

## Curriculum Vitae and Publication List of Hilmi Orhan, Ph.D., E.R.T.

June 2019

### *Professor of Toxicology*

Toxicology Department, Faculty of Pharmacy, Ege University  
35100 İzmir-TURKEY  
Tel: +90 232 3739173  
Fax: +90 232 3885258  
E-mail: hilmi.orhan@ege.edu.tr or horhan@gmail.com



Hilmi Orhan is a professor in the Department of Toxicology at Ege University, Izmir, Turkey. He obtained his Ph.D. in Pharmaceutical Toxicology from Hacettepe University in 2000. He was a visiting fellow at Vrije Universiteit, The Netherlands in 1995. During his Ph.D., he received a *Turkish Scientific and Technical Research Council* (TUBITAK) /NATO A<sub>2</sub> grant and conducted research in the Division of Molecular Toxicology of the same university on the biotransformation and toxicity of volatile anesthetics (1997–1999). He was invited by the same department as a post-doctoral fellow for another two years between 2001 and 2003. He visited the same and different departments of the same institution in the summer of 2004, 2008 and 2010. He was appointed as associate professor in 2006 and as full professor in 2011 in the Toxicology Department of Ege University. He served as the Secretary General of the *Turkish Society of Toxicology* 2005–2011, until elected as president of the society in 2011, and was re-elected for the same position in 2013. Dr. Orhan was a visiting fellow in The Scripps Research Institute-Jupiter (USA) in 2013, and in the Department of Pharmacology, Toxicology and Therapeutics of Kansas University (USA) in 2018. He served as the secretary general for the Molecular Toxicology Specialty Section of the *Federation of European Toxicologists and European Societies of Toxicology* (EUROTOX) since 2009, and he was elected as the chair of this section in 2014. He has been a member of the Executive Committee of EUROTOX since 2013. Dr. Orhan was the recipient of a *Bo Holmstedt Fellowship Award* in 2008, and of *SOT - Global Senior Scholar Exchange Program Award* in 2018. He obtained his *European Registered Toxicologist* title in 2008. He became a member of the Editorial Board of the journals *Environmental Toxicology and Pharmacology* (ETAP; Elsevier) in 2015, and *Applied In Vitro Toxicology* (Mary Ann Liebert) in 2019, respectively. Between 2009 and 2015, he completed 5 courses of the European SafeSciMet initiative.

Dr. Orhan has authored or co-authored 40 publications in peer-reviewed international journals and 18 publications in local journals. His publications have received over 1200 SCI citations with a *h-index* of 17. He has taught toxicology at both graduate and undergraduate levels and has successfully supervised eight M.Sci. students and one PhD student, he is currently supervising four Ph.D. students.

Dr. Orhan's current research interest involves the characterization of reactive intermediates upon biotransformation of drugs and drug candidates by target organs and subcellular compartments such as mitochondrion, and their contribution to adverse effects. He is also interested in biomarkers of cellular damage in proteins, lipids and nucleic acids, and the application of biomarkers in both clinical and environmental toxicological studies.

### **Educational Background**

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|-------------|---|
| <b>2000</b> | Ph.D. degree on the basis of research performed at the Department of Pharmacochemistry, Vrije University, Division of Molecular Toxicology and Faculty of Pharmacy, Hacettepe University, Department of Toxicology (Prof. Dr. Nico P.E. Vermeulen and Prof. Dr. Gonul Sahin).<br><br>Title thesis: <i>Biotransformation of Inhalation Anesthetics and Development of Biomarkers Determining Their Toxicity.</i> |
| <b>1994</b> | M.Sc. degree on the basis of research performed at the Faculty of Pharmacy, Hacettepe University, and Department of Toxicology.   |

Title thesis: *In vitro Assessment of the Effect of Various Xenobiotics or Drugs on Human Erythrocyte Glutathione S-transferase Activity.*

1990 Degree (B.Sc.) at the Hacettepe University at pharmaceutical sciences.

### **Professional Experience**

- 2019- *Applied In Vitro Toxicology* - Editorial Board member
- 2018 Visiting fellow at the Department of Pharmacology, Toxicology & Therapeutics, Kansas University Medical Center (KUMC), Kansas City-USA
- 2016-2019 Member of EUROTOX Executive Committee-reelected
- 2015- *Environmental Toxicology and Pharmacology* - Editorial Board member
- 2014 Chair of EUROTOX-Molecular Toxicology Specialty Section
- 2013-2016 Member of EUROTOX Executive Committee
- 2013 Visiting fellow at the Department of Molecular Therapeutics - The Scripps Research Institute, Jupiter - USA
- 2013 Course leader in TST-Continuing Education Course “*Safety Assessment of Cosmetics*”, 7-9 June 2013, Ankara-Turkey
- 2013 Course leader in TST-Continuing Education Course “*Analytical validation in toxicological studies*”, 3-4 May 2013, Eskisehir-Turkey
- 2011-2017 President of TST (*Turkish Society of Toxicology*)
- 2011 Lecturer in Advanced Toxicology Course, 14-18 November 2011, Kusadasi-Turkey.
- 2009-2014 Secretary General of EUROTOX-Molecular Toxicology Specialty Section.
- 2009 Lecturer in Basic Toxicology Course, 27 September-04 October 2009, Tirana-Albania
- 2008 Visiting fellow at the Molecular Toxicology Division of Pharmacochimistry Department, and Department of Environmental Sciences, Vrije University, Amsterdam-The Netherlands
- 2011- Full professor of toxicology at the Department of Toxicology, Faculty of Pharmacy, Ege University, Izmir-Turkey
- 2006-2011 Associate professor of toxicology at the Department of Toxicology, Faculty of Pharmacy, Ege University, Izmir-Turkey
- 2005-2011 Secretary General of TST (*Turkish Society of Toxicology*)
- 2005-2006 Associate professor of toxicology at the Department of Toxicology, Faculty of Pharmacy, Hacettepe University, Ankara-Turkey
- 2003-2005 Postdoctoral fellow at the Department of Toxicology, Faculty of Pharmacy, Hacettepe University, Ankara-Turkey
- 2004 Visiting fellow at the Molecular Toxicology Division of Pharmacochimistry Department, Vrije University, Amsterdam-The Netherlands
- 2001-2003 Postdoctoral fellow at the Molecular Toxicology Division of Pharmacochimistry Department, Vrije University, Amsterdam-The Netherlands
- 1997-1999 Research fellow at the Molecular Toxicology Division of Pharmacochimistry Department, Vrije University, Amsterdam-The Netherlands
- 1995 Visiting researcher at the Molecular Toxicology Division of Pharmacochimistry Department, Vrije University, Amsterdam-The Netherlands
- 1991-2001 Research and Teaching assistant at the Department of Toxicology, Faculty of Pharmacy, Hacettepe University, Ankara-Turkey

