

Hüray Islekel

MD. PhD.

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EDUCATION

PhD in Biochemistry

Dokuz Eylul University / Department of Medical Biochemistry

1990 – 1996 Izmir, Turkey

Islekel H, Islekel S, Guner G, Ozdamar N. Evaluation of lipid peroxidation cathepsin L and acid phosphatase activities in experimental brain ischemia-reperfusion. *Brain Research* 1999; 843:18-24.

Islekel S, **Islekel H**, Guner G, Ozdamar N. Alterations in superoxide dismutase, glutathione peroxidase and catalase activities in experimental cerebral ischemia–reperfusion. *Research in Experimental Medicine* 1999; 199 (3):167-76.
 Bachelor of Medicine

Ege University/Medical Faculty

1978 – 1984 Izmir, Turkey

RELEVANT INTERNATIONAL RESEARCH AND STUDY

- Proteomics applications on 4000 QTRAP **Darmstadt, Germany** (2010)
- Visiting research scientist, focused studies on quantitative proteomics, Cold Spring Harbour Laboratory **NY USA**, (Funded by CSHL and Turkish Higher Council of Research and Technology) (2009)
- AACC Annual Meeting Proteomics Special Meetings, **Washington, DC, USA**, (2008)
- Visiting research scientist, project on yeast cell proteomics. Harvard School of Public Health, Proteomics Laboratory (Alexander Ivanov PhD Lab.) **MA USA**, (Partly funded by HSPH and Turkish Higher Council of Research and Technology) (2008)
- Research assistant on neuroscience and chemical pathology, University College London, **London, UK**. (Funded by Turkish Higher Council of Research and Technology) (1992)

RESEARCH INTEREST AND EXPERIENCE

Mostly interested in molecular mechanisms and surrogate markers of oxidative stress. For the last ten years has been focused on mass spectrometric analysis within the scope of in vivo and in vitro studies. Founded the mass spectrometry laboratory in Dokuz Eylül University School of Medicine that is also a new area for the country. The studies she has conducted so far are as follows:

- Implementation of mass spectrometric absolute quantitation methods for oxidative DNA damage and proteomic analysis of repair proteins, besides other oxidative stress parameters, such as isoprostanes in the research laboratory of medical school
- Mass spectrometric analyses of oxidative DNA damage products and proteomic studies on repair proteins in various pathological conditions, mainly diabetes and use of those parameters for diagnosis, follow-up and therapy management
- Evaluation of isocitrate dehydrogenase mutation through cfDNA with liquid biopsy and mass spectrometric evaluation of D-2-hydroxyglutarate in various biological fluids including cerebrospinal fluid
- Investigation of the effect of calcitriol and paricalcitol on oxidative DNA damage and repair proteins in human endothelial cell culture
- Implementation of mass spectrometric absolute quantitation methods for metabolites in biological fluids that could not be measured with routine methods for patients with various diseases, such as endocrine disorders, vitamin deficiency, etc.
- Metabolomic studies on in-vitro models and biological fluids of patients mostly with gestational and non-gestational diabetes
- Investigation of the role of matrix metalloproteinases and their inhibitors in cancer and Alzheimer's disease.

SKILLS

Teaching and training

- Theoretical and practical course responsibilities and teaching for 1st and 2nd year medical school and nursery students
- Teaching post-graduate students in Biochemistry and Molecular Medicine particularly on transferable skills, research and career skills (More than 40 students)
- Developing and applying new methods of teaching both for undergraduate (problem based learning, virtual laboratories, dry practicals) and graduate students (small group discussions, project based learning)
- Training supervisors in and out the organization
- Training researchers on mass spectrometry, DNA damage and repair with theoretical and practical courses
- Leader of the committee for preparing to get ORPHEUS (Organization for PhD Education in Biomedicine and Health Sciences in the European System) Label in DEU GSHS

Supervision

- Currently a supervisor of four PhD, one M. Sc. and one specialization student. Had graduated five PhD students.
- Has approximately twenty young doctorate students in the aspect of educating and consulting.
- Opens up her laboratory to nearly twenty young doctorate students - most of them are females - and shares her knowledge and experiences for them to be independent researchers in the scope of the research studies and projects as a role model in educating, and counseling for young people.
- Provides both education and collaboration by bringing researchers from different institutions together through national and international courses that she organizes or lectures.
- Accepted students for their career progression and gave trainings to increase their knowledge and skill of graduate students who work in the industry, pharmaceutical company, etc.
- Personally organized / participated in total 24 courses in the related field, 12 courses related to the subject in the last five years and some congresses. **Some are listed below:**
 - I. FEBS Workshop on Molecular Life Sciences Education-Training Tomorrow's Scientists. Izmir/TURKEY, Sep. 5-7, 2018.
 - II. Workshop on "Graduate-Post Graduate Student Supervision in Biomedicine and Health Sciences: ORPHEUS Perspective, İzmir/TURKEY, June 21-22, 2018.
 - III. Theoretical and Practical Course on "DNA Damage, Repair and Tandem Mass Spectrometric Evaluation" İzmir/TURKEY (2018, 2014, 2012)
 - IV. "ARLAB XII. Hücresel, Moleküler ve Analitik Teknikler Kursu", (2016, 2015, 2014)
 - V. Workshop on Supervisor Training İzmir/TURKEY (2016, 2014, 2012)
 - VI. ORPHEUS (Organization for PhD Education in Biomedicine and Health Sciences in the European System) Information days for supervisors (2016, 2015)

