ş., Project Supported by Higher Education Institutions, Aromatik aminoasitler tarafından kendiliğinden oluşturulan tübüler yapılar üzerine çevre faktörlerinin, diğer protein ve aminoasitlerin etkilerinin incelenmesi: Deneysel bir çalışma, 2019 - 2020
- CAN E., KEÇECİ K., KAZANCI M., Project Supported by Higher Education Institutions, Mühendislik ve Doğa Bilimleri Fakültesi Biomedikal Mühendisliği Bölümü Eğitim Altyapısının Oluşturulması için İhtiyaçların Temini, 2017 - 2018
- Kazancı M., FP7 Project, Mineralized Collagen Micro and Nanofibers for Artificial Bone Extracellular Matrices, 2014 - 2016

## **Memberships / Tasks in Scientific Organizations**

Türk Elektron Mikroskopi Derneği, Member, 2020 - Continues, Turkey

## **Scientific Refereeing**

Frontiers in nanotechnology, Biomedical nanotechnology, Other Indexed Journal, September 2020

## **Scientific Consultations**

European Commission-Research Executive Agency, Scientific Consultancy, European Union Commission, Bilim Kurulu, Nano-Bio Sciences, Belgium, 2015 - 2019

SABG-TÜBİTAK (Türkiye Bilimsel ve Teknolojik Araştırma Kurumu), Scientific Consultancy, European Union Commission, Bilim Kurulu, Nano-Bio Sciences, Belgium, 2017 - 2018

## **Edit Congress and Symposium Activities**

17th SESAME Users Meeting, Invited Speaker, Amman, Jordan, 2020

## **Citations**

Total Citations (WOS):828

h-index (WOS):14

## **Scholarships**

Doktora Bursu, YOK, 1999 - 2003

Yüksek Lisans Bursu, Ministry of Education, 1990 - 1995

## **Awards**

Kazancı M., Certificate of Award (Marie Skłodowska-Curie Actions), Avrupa Birliği Komisyonu, December 2018

Kazancı M., Doktora Bursu, Yüksek Öğretim Kurumu, December 1999

Kazancı M., Yüksek Lisans Bursu, Milli Eğitim Bakanlığı, June 1990