### Professional Memberships

- The Turkish Society of Toxicology (TST)
- Federation of European Toxicologist and European Societies of Toxicology (EUROTOX)
- International Union of Toxicology (IUTOX)
- The Society of Pharmaceutical Sciences of Ankara (FABAD)
- Society of Toxicology (SOT)

### A. ARTICLES PUBLISHED IN SCI-INDEXED JOURNALS:

1. **Orhan H**, Akakpo J, Ramachandran A, Jaeschke H. *Effect of 4-methylpyrazole on acetaminophen-induced nephrotoxicity*. (in preparation).
2. Arzuk E, Tokdemir M, **Orhan H**. *Comparative mitochondrial and microsomal bioactivation capacity in human liver and kidney tissues*. (in preparation).
3. Arzuk E, Karakuş F, Ergüç A, **Orhan H**. *Bioactivation of clozapine by mitochondria of mouse heart: Possible cause of cardiotoxicity*. (in preparation).
4. Kuskucu, Akyildiz V, Kulmány Á, Ergün Y, Zencir S, Zupko I, Durdagi S, Zaka M, **Orhan H**, Topcu Z. *Structural modification of ellipticine derivatives with alkyl groups of varying length is influential on their effects on human DNA topoisomerase II: A combined experimental and computational study*. **Cell Biochemistry and Biophysics** 2019 (submitted).
5. Arzuk E, Turna B, Sözbilen M, **Orhan H**. *Inter-individual and inter-organ variability in the bioactivation of paracetamol by human liver and kidney tissues*. **Environmental Toxicology and Pharmacology** 2018 June; 61: 8-17.
6. Durmaz E, Kocagöz R, Bilacan E, **Orhan H**. *Metal pollution in biotic and abiotic samples of Büyük Menderes River*. **Environmental Science & Pollution Research International** 2017 Feb; 24(5): 4274-4283.
7. Çağdaş B, Kocagöz R, Onat İ, Perçin F, Özaydın O, **Orhan H**. *Periodic Monitoring of Persistent Organic Pollutants and Molecular Damage in Cyprinus Carpio from Büyük Menderes River*. **Environmental Science & Pollution Research International** 2017 Feb; 24(5): 4241-4251.
8. Wallace H, Roberts R, Corsini E, Bonefeld-Jorgensen E, **Orhan H**, Mach M, Weiser T, Carvalho F, Iscan M, Tsatsakis A. *Toxicology as an academic discipline in European Universities*. **Toxicology Letters** 2016 Jul 8; 254: 63.
9. Rossner P Jr, **Orhan H**, Koppen G, Sakai K, Santella RM, Ambroz A, Rossnerova A, Sram RJ, Ciganek M, Neca J, Arzuk E, Mutlu N, Cooke MS. *Urinary 8-oxo-7,8-dihydro-2'-deoxyguanosine Analysis by an Improved ELISA: An inter-laboratory Comparison Study*. **Free Radical Biology & Medicine** 2016 Mar 22; 95: 169-179.
10. **Orhan H**. *Editorial: Bioactivation of drugs: Enzymes, reactive metabolites and adverse reactions*. **Current Medicinal Chemistry** 2015; 22(4): 406-407.
11. **Orhan H**. *Extrahepatic Targets and Cellular Reactivity of Drug Metabolites*. **Current Medicinal Chemistry** 2015; 22(4): 408-437.
12. Sabuncuoglu S, Eken A, Aydin A, Ozgunes H, **Orhan H**. *Cofactor Metals and Antioxidant Enzymes in Cisplatin-Treated Rats: Effect of Antioxidant Intervention*. **Drug and Chemical Toxicology** 2015; 38(4); 375-282.
13. Kocagöz R, Onmuş O, Onat I, Çağdaş I, Sıki M, **Orhan H**. *Environmental and Biological Monitoring of Persistent Organic Pollutants in Waterbirds by Non-invasive versus Invasive Sampling*. **Toxicology Letters** 2014; 230(2): 208-217.
14. Karaca M, Varışlı L, Korkmaz K, Özaydın O, Perçin F, **Orhan H**. *Organochlorine pesticides and antioxidant enzymes are inversely correlated with liver enzyme gene expression in Cyprinus carpio*. **Toxicology Letters** 2014; 230(2): 198-207.

15. **Orhan H**, Sahin A, Sahin G, Aypar U, Vermeulen NPE. *Urinary Lipid and Protein Oxidation Products upon Halothane, Isoflurane and Sevoflurane Anesthesia in Humans-Potential Biomarkers for a Sub-Clinical Nephrotoxicity- Biomarkers* 2013; 18(1): 73-81.
16. Sabuncuoglu S, **Orhan H**. *Interference of metals and medications with the detection of lipid peroxidation in humans by photometric tbars assay. Current Analytical Chemistry* 2013; 9(3): 457-462.
17. Barregard L, Møller P, Henriksen T, Mistry V, Koppen G, Rossner P, Jr., Sram RJ, Weimann A, Poulsen HE, Andreoli R, Manini P, Marczyklo T, Lam P, Evans MD, Kasai H, Kawai K, Li YS, Singh R, Teichert F, Farmer PB, Rozalski R, Gackowski D, Siomek A, Saez GT, Cerda C, Palmgren KB, Lindh C, Hossain B, Haghdoost S, Hu CW, Chao MR, **Orhan H**, Senduran N, Smith RJ, Olinski R, Loft S and Cooke MS. *Human and methodological sources of variability in the measurement of urinary 8-oxo-7,8-dihydro-2'-deoxyguanosine. Antioxidants&Redox Signalling* 2013; 18(18): 2377-2391.
18. **Orhan H**, Vermeulen NP. *Conventional and novel approaches in generating and characterization of reactive intermediates from drugs/drug molecules. Current Drug Metabolism* 2011; 12: 383-394.
19. European Standards Committee on Urinary (DNA) Lesion Analysis (**ESCULA**), Evans MD, Olinski R, Loft S, Cooke MS. *Toward consensus in the analysis of urinary 8-oxo-7,8-dihydro-2'-deoxyguanosine as a noninvasive biomarker of oxidative stress. FASEB Journal* 2010; 24(4): 1249-1260.
20. Atasayar S, Gurer-Orhan H, **Orhan H**, Gurel B, Girgin G, Ozgunes H. *Preventive effect of aminoguanidine compared to vitamin E and C on cisplatin-induced nephrotoxicity in rats. Experimental and Toxicologic Pathology* 2009; 61: 23-32.
21. **Orhan H**. *Analyses of representative biomarkers of exposure and effect by chromatographic, mass spectrometric and nuclear magnetic resonance techniques: Method development and application in life sciences. Journal of Separation Science* 2007; 30: 149-174.
22. Yesil-Celiktas O, Girgin G, **Orhan H**, Wichers HJ, Bedir E, Vardar-Sukan F. *Screening of free radical scavenging capacity and antioxidant activities of Rosmarinus officinalis extracts with focus on location and harvesting times. European Food Research and Technology* 2007; 224: 443-451.
23. Gurer-Orhan H, **Orhan H**, Vermeulen NPE, Meerman JHN. *Screening the Oxidative Potential of Several Mono- and Di-Halogenated Biphenyls and Biphenyl Ethers in Rat Hepatocytes. Combinatorial Chemistry and High Throughput Screening* 2006; 9 (6): 449-454.
24. **Orhan H**, Gurer-Orhan H, Vriese E, Vermeulen NPE, Meerman JHN. *Application of lipid peroxidation and protein oxidation biomarkers for oxidative damage in mammalian cells-A comparison with two fluorescent probes-. Toxicology In Vitro* 2006; 20(6): 1005-1013.
25. Gurer-Orhan H, **Orhan H**, Puskullu M.O, Buyukbingol E, Suzen S. *Synthesis and evaluation of in vitro antioxidant capacities of new benzimidazole derivatives. Enzyme Inhibition and Medicinal Chemistry* 2006; 21(2): 241-247.
26. Gurer-Orhan H, Ercal N, Mare S, Pennathur S, **Orhan H**, Heinecke JW. *Misincorporation of free meta-tyrosine into cellular proteins: A potential cytotoxic mechanism for oxidized amino acids. Biochemical Journal* 2006; 395(2): 277-284.
27. Akdemir-Ozsisik P, Inci S, Soylemezoglu F, **Orhan H**, Ozgen T. *Comparative dural closure techniques: a safety study in rats. Surgical Neurology* 2006; 65: 42-47.
28. **Orhan H**, Evelo CTA., Sahin G. *Erythrocyte antioxidant defense response against cigarette smoking in humans-The glutathione S-transferase vulnerability-. Journal of Biochemical and Molecular Toxicology* 2005; 19(4): 226-233.
29. **Orhan H**, Coolen S, Meerman JHN. *Quantification of Urinary o,o'-dityrosine, a biomarker for oxidative damage to proteins, by high performance liquid chromatography with triple quadrupole tandem mass spectrometry- A comparison with ion-trap tandem mass spectrometry- Journal of Chromatography B, Analytical Technology in the Biomedical & Life Sciences* 2005; 827: 104-108.

