

## Prof. HALUK UTKU

### Personal Information

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### Education Information

Doctorate, University of Cincinnati, Faculty Of Engineering, Department Of Mine, United States Of America 1986 - 1990

Postgraduate, Istanbul Technical University, Nükleer Enerji Enstitüsü, Turkey 1981 - 1984

Undergraduate, Istanbul University, Faculty Of Science, Astronomi-Fizik, Turkey 1974 - 1978

### Foreign Languages

English, C1 Advanced

### Research Areas

Physics, Interdisciplinary Physics and Related Science and Technology Areas, Biophysics and Medical Physics, Engineering and Technology

### Academic Titles / Tasks

Professor, Hacettepe University, Nükleer Bilimler Enstitüsü, Radyasyon Fiziği ve Uyg. A.B.D., 2003 - Continues

Associate Professor, Hacettepe University, Nükleer Bilimler Enstitüsü, 1995 - 2003

Assistant Professor, Hacettepe University, Mühendislik Fakültesi, Fizik Mühendisliği Bölümü, 1991 - 1994

### Academic and Administrative Experience

Head of Department, Hacettepe University, Nükleer Bilimler Enstitüsü, Radyasyon Fiziği ve Uyg. A.B.D., 2019 - Continues

Hacettepe Üniversitesi, Nükleer Bilimler Enstitüsü, 2012 - 2016

Hacettepe Üniversitesi, Nükleer Bilimler Enstitüsü, Nükleer Bilimler Anabilim Dalı, 2003 - 2008

### Courses

Radyasyon Fiziği, Postgraduate

Nükleer Fizik II, Undergraduate

Nükleer Fizik I, Undergraduate

## Advising Theses

UTKU H., Alzheimer'lı dokuda protein dağılımının sinkrotron kızılötesi soğurma spektrumları yardımı ile haritalanması, Postgraduate, S.PRAVADILI(Student), 2007

## Published journal articles indexed by SCI, SSCI, and AHCI

- I. **Synchrotron FT-IR microspectroscopic analysis of necrotic bone**  
Bayari S. H., UTKU H., IKEMOTO Y., Celasun B., Koemuercue M., ATIK A.  
SPECTROSCOPY-AN INTERNATIONAL JOURNAL, vol.21, no.4, pp.227-234, 2007 (SCI-Expanded)
- II. **Wavelets as a powerful method to filter IR spectra**  
Utku H., PIRAVADILI S.  
INFRARED PHYSICS & TECHNOLOGY, vol.49, pp.167-172, 2006 (SCI-Expanded)
- III. **Discrimination of brain's neuroelectric responses by a decision-making function**  
Utku H., ERZENGIN O., ÇAKMAK E., Karakaş S.  
JOURNAL OF NEUROSCIENCE METHODS, vol.114, no.1, pp.25-31, 2002 (SCI-Expanded)
- IV. **Application of the feature selection method to discriminate digitized wheat varieties**  
Utku H.  
JOURNAL OF FOOD ENGINEERING, vol.46, no.3, pp.211-216, 2000 (SCI-Expanded)
- V. **Classification of barleys based on malting quality by image analysis**  
Utku H., KOKSEL H., ÖZKARA R.  
JOURNAL OF THE INSTITUTE OF BREWING, vol.104, no.6, pp.351-354, 1998 (SCI-Expanded)
- VI. **Use of statistical filters in the classification of wheats by image analysis**  
Utku H., KOKSEL H.  
JOURNAL OF FOOD ENGINEERING, vol.36, no.4, pp.385-394, 1998 (SCI-Expanded)
- VII. **Classification of wheat grains by digital image analysis using statistical filters (Reprinted from Wheat: Prospects for global improvement, 1998)**  
Utku H., KOKSEL H., KAYHAN S.  
EUPHYTICA, vol.100, pp.171-178, 1998 (SCI-Expanded)
- VIII. **Investigation of the temporal subdomain method for solving the finite element formulation of the space-time reactor kinetics equations**  
UTKU H., Christenson J. M.  
Nuclear Science and Engineering, vol.116, no.1, pp.55-66, 1994 (SCI-Expanded)

## Articles Published in Other Journals

- I. **Determination of inflection points of CyberKnife dose profiles within acceptability criteria of deviations in measurements**  
SARIGÜL N., YEDEKÇİ F. Y., YEĞİNER M., AKYOL F., UTKU H.  
Reports of Practical Oncology and Radiotherapy, vol.25, no.1, pp.6-12, 2020 (ESCI)
- II. **Evaluation of NanoDot Optically Stimulated Luminescence Dosimeter for Cone-shaped Small-field Dosimetry of Cyberknife Stereotactic Radiosurgery Unit: A Monte Carlo Simulation and Dosimetric Verification Study.**  
AKYOL F. Y., SARIGÜL N., YEGİNER M., Yedekci Y., UTKU H.  
Journal of medical physics, vol.44, pp.27-34, 2019 (ESCI)