Administration/ Positions of Responsibility

- Head of the Molecular Medicine Department (16 Faculty member, 45 postgraduate students)
- Manage and supervise research staff
- Postgraduate programme administrator
- Research project management (More than 30)
- Supervision of post-graduate students in Biochemistry and Molecular Medicine (Totally 10)
- Responsible for organization of courses and national/international congresses
- Weekly seminar leader for post-graduate students
- Laboratory Technician Training Programme coordinator
- Clinical and Laboratory Research Ethics Committee member

RELEVANT INVITED LECTURES IN CONFERENCES AND MEETINGS

- "Preparation for ORPHEUS Label: Dokuz Eylül University Graduate School of Health Sciences (DEU-GSHS) Experience" Graduate-Postgraduate Student Supervision in Biomedicine and Health Sciences: ORPHEUS perspective. İzmir/TURKEY, Turkish Biochemical Journal 2018,43;3:14, June 21-22/2018.
- "Challenges and opportunities for women in science – a personal appraisal" 42. FEBS Congress Jerusalem, İsrail. FEBS Journal 2017,284;Suppl 1:60, Sep. 10-14/2017.
- "Isocitrate Dehydrogenase Mutation in Cancer and Progress Toward Development of Targeted Therapeutics" Turkish Journal of Molecular Biology & Biotechnology, Suppl. 1, 22.05.2017, p:48.
- LC-Tandem MS applications in clinical and research laboratory" XXVII. National Biochemical Congress, Antalya/TURKEY, Turkish Biochemical Journal 2015, 40(S1), Nov. 3-6/2015.
- "Value of LC-Tandem MS for evaluation of oxidative stress" XXVII. National Biochemical Congress, Antalya/TURKEY. Turkish Biochemical Journal 2015, 40(S1):50, Nov. 3-6/2015.
- "Evaluation of functional vitamin B12 deficiency biomarkers-MMA and homocysteine-using LC-MS/MS" XXV. National Biochemistry Congress, İzmir, TURKEY, Turkish Biochemical Journal 2013, 38(S1):32.
- "Use of "Dry Laboratory Practical" for integration of PBL learning objectives into vignettes: a Dokuz Eylül University experience" FEBS Workshop on Biochemistry and Molecular Biology Education Meeting, Trends &

Tips İzmir, TURKEY, March, 29-30/2012.

RELEVANT PUBLICATIONS AND PRESENTATIONS

Selected ones out of a total 95 are as follows:

- Kose S, Tuna G, Nuriyeva G, Altunyurt S, **Islekel GH**, Dogan OE. A prospective cohort study on the prediction of the diagnosis-to-delivery time in preeclamptic pregnancies: should the sFlt-1/PlGF ratio be added to routine evaluations? *Arch Gynecol Obstet*. 2018 Nov;298(5):911-920. DOI: 10.1007/s00404-018-4903-5.
- Tuna G, Yener G, Oktay G, **Islekel H**, Kirkali G. Evaluation of Matrix Metalloproteinase-2 (MMP-2) and -9 (MMP-9) and Their Tissue Inhibitors (TIMP-1 and TIMP-2) in Plasma from Patients with Neurodegenerative Dementia (2018) *Journal of Alzheimer's Disease* Vol.6 (3) (in press)
- M. Akis, M. Kant, Z. Yuçe, M. Dizdaroglu, **Islekel H**. Effects of paricalcitol on hydrogen peroxide-induced oxidative damage in human umbilical vein endothelial cells through vitamin D receptor signaling. 43. FEBS Congress, July 7-12/2018, Prag, Check Republic, FEBS Open Bio, 8 (Suppl. S1):107-496.
- Kant M, Akis M, Çalan M, Arkan T, Bayraktar F, Dizdaroglu M, **Islekel H**. Elevated urinary levels of 8-oxo-2'-deoxyguanosine, (5'R)- and (5'S)-8,5'-cyclo-2'-deoxyadenosines, and 8-iso-prostaglandin F2 α as potential biomarkers of oxidative stress in patients with prediabetes. *DNA Repair (Amst)*, 2016 Dec;48:1-7.
- **Islekel H**, Yüksel Eğırlmez M, Ebyraktar Z, Akdoğan G, Pekçetin, Ç. Towards Orpheus Labelling Standard: Dokuz Eylül University Graduate School of Health Sciences Experience. Graduate-Postgraduate Student Supervision in Biomedicine and Health Sciences: ORPHEUS perspective. İzmir/TURKEY, Turkish Biochemical Journal 2018,43;3:18-19, June 21-22/2018.
- Yusufoglu N, Kant M, Akis M, Şanlı A, Özdemir N, **Islekel H**. Evaluation of angiogenesis with serum and tissue vascular endothelial growth factor, angiopoietin-1 and angiopoietin-2 levels in relation to clinicopathological features in lung cancer patients. *Turk. J Biochem*, 2017;42(5).
- Nuriyeva G, Kose S, Tuna G, Kant M, Akis M, Altunyurt S, Dogan O.E, **Islekel H**. A prospective study on first trimester prediction of ischemic placental diseases. *Prenat Diagn*. 2017 Feb 6. doi: 10.1002/pd.5017.
- Kant M, Akis M, **Islekel H**. Validation of a liquid chromatography-tandem mass spectrometry method for the measurement of lipid peroxidation product 8-iso-prostaglandin F2 α in urine. *FEBS Journal*, 2016; 283/385-386. doi:10.1111/febs.13806
- Kant M, Tuna G, Akis M, Jaruga P, Kirkali G, **İşlekel H**, Dizdaroglu M. Identification and Quantification of DNA Repair Protein Apurinic/Apyrimidinic Endonuclease 1 in MCF-7 and HepG2 Cells by Liquid Chromatography/Isotope-Dilution Tandem Mass Spectrometry. V. International Congress of Molecular Medicine, 05/2015
- Kant M, Akis M, Calan M, Arkan T, Bayraktar F, Dizdaroglu M, **Islekel H**. Absolute quantification of oxidatively induced DNA damage and lipid peroxidation products in patients with prediabetes and type 2 diabetes mellitus. *IFCC WorldLab Istanbul 2014, 06/2014, Clin Chem Lab Med 2014; 52, Special Suppl, pp S1 – S1760*
- Akis M, Kant M, Isik I, Arslan N, **Islekel H**. Plasma methylmalonic acid and homocysteine as functional vitamin B12 deficiency markers in phenylketonuria and healthy children. *IFCC WorldLab Istanbul 2014, 06/2014, Clin Chem Lab Med 2014; 52, Special Suppl, pp S1 – S1760*
- Nevin Uzuner, Arzu Babayigit Hocaoglu, Duygu Olmez Erge, Suna Asilsoy, Ozkan Karaman, Zekiye Altun, Abdullah Kumral, Ozlem Tufekci, **Islekel H**. Raised interleukin-13 levels in cord blood increases the risk of allergic sensitization at 5 years of age. *Iranian Journal of Allergy, Asthma and Immunology* 2013. 12(2):107-114.
- **Islekel H**, Soylu A, Altun Z, Yis U, Turkmen M, Kavukcu S. Serum and urine cystatin C levels in children with post-pyelonephritic renal scarring: a pilot study. *Int Urol Nephrol*. 2007 Sep 11.
- **Islekel H**, Oktay G, Terzi C, Canda A E, Füzün M, Küpelioglu A. Matrix metalloproteinase -9, -3 and tissue inhibitor of matrix metalloproteinase-1 in colorectal cancer: relationship to clinicopathological variables. *Cell Biochemistry and Function*. 2007 Jul-Aug;25(4):433-41.

PROFESSIONAL MEMBERSHIP (INTERNATIONAL / NATIONAL)

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| ○ Federation of European Biochemical Societies | ○ Turkish Biochemical Society (İzmir Branch Treasurer and General Secretary (1996-2002)) |
| ○ Society for Free Radical Research | ○ Turkish Society of Medicine |
| ○ American Association of Clinical Chemistry | ○ Turkish Society of Free Radical and Antioxidant Research |
| | ○ Turkish of Medical Education |

FUNDING AND ACADEMIC AWARDS

Including the FEBS EMBO young scientist scholarship, she has a total of 26 academic awards. These awards are given for the studies and projects she has conducted so far and they are research encouragement awards from FEBS, Scientific and Technological Research Council of Turkey and different professional associations.

REFERENCES

Prof. Gül Güner AKDOGAN PhD. Dept. of Medical Biochemistry, School of Medicine, Director, Graduate School of Health Sciences, IEU, Izmir- Turkey (www.ieu.edu.tr) Phone: + 90 533 749 17 96 E.mail: akdogan.gul@ieu.edu.tr

Prof. Miral DIZAROGLU PhD. NIST Fellow, Biomolecular Measurement Division, National Institute of Standards and Technology, Gaithersburg, MD 20899, US. www.nist.gov/people/miral-dizdaroglu-0 E-mail: miral.dizdar@nist.gov