30. **Orhan H**, van Holland B, Krab B, Moeken J, Vermeulen NPE, Hollander P, Meerman JHN. *Evaluation of a multi-parameter biomarker set for oxidative damage in man: Increased urinary excretion of lipid, protein and DNA oxidation products after one hour of exercise.* **Free Radical Research** 2004; 38 (12): 1269-1279.
31. **Orhan H**, Commandeur JNM, Sahin G, Aypar U, Sahin A, Vermeulen NPE. *Use of <sup>19</sup>F- NMR and GC-ECD techniques in the quantitative analysis of fluorine containing metabolites in urine of sevoflurane-anesthetized patients.* **Xenobiotica** 2004; 34 (3): 301-316.
32. **Orhan H**, Vermeulen NPE, Tump C, Zappey H, Meerman JHN. *Simultaneous determination of tyrosine and phenylalanine oxidation products and 8-hydroxy-2'-deoxyguanosine in biological samples as non-invasive multi-parameter biomarker for oxidative damage.* **Journal of Chromatography B, Analytical Technology in the Biomedical & Life Sciences** 2004; 799(2): 245-54.
33. **Orhan H**, Onderoglu L, Aykan Y, Sahin G. *Circulating biomarkers of oxidative stress in complicated pregnancies.* **Archives of Gynecology and Obstetrics** 2003; 267: 189-19.
34. **Orhan H**, Sahin G. *In vitro effects of NSAIDs and paracetamol on oxidative stress-related parameters of human erythrocytes.* **Experimental and Toxicologic Pathology** 2001; 53(2-3): 133-40.
35. Aydin A, **Orhan H**, Sayal A, Ozata M, Sahin G, Isimer A. *Antioxidant system and nitric oxide related parameters in type II diabetes mellitus: Effects of glycemic control.* **Clinical Biochemistry** 2001; 34: 65-70.
36. **Orhan H**, Vermeulen NPE, Sahin G, Commandeur JNM. *Characterisation of thioether compounds formed from potentially nephrotoxic alkaline degradation products of enflurane.* **Anesthesiology** 2001; 95(1): 165-75.
37. **Orhan H**, Marol S, Hepsen IF, Sahin G. *Effects of some probable antioxidants on selenite-induced cataract formation and oxidative stress-related parameters in rats.* **Toxicology** 1999; 139(3): 219-32.
38. **Orhan H**, Inanici F, Arslan S, Hascelik Z, Sahin G. *In vivo effects of non-steroidal anti-inflammatory drugs on oxidative stress-related parameters of human erythrocytes.* **Experimental and Toxicologic Pathology** 1999; 51(4-5): 403-8.
39. **Orhan H**, Dogruer DS, Cakir B, Sahin G, Sahin MF. *The in vitro effects of non-steroidal anti-inflammatory compounds on antioxidant system of human erythrocytes.* **Experimental and Toxicologic Pathology** 1999; 51(4-5): 397-402.
40. **Orhan H**, Sahin G, Duru S. *Assessment of the effect of non-steroidal anti-inflammatory drugs (NSAIDs) on human erythrocyte glutathione S-transferase rho activity in vitro.* **Experimental and Toxicologic Pathology** 1996; 48: 381-385.

## **B. ARTICLES PUBLISHED IN NATIONAL JOURNALS:**

1. Gonca Cakmak Demircigil, Canay Demirhan Iscan, Ela Kadioglu, Fatma Hazir Bikmaz, Figen Cok, Huseyin Cakir, Ahmet Karaaslan, Hande Gurer-Orhan, **Hilmi Orhan**, Bensu Karahalil, Ahmet Aydin, Waldemar Sybilski, Katarzyna Lubiewska, Basak Ok, Jan Orberg, Torbjorn Malmfors. *Cocuklarda Kimyasal Maddelere İlişkin Farkındalığın Artırılması: Bir Öğretim Materyalinin Geliştirilmesi ve Denenmesi.* **Journal of Faculty of Educational Sciences** 2013; 46 (1): 225-248.
2. **Orhan H**, Çağdaş B. *Besinlerde kimyasal kontaminasyon, yağ bozunma ürünleri ve toksisite riski.* **HASAD** 2009; 294: 18-24.
3. Atasayar S, **Orhan H**, Ozgunes H. *Malondialdehyde quantification in blood plasma of tobacco smokers and non-smokers.* **FABAD Journal of Pharmaceutical Sciences** 2004; 29: 15-19.
4. **Orhan H**, Sahin G. *Erythrocyte glutathione S-transferase activity in diabetes mellitus: The effect of the treatment.* **FABAD Journal of Pharmaceutical Sciences** 1999; 24(3): 127-131.
5. **Orhan H**, Sahin G. *Clinical and Toxicological Aspects of Glutathione S-transferases.* **Türkiye Klinikleri Tıp Bilimleri Dergisi** 1995, 15; 303-315.