## Books & Book Chapters

- I. **4. Mikroskopi, 5. Işık ve Madde**  
Utku H.  
in: Adli Bilimlerin Temeli, Yeşim Doğan, Editor, Nobel Yayın Dağıtım, Ankara, pp.1-982, 2016
- II. **Radyasyonun Madde ile Etkileşimi**  
Utku H.  
in: RADYASYON VE RADYASYONDAN KORUNMA FİZİĞİ, Güneş Tanır, Mustafa Hicabi Bölükdemir, Kemal Koç, Editor, Palme Yayın Dağıtım, Ankara, pp.1-822, 2013
- III. **Sistem Benzeşimi İçin Sonlu Elemanlar Yöntemi**  
Utku H.  
E-Kitap, Ankara, 2008
- IV. **C++ ile Bilimsel Hesaplar**  
Utku H.  
HÜ Mühendislik Fakültesi Yayınlar, Ankara, 1997

## Refereed Congress / Symposium Publications in Proceedings

- I. **OSL DOZİMETRELERİN KÜÇÜK ALAN DOZİMETRESİ OLARAK KULLANIMININ TEST EDİLMESİ**  
SARIGÜL N., YEDEKÇİ F. Y., YEĞİNER M., AKYOL H. F., UTKU H.  
XI. Ulusal Nükleer Bilimler ve Teknolojileri Kongresi, KUŞADASI, Turkey, 12 - 14 October 2016
- II. **Gama Spektroskopisi İçin Geliştirilen Çok Kanallı Analizör Sistemi**  
Altuntaş B., UTKU H.  
XI. Ulusal Nükleer Bilimler ve Teknolojileri Kongresi, Turkey, 9 - 12 October 2016
- III. **Low Cost Infrared Photodiodes Based On Chalcogen Hyperdoped Black Silicon SATF 2016 accepted proceeding**  
TANSEL T., Aydın O., UTKU H.  
Conference: Science & Applications on Thin Films (SATF) 2016, At İzmir, Turkey, 19 - 22 September 2016
- IV. **Wavelets as a Powerful Method to Filter IR Spectra**  
UTKU H., PIRAVADALI S.  
International Workshop on Infrared Microscopy and Spectroscopy with Accelerator Based Sources, WIRMS 2005, 26 - 30 June 2005
- V. **Simulation of Reactor Dynamics with Temperature Feedbacks**  
UTKU H., KILIÇ İ.  
1st. International Euro-Asia Conference on Nuclear Sciences and its Applications, 23 - 27 October 2000
- VI. **Dijital Görüntü Analizi**  
UTKU H., KÖKSEL H.  
Un-Bulgur ve Bisküvit 2ci Sempozyumu, Turkey, 28 - 30 May 1996
- VII. **Hububat Teknolojisinde Görüntü Analizi Tekniklerinin Kullanımı**  
UTKU H., KÖKSEL H.  
MAkarnalık Buğday ve Ürünleri Ulusal Sempozyumu, Turkey, 30 November - 03 December 1993
- VIII. **Condition of Finite Element Matrices in Reactor Physics Problems**  
UTKU H., CHRISTENSON J.  
Transaction of the American Nuclear Society, 16 - 17 July 1992
- IX. **Stability of the TSM Finite Element Formulation of the Reactor Kinetics Equation**  
UTKU H., CHRISTENSON J.  
Transaction of the American Nuclear Society, 10 - 12 July 1991

## Supported Projects

Utku H., Alkar A. Z., TUBITAK Project, Field Programmable Gate Array-based Control of Nuclear Reactor Dynamics with Feedback using Hardware-in-the loop Technique, 2020 - 2022

UTKU H., YEĞİNER M., SARIGÜL N., TUBITAK Project, Cyberknife SRS SBRT Sisteminin OSL Tabanlı Küçük Alan Dozimetrisi, 2014 - 2016

UTKU H., Project Supported by Higher Education Institutions, Termolüminesans (TLD) Dozimetri Hizmeti Laboratuvarının Akreditasyonu, 2012 - 2015

Utku H., Project Supported by Higher Education Institutions, Dozimetri Hizmet Laboratuvarı Kurulması, 2006 - 2008

Utku H., Çolak Ş., Project Supported by Higher Education Institutions, Radyasyon Fiziği Laboratuvarı Kurulması (Eğitim Amaçlı), 2006 - 2007

Utku H., Project Supported by Higher Education Institutions, Spectroscopic Analysis of Protein and Mineral Content of Osteonecrosis Tissue Samples at the Molecular Level Using IR micro-spectroscopy, Experiment Location: Spring-8 Synchrotron Laboratory, 2006 - 2006

Utku H., TUBITAK Project, Görüntü Analizi ve Elektroferez Tekniğinin Buğday Çeşitlerinin Sınıflandırılmasında Kullanımı , 1995 - 1997

## Metrics

Publication: 25

Citation (WoS): 75

Citation (Scopus): 86

H-Index (WoS): 5

H-Index (Scopus): 5

## Non Academic Experience

State Agency, Argonne National Laboratory, Advanced Photon Source

State Agency, Brookhaven National Laboratory, National Synchrotron Laboratory

BROOKHAVEN ULUSAL LABORATUVARI

ARGONNE ULUSAL LABORATUVARI

State Agency, Tokai-Mura Nükleer Araştırma Merkezi, Nükleer Mühendislik Birimi

TOKAIMURA NÜKLEER ARAŞTIRMA MERKEZİ

TAEK ÇEKMECE NÜKLEER EĞİTİM VE ARAŞTIRMA MERKEZİ

Public Research Center, Türkiye Atom Enerjisi Kurumu, Reaktör İşletme Departmanı

Business Establishment Private, Yalova Elyaf ve İplik Sanayi , Makine Bakım

YALOVA ELYAF VE İPLİK SANAYİ