### C. OTHER PUBLICATIONS:

1. **Orhan H.** Doz ve Risk - *Kitap Tanıtımı*-. **Herkese Bilim Teknoloji** 2019.
2. **Hilmi Orhan.** *Kitap Tanıtımı - Kimyasaldan Gıdaya: Doz ve Risk.* **Toksikoloji Bülteni** 2018; 47: 16-17.
3. **Hilmi Orhan.** *Türk Toksikoloji Derneği: 2005-2018 Dönemi.* **Toksikoloji Bülteni** 2018; 47: 6-12.
4. **Hilmi Orhan,** Pınar Erkekoğlu, Ela Kadioğlu. *Göz yaşırtıcı gazlar ve toksik etkileri. (Tear gases and toxic effects)* **Toksikoloji Bülteni** 2013; 36: 9-13.
5. Ezgi Öztaş, **Hilmi Orhan.** *Kuru temizlemede kullanılan çözücüler: Diğer kullanım yerleri ve toksik etkileri. (Organic solvents in dry cleaning: Other uses and toxic effects)* **Toksikoloji Bülteni** 2012; 35: 14-16
6. **Hilmi Orhan.** *Çevresel Kirlenme ve Sağlığımız-2. (Environmental Pollution and Health).* **Dağarcık Türkiye** 2012 Ağustos ([http://www.dagarcikturkiye.com/makale\\_detay.asp?id=579&Çevresel-Kirlenme-ve-Sağlığımız-2](http://www.dagarcikturkiye.com/makale_detay.asp?id=579&Çevresel-Kirlenme-ve-Sağlığımız-2), accessed December 2012).
7. **Hilmi Orhan.** *Çevresel Kirlenme ve Sağlığımız-1. (Environmental Pollution and Health).* **Dağarcık Türkiye** 2012 Temmuz ([http://www.dagarcikturkiye.com/makale\\_detay.asp?id=579&Çevresel-Kirlenme-ve-Sağlığımız-1](http://www.dagarcikturkiye.com/makale_detay.asp?id=579&Çevresel-Kirlenme-ve-Sağlığımız-1), accessed December 2012).
8. **Hilmi Orhan.** *Madencilik Faaliyetleri ve İnsan Sağlığı. (Mining and Human Health).* **Dağarcık Türkiye** 2011 Mart (<http://www.dagarcikturkiye.com/index.asp>, accessed May 2011).
9. **Orhan H,** Meerman JHN. *Developing non-invasive biomarkers for radical damage and exploring the protective effects of food antioxidants in humans.* **Hora Est** 2001; 9(4): 8-10.
10. **Orhan H.** *Kanser insidensi artışında ışık kirliliğinin rolü. (The role of light pollution in cancer incidence increase).* **Toksikoloji Bülteni** 2000; 19: 4.
11. **Orhan H.** *Kimyasal felaketler. (Chemical disasters)* **Toksikoloji Bülteni** 1999; 18: 3.
12. **Orhan H.** *Van Gogh'a doktor bakışı. (Physician's approach to Van Gogh Case).* **Cumhuriyet Bilim Teknik** 1998; 608: 20.
13. **Orhan H.** *Nefrotoksisitede moleküler ve biyokimyasal mekanizmalar-II. (Molecular and biochemical mechanisms in nephrotoxicity-II)* **Toksikoloji Bülteni** 1997; 15: 7.
14. **Orhan H,** Sahin G. *In vitro effect of some commonly exposed xenobiotics on the activity of human erythrocyte pi class glutathione S-transferase.* **Pharmaceutical Sciences** 1996; 2(9): 1-3.
15. **Orhan H.** *Nefrotoksisitede moleküler ve biyokimyasal mekanizmalar-I. (Molecular and biochemical mechanisms in nephrotoxicity-I).* **Toksikoloji Bülteni** 1996; 14: 6-7.
16. **Orhan H,** Sahin G. *Assessment of the effect of aluminium, lead and cadmium on human erythrocyte glutathione S-transferase activity in vitro.* **Pharmaceutical Sciences** 1995; 1: 543-545.

### D. PROJECTS INVOLVED:

#### a. National – Tübitak Projects

1. Scientific and Technical Research Council of Turkey (TUBITAK), Kamu Kurumları Araştırma ve Geliştirme Projelerini Destekleme Programı, **KAMAG 1007-SB-2015-01.** Development and Production of the Biosimilar Product with Bevacizumab Active Substance. 2015-2019, **Consultant**
2. Scientific and Technical Research Council of Turkey (TUBITAK), Chemistry and Biology Research Support Group, **KBAG 115Z349.** Synthesis and comparative kinetic analyses of the effect of novel elipticin derivatives on human topoisomerase II enzymes. 2015-2017, **Consultant**

3. Scientific and Technical Research Council of Turkey (TUBITAK), Health Sciences Research Support Group, **SBAG 114S310**. Levels of Persistent Organic Pollutants and Biomarkers of Exposure, Genetic Predisposition and Molecular Damage in Cancer Patients. 2014-2017, **Principal investigator**
4. Scientific and Technical Research Council of Turkey (TUBITAK), Environment, Atmosphere, Earth and Marine Sciences Research Support Group, **ÇAYDAG 112Y199**. Analysis of Metal Pollution in Büyük Menderes River Basin and in Aquatic Life Forms. 2012-2013, **Principal investigator**
5. Scientific and Technical Research Council of Turkey (TUBITAK), Health Sciences Research Support Group, **SBAG 110S224**. Determination of Metabolic Profiles of Various Drugs and Assessment of Their Potential for Interaction with Cellular Macromolecules. 2011-2014, **Principal investigator**
6. Scientific and Technical Research Council of Turkey (TUBITAK), Environment, Atmosphere, Earth and Marine Sciences Research Support Group, **ÇAYDAG 108Y049**. Analysis and Monitoring of Environmental Pollution by Biomarkers and Determination of Toxic Effects of Persistent Organic Pollutants and Endocrine Disruptors in Aquatic Media of Büyük Menderes. 2008-2011, **Principal investigator**
7. Scientific and Technical Research Council of Turkey (TUBITAK) Health Sciences Research Grant Committee, **SBAG 1525**. Evaluation of the effect of non-steroidal anti-inflammatory drugs on human erythrocyte glutathione S-transferase activity and folate levels. 1997-1999, **Researcher**

#### **b. National - Ege University Scientific Research Projects**

8. Ege Üniversitesi Bilimsel Araştırma Projesi (EU-BAP), **16ECZ024**. İlaç Toksisitesinde Mitokondrinin Rolünün Değerlendirilmesi. 2016-, **Principal investigator**
9. Ege Üniversitesi Bilimsel Araştırma Projesi (EU-BAP), **14ECZ016**. İnsan Dokularında Çevresel Kirlenici Analizleri, İlaç Metabolize Edici Enzim Aktivitelerine Etkisi ve Hastalıklarla İlişkisi. 2014-, **Principal investigator**
10. Ege Üniversitesi Bilimsel Araştırma Projesi (EU-BAP), **14ECZ017**. İnsanda Çevresel Kirlenici İnternal Doz Düzeyleriyle Hastalık İlişkisinin Araştırılması. 2014-, **Principal investigator**
11. Ege Üniversitesi Bilimsel Araştırma Projesi (EU-BAP), **14ECZ011**. Elektrokimyasal Yöntem ve Mikrozomal Fraksiyon Aracılıklı İlaç Metabolitleri Üretimi ve Enzimatik Karakterizasyonu. 2014-2015, **Principal investigator**
12. Ege Üniversitesi Bilimsel Araştırma Projesi (EU-BAP), **14ECZ012**. İlaç biyoaktivasyonunda çeşitli oksidazların rolü. 2014-2015, **Principal investigator**
13. Ege Üniversitesi Bilimsel Araştırma Projesi (EU-BAP), **14ECZ011**. Elektrokimyasal Yöntem ve Mikrozomal Fraksiyon Aracılıklı İlaç Metabolitleri Üretimi ve Enzimatik Karakterizasyonu. 2014-2015. **Principal investigator**
14. Ege Üniversitesi Bilimsel Araştırma Projesi (EU-BAP), **14ECZ012**. İlaç biyoaktivasyonunda çeşitli oksidazların rolü. 2014-2015, **Principal investigator**
15. Ege University Scientific Research Project (EU-BAP), **11ECZ004**. Polychlorinated biphenyls pollution and lipid oxidative damage in aquatic life forms of Büyük Menderes River. 2011-2013, **Principal investigator**
16. Ege University Scientific Research Project (EU-BAP), **09ECZ013**. Polybrominated biphenyls pollution in Büyük Menderes basin and its effect on protein oxidation in living organisms of aquatic system. 2009-2011, **Principal investigator**
17. Ege University Scientific Research Project (EU-BAP), **09ECZ002**. Analysis of organochlorinated pesticides in living organisms of aquatic system and application of antioxidant enzyme activities as biomarkers. 2009-2011, **Principal investigator**
18. Ege University Scientific Research Project (EU-BAP), **09ECZ017**. Environmental Pollution in Aquatic System of Büyük Menderes and its Toxicologic Outcomes. 2009-2011, **Principal investigator**
19. Ege Üniversitesi Bilimsel Araştırma Projesi (EU-BAP), **09BİL002**. Büyük Menderes Sucul Canlılarında Poliklorlu Bifenil Kirliliği ve Lipit Oksidatif Hasarı. 2009-2012, **Principal investigator**

20. Ege Üniversitesi Bilimsel Araştırma Projesi (EU-BAP), 11/BİL/003. Bazı İlaç Etken Maddelerinin Metabolik Profillerinin ve Kritik Hüresel Makromoleküllerle Etkileşme Potansiyellerinin Belirlenmesi. 2011-2014, *Principal investigator*
21. Ege Üniversitesi Bilimsel Araştırma Projesi (EU-BAP), 13/BİL/009. Büyük Menderes Nehir Havzasında ve Sucul Canlılarında Metal Kirliliğinin Analizi. 2013-2014. *Principal investigator*
22. Ege University Scientific Research Project (EU-BAP), 07ECZ017. Development of in vitro screening test for potential DNA oxidative damaging effect of model chemicals and their metabolites. 2007-2012. *Principal investigator*

### c. International Projects

23. European Commission (EC)-Life Learning Programme-Leonardo da Vinci Partnership project-2008-1-TR1-LEO04-02285-2 “Raising Awareness of Indoor and Outdoor Chemicals’ Harmful Effects Among Children”, 2008-2010, *Partner*
24. Stichting Technische Wetenschappen (STW), 2883204. Biomarkers for oxidative damage in humans and protection of damage by natural antioxidants from foods -Application of non-invasive biomarker technology-. 2000-2003, *Researcher*
25. European Science Foundation (ESF) Research Networking Programme Project-European Standards Committee of Urinary (DNA) Lesion Analysis (ESCULA). 2007-2009, *Partner*

### d. National - Hacettepe University Scientific Research Projects

26. Hacettepe University Scientific Research Project (HU-BAP), 03 023 01 008. Method development for the analyses of lipid, protein and DNA oxidation products in biological samples and clinical application. 2004-, *Principal investigator\**
27. Hacettepe University Scientific Research Project (HU-BAP), 04 002 301 002. Investigation of the antioxidant efficiency of “aminoguanidine + vitamin E” combination on cisplatin-induced oxidative damage in experimental animal model. 2004-2006, *Partner*
28. Hacettepe University Research Foundation, Graduate Research Project (HU-TP), 97 T01 102 027. Biotransformation of inhalational anesthetics and development of biomarkers determining their toxicity. 1997-2000, *Researcher*
29. Scientific and Technical Research Council of Turkey (TUBITAK) Health Sciences Research Grant Committee, SBAG 1525. Evaluation of the effect of non-steroidal anti-inflammatory drugs on human erythrocyte glutathione S-transferase activity and folate levels. 1997-1999, *Researcher*

\*This project has been returned to the university without starting, since Dr. Orhan was appointed at his current institute immediately after this project was granted.

### e. Food Industry Projects

1. CarrefourSA A.Ş., Okul Çağı Tüketici Ürünlerinin Toksik Kimyasal Madde İçeriği ve Bulaşığı Açısından Analiz Edilmesi ve Sağlık Risk Değerlendirmesi Çalışması Yoluyla İyileştirilmesi (*Improvement of toxic constituents and contaminants in school-age consumer products by analytical analyses and health risk assessment studies*). 2016, *Consultant*
2. CarrefourSA A.Ş., Okul Çağı Tüketici Ürünlerinin Toksik Kimyasal Madde İçeriği ve Bulaşığı Açısından Analiz Edilmesi ve Sağlık Risk Değerlendirmesi Çalışması Yoluyla İyileştirilmesi (*Improvement of toxic constituents and contaminants in school-age consumer products by analytical analyses and health risk assessment studies*). 2017, *Consultant*



## **E. SUPERVISED THESES:**

### **PhD.**

1. **Rasih Kocagöz** “*İnsan dokularında çevresel kirlenici analizleri, ilaç metabolize edici enzim aktivitelerine etkisi ve hastalıklarla ilişkisi (Analyses of environmental pollutants in human tissues, their effect on drug metabolizing enzymes and associations with diseases)*”, Department of Toxicology, Faculty of Pharmacy, Ege University, Izmir-Turkey, 2011-
2. **İlgen Onat** “*İnsanda çevresel kirlenici internal doz düzeyleriyle hastalık ilişkisinin araştırılması (Exploring the association between the internal dose levels of environmental pollutants and diseases)*”, Department of Toxicology, Faculty of Pharmacy, Ege University, Izmir-Turkey, 2011-
3. **Ali Erguc.** “*İlaç ve diğer kimyasallara bağlı hücresel toksisite mekanizmalarının araştırılması (Investigation of cellular toxicity mechanisms associated with drugs and other chemicals)*”, Department of Toxicology, Faculty of Pharmacy, Ege University, Izmir-Turkey, 2015-
4. **Fuat Karakus.** “*Advers reaksiyonlarda hücre ve organel düzeyinde toksisite yollarının belirlenmesi (Identification of toxicity pathway in adverse reactions at cellular and organelle levels)*”, Department of Toxicology, Faculty of Pharmacy, Ege University, Izmir-Turkey, 2015-
5. **Ege Arzuk** “*İlaç toksisitesinde mitokondrinin rolünün değerlendirilmesi (Assessment of the role of mitochondria in drugs-associated toxicities)*”, Department of Toxicology, Faculty of Pharmacy, Ege University, Izmir-Turkey, 2012-2018.

### **M.Sci.\***

1. **Neliye Mutlu** “*Elektrokimyasal yöntem ve mikrozomal fraksiyon aracılıklı ilaç metabolitleri üretimi ve enzimatik karakterizasyonu*”, Department of Toxicology, Faculty of Pharmacy, Ege University, Izmir-Turkey, 2012-2014.
2. **Esra Avcı** “*İlaç biyoaktivasyonunda çeşitli oksidazların rolü*”, Department of Toxicology, Faculty of Pharmacy, Ege University, Izmir-Turkey, 2012-2014.
3. **Beste Cagdas** “*Buyuk Menderes sucul canlılarında poliklorlu bifenil kirliliği ve lipit oksidatif hasarı*”, Department of Toxicology, Faculty of Pharmacy, Ege University, Izmir-Turkey, 2009-2012.
4. **Rasih Kocagoz** “*Buyuk Menderes havzasında çoklu bromlu bifenil kirliliği ve sucul sistem canlılarında protein oksidasyonu üzerine etkileri*”, Department of Toxicology, Faculty of Pharmacy, Ege University, Izmir-Turkey, 2009-2011.
5. **Melis Karaca** “*Sucul sistem canlılarında organoklorlu pestisitlerin analizi ve antioksidan enzim aktivitelerinin biyogösterge amaçlı uygulanması*”, Department of Toxicology, Faculty of Pharmacy, Ege University, Izmir-Turkey, 2007-2010.
6. **\*Berry van Holland, Betty Krab, Janine Moeken.** “*Non-invasive biomarkers for oxidative damage after endurance cycling*”, Leiden Amsterdam Center for Drug Research, Department of Molecular Toxicology, Amsterdam-The Netherlands, October 2002-April 2003.
7. **\*Eveline Vriese.** “*Chinese Hamster Ovary cell (CHO) systems as an in vitro model for oxidative stress studies*”, Leiden Amsterdam Center for Drug Research, Department of Molecular Toxicology, Amsterdam-The Netherlands, September 2002-March 2003.
8. **\*Wendy Caan.** “*Biomarkers for exercise-, and menadione-induced oxidative stress*”, Leiden Amsterdam Center for Drug Research, Department of Molecular Toxicology, Amsterdam-The Netherlands, May-September 2001.

\*The last three theses are for graduation with MSci. degree at Vrije Universiteit, The Netherlands.

## **F. REPORTS:**

**2019 February – Permitted Daily Exposure (PDE) report for a medical device company:**

**Hilmi Orhan.** Paralel bantlarda üretilen romatizma yakısı ve flaster ürünlerinde metil salisilat, kafur, timol, kapsaisin ve mentol için PDE raporu. (2019).

**2017 August – Toxicological risk assessment report for various consumer products of a chain market company:**

**Hilmi Orhan.** Kırtasiye Ürünleri, Okul Malzemeleri, Çocuk Tekstil Ürünleri ve Ayakkabılarda: Toksik Elementler, Kadmiyum, Nikel, Organik kalay, Azo-boyar Madde ve Aromatik Aminler, Toplam Fitalat, Bisfenol A, Alkilfenoksietoksilatlar (APEO), Uçucu Organik Bileşikler (VOC) (2017).

**2016 August - Toxicological risk assessment report for various consumer products of a chain market company:**

**Hilmi Orhan.** Kırtasiye Ürünleri ve Okul Malzemelerinde: Toksik Elementler, Azo-boyar Madde ve Aromatik Aminler, Toplam Fitalat, Uçucu Organik Bileşikler (VOC) (2016).

**2012 June – Report on pesticide analysis in blood samples of farm-workers:**

**Hilmi Orhan,** Rasih Kocagoz, Beste Çağdaş. Report on blood and adipose tissue pesticides levels of a worker developed neurological disease - Ankara Occupational Diseases Hospital (2012).

**2011 May – Report of an acute poisoning epidemics:**

**Hilmi Orhan,** Nilufer Senduran, Rasih Kocagoz. Report on blood pesticides levels in victims of a poisoning case in Bodrum-Muğla (2011).

**2008 - Report on impurity analysis quinine hydrochloride for Turkish Red Crescent:**

**Hilmi Orhan,** Nuriye Serra İstanbullu. Analysis of Chemical Purity: Quinine hydrochloride, (2008).

**2008 - Safety assessment report for a cosmetics company:**

**Hilmi Orhan.** Safety Assessment of Triclosan and MCI/MI: 5-Chloro-2-methyl-2H-isothiazol 3-one (MCI) 2-Methyl-4-isothiazolin-3-one (MI), (2008).

**2002 – Technology transfer SOP report for Unilever-The Netherlands:**

**Hilmi Orhan,** Maria van der Ham. Validation of Tyrosines in human urine by means of LC-APCI (POS)-MS-MS (Quattro ultima). Unilever Research Vlaardingen Validation Report (VR-UHI-080), Method: SOP 724, Project no: 310062 (2002).

**G. PRESENTATIONS:**

**Invited Lectures**

1. Orhan H. “*Local bioactivation of drugs and other chemicals in mitochondria: toxicological outcomes*” The 54<sup>th</sup> Society of Toxicology Meeting (**SOT2019**), 11-15 March 2019, Baltimore-USA.
2. Orhan H. Süzen S, Kocagöz R, Onat İ, Demirbüğen M, Turna B, Atilla K, Yeniay L, Sarsık B, Zekioğlu O, Özdemir M. “*Kidney, breast and stomach cancers in relation to internal concentrations of persistent organic pollutants, DNA damage markers and related polymorphisms*” The 10<sup>th</sup> Congress of the Toxicology in Developing Countries (**CTDC10th**), 17-22 April 2018, Belgrade-Serbia.
3. Orhan H. “*Güvenlilik Testlerinde Hayvan-dışı Yaklaşımlar*” **Türk Toksikoloji Derneği Konferans Serisi**, 1 Aralık 2017, Ankara-Türkiye.
4. Orhan H. “*Non-animal Approaches in Safety Testing*” **The 3R Workshop**, 2-3 November 2017, Istanbul-Turkey.
5. Orhan H. “*Oxidative DNA damage in cancer patients: Associations between persistent organic pollutants and biomarkers of cellular targets*” The 53<sup>rd</sup> Congress of the European Societies of Toxicology (**53<sup>rd</sup> EUROTOX**), 10-13 September 2017, Toxicology Letters vol. 280, pp.52-52, Bratislava-Slovakia.

6. Pavel RJ, Orhan H, Koppen G, Kazuo S, Santella R, Ambroz A, et al. *Measurement of 8-oxo-7,8-dihydro-2-deoxyguanosine in urine by an improved ELISA*, The 53rd Congress of the European Societies of Toxicology (**53<sup>rd</sup> EUROTOX**), 10-13 September 2017, Toxicology Letters vol. 280, pp.52-52, Bratislava-Slovakia.
7. Orhan H. “*Mitochondrial bioactivation: Possible cause of drug-induced toxicities*” **The First International Conference on Toxicology and Health (ICTH)**, 28-29 November 2016, Guelma-Algeria.
8. Orhan H. “*Involvement of mitochondria in drug-induced toxicities*” **52nd Congress of the European Societies of Toxicology (52<sup>nd</sup> EUROTOX)**, September 1-4th, 2016, Seville-Spain.
9. Orhan H. “*Mitochondria in adverse drug reactions*” **Turkheltox Toxicology Congress**, 24-26 October 2015, Izmir-Turkey.
10. Orhan H., “*Screening of Reactive Metabolite Formation from Drugs Drug Candidates as a Possible Cause of Adverse Reactions*”, **DRD 2015 - International Multidisciplinary Symposium on Drug Research and Development**, 15-17 October 2015, Eskisehir-Turkey.
11. Orhan H. “*Exposure, internal dose analysis and adverse outcomes of environmental pollutants in humans*” **The 1<sup>st</sup> Forensic Toxicology Congress**, 29-30 November 2014, Ankara-Turkey.
12. Orhan H. “*Türk Toksikoloji Derneği ve Adli Toksikoloji*” **4. Tıp Hukuku Günleri**, 19-20 September 2014, Istanbul-Turkey.
13. Orhan H. “*İnsan Karaciğer ve Böbrek Dokusunda Bireysel Parasetamol Biyoaktivasyon Kapasitesi Farklılığı: Reaktif Metabolit Oluşumu, CYP2E1 ve CYP3A4 Aktivitesi Belirlenmesinde LC-MS/MS Uygulaması*” **III. Türk Toksikoloji Derneği Bölgesel Sempozyumu**, 12-14 June 2014, Izmir-Turkey.
14. Orhan H. “*Nanotoxicology*” **The International Symposium on Cancer Nanomedicine**, November 7-9, 2013, Izmir-Turkey.
15. Orhan H. “*Target Organs and Cellular Reactivity of Drug Metabolites*” **49th Congress of the European Societies of Toxicology (49<sup>th</sup> EUROTOX)**, September 1-4, 2013, Interlaken-Switzerland.
16. Orhan H. “*Türkiye’de prelinik ilaç geliştirme çalışmaları ve toksikolojinin rolü*” **4. Bilirkişilik Sempozyumu-Adli Toksikoloji**, 8 May 2013, Ankara-Turkey.
17. Orhan H. “*Target Organs and Cellular Reactivity of Metabolites*” **8. Uluslararası Katılımlı Türk Toksikoloji Derneği Kongresi**, 14 -18 November 2012, Antalya-Turkey.
18. Orhan H. “*Drug Development and Safety Studies in Turkey: Experiences with Reactive Metabolites from Various Drugs and Their Cellular Reactivity*” **Hoffman La ROCHE - Global Safety Meeting** 2011, 12-14 October 2011, Istanbul-Turkey.
19. Orhan H. “*Büyük Menderes Havzası Sazanlarında Organoklorlu Pestisit Kalıntısı ve Enzimatik Yanıtlar*” **POP (Kalıcı Organik Kirleticiler) İzleme: Çevre ve Sağlık Çalıştayı Programı**, 3-5 November 2010, Antalya-Turkey.
20. Orhan H., Karaca M., Varışlı L., Korkmaz K. “*Büyük Menderes Havzası Sazan Balıklarında Organoklorlu Pestisit Kalıntısı ve Enzimatik Yanıtlar: Fenotipik Aktivite ve Gen Transkripsiyon Düzeyleri*” **Çevre ve Toksikoloji Sempozyumu**, 22 October 2010, Mersin-Turkey.
21. Orhan H. “*Biyotransformasyon, Reaktif Ara Ürün Oluşumu ve Toksikite İlişkisi: Deneysel Yaklaşımlar*” **1. Ulusal Palandöken Toksikoloji Sempozyumu**, 28-30 May 2010, Erzurum-Turkey.
22. Orhan H. “*Çevresel Kimyasalların Toksik Etkilerinin Belirlenmesinde Yeni Yaklaşımlar*” **7. Uluslararası Katılımlı Türk Toksikoloji Derneği Kongresi**, 29 Mayıs-01 June 2009, Ankara-Turkey.

### **Oral Presentations**

- 1) Arzuk E, Orhan H. Investigation of Mitochondrial Respiration Dysfunction Caused by Some Drugs. **12<sup>th</sup> International Symposium on Pharmaceutical Sciences (ISOPS)**, 26-29 June, 2018, Ankara-Turkey.

- 2) Ergüç A, Mutlu N, Arzuk E, Karakus F, Orhan H. Involvement of Reactive Metabolites in Cytotoxic Effects of Various Frequently Used Drugs in Vitro. **12th International Symposium on Pharmaceutical Sciences (ISOPS)**, 26-29 June 2018, Ankara-Turkey.
- 3) Kocagöz R, Özaydın O, Perçin F, Karaca M, Orhan H. Persistent Organic Pollutants and Toxicological Responses in Gray Mullet and Seabass from Büyük Menderes River Estuary and Vicinity. **8. Uluslararası Katılımlı Türk Toksikoloji Derneği Kongresi**, 15-18 November 2012, Antalya-Turkey.
- 4) Istanbul SN, Karaca M, Kocagöz R, Orhan H. Balık Dokularında Kalıcı Organik Kirletici Düzeyleri İle DNA, Lipit ve Protein Hasarı İlişkisi: Bir Ön Çalışma. **7. Uluslararası Katılımlı Türk Toksikoloji Derneği Kongresi**, 29 Mayıs-01 June 2009, Ankara- Turkey.
- 5) Çakmak-Demircigil G, Kadioğlu E, Çakır H, Karaarslan A, Gürer-Orhan H, Orhan H, Çok F, Hazır-Bıkmaz F, Karahalil B, Aydın A, Ok B, Sensoy G, Malmfors T, Lubiewska K, Sybilski W, Öberg J. Kimyasalların Zararları Konusunda Çocukların Farkındalıklarının Arttırılması Projesi. **7. Uluslararası Katılımlı Türk Toksikoloji Derneği Kongresi**, 29 Mayıs-01 June 2009, Ankara- Turkey.
- 6) Orhan H, Gurer-Orhan H, Vriese E, Vermeulen NPE, Meerman JHN. A cell biochemical induced oxidative stress studies; Application multiparameter biomarker set- **6th International Congress of Turkish Society of Toxicology (6th IC-TST)**, November 2-5/2006, Antalya-Turkey.
- 7) Orhan H, van Holland B, Krab B, Moeken J, Vermeulen NPE, Hollander P, Meerman JHN. Endurance exercise increases levels of urinary lipid, protein and DNA oxidation products in man. **7th International symposium on pharmaceutical sciences (ISOPS-7)**, June 24-27/2003, Ankara-Turkey.
- 8) Vermeulen NPE, Orhan H, van der Oost R, Meerman JHN. Multiple molecular biomarkers: Possibilities, limitations and recent applications. October 30-November 2/2003, **5th International Congress of Turkish Society of Toxicology**, Antalya-Turkey.
- 9) Vermeulen NPE, Orhan H, van der Oost R, de Zwart LL, Meerman JHN. Molecular biomarkers: New approaches, applications and limitations. September 16-20, 2002, **18th European Workshop on Drug Metabolism**, Valencia-Spain.
- 10) Orhan H, Vermeulen NPE, Meerman JHN. Non-invasive biomarkers for oxidative damage in humans. **Introductory Course on Drug Research**. 28-31 May 2001, Noordwijkerhout, The Netherlands.
- 11) Orhan H, Inanici F, Hascelik Z, Sahin G, Duru S. Glutathione-linked enzyme activities and lipid peroxidation in patients treated with non-steroidal anti-inflammatory drugs. **International conference on glutathione and glutathione-linked enzymes in human cancer and other diseases**. (October 31-November 3/1996, South Carolina-USA) *Proceeding*, Oral presentation-14.

### Poster Presentations

- 1) Ege Arzuk, Hilmi Orhan. Stability of mitochondrial intactness for further toxicological studies. "The 10th Congress of the Toxicology in Developing Countries (CTDC10th), April 17-22nd, 2018, Belgrade-Serbia.
- 2) Gurer-Orhan H, Ince E, Kocagöz R, Orhan H. Total estrogenic activity of adipose tissue as biomarker of exposure to persistent organic pollutants in humans. Eurotox 2017 Meeting (September 10-13/2017 Bratislava) *Toxicology Letters* 2017; 280: s307.
- 3) Arzuk E, Karakus F, Erguc A, Orhan H. Biotransformation of clozapine by microsomal and mitochondrial fractions of animal liver and heart: organ-specific bioactivation as a possible cause of cardiotoxicity. Eurotox 2016 Meeting (September 4-7/2016, Sevilla) *Toxicology Letters* 2016; 258.
- 4) Erguc A, Mutlu N, Arzuk E, Orhan H. Contribution of reactive metabolites to cytotoxicity of various drugs in vitro: The role of CYP enzymes and metal contamination. Eurotox 2016 Meeting (September 4-7/2016, Sevilla) *Toxicology Letters* 2016; 258 (suppl), 16.
- 5) Mutlu N, Erguc A, Karakus F, Orhan H. Contribution of reactive metabolites to mitochondrial damage in CHO-K1 cells exposed to various drugs. 9th International Congress of the Turkish Society of Toxicology with Participation of the Hellenic Society of Toxicology, October 21-24, 2015 Çeşme-İzmir/Türkiye.

- 6) Durmaz E., Kocagöz R., Bilacan E., Orhan H. Metal pollution in biotic and abiotic samples of the Büyük Menderes River. 9th International Congress of the Turkish Society of Toxicology with Participation of the Hellenic Society of Toxicology, October 21-24, 2015 Çeşme-İzmir/Türkiye.
- 7) Arzuk E, Senduran N, Commandeur J, Orhan H. Rosiglitazone biotransformation in vitro: Enzyme from different sources and rat organs, and the effect of various glutathione S-transferases in electrophilic intermediate conjugation. Eurotox 2015 Meeting (September 13-16/2015, Porto) *Toxicology Letters* 2015; 228 (suppl), 16.
- 8) Arzuk E., Turna B., Sözbilen E.M., Orhan H., "LC tandem MS based assessment of acetaminophen in human liver and kidney NAPQI formation and CYP activities", The 54th Annual Meeting of Society of Toxicology 2015,
- 9) Arzuk E, Turna B, Sözbilen M, Orhan H. Interindividual variability in generating acetaminophen reactive metabolite NAPQI by various human liver and kidney microsomes. Eurotox 2013 Meeting (September 1-4/2012, Interlaken) *Toxicology Letters* 2013; 221 (suppl), 28.
- 10) Kocagoz R, Orhan H. PBDEs and their effect on protein oxidation in wild carp liver from Büyük Menderes River. Eurotox 2012 Meeting (June 17-20/2012, Stockholm) *Toxicology Letters* 2012; 211 (suppl), 9-10.
- 11) Senduran N, Kocagoz R, Cagdas B, Orhan H. Correlation of vitellogenin with halogenated organic pollutants in wild carp liver. Eurotox 2012 Meeting (June 17-20/2012, Stockholm) *Toxicology Letters* 2012; 211 (suppl), 9.
- 12) Orhan H, Nilüfer Şenduran, Ceren Demiroğlu. Differential Induction of CYPs in Various Organs of Rat by Aroclor and Phenobarbital. The 19<sup>th</sup> International Symposium on Microsomes and Drug Oxidations - 12<sup>th</sup> European Regional ISSX Meeting. June 17-21, 2012, Noordwijk aan Zee, The Netherlands.
- 13) Beste Cagdas, Nilufer Senduran, Fatih Percin, Okan Ozaydin and Hilmi Orhan. PCB pollution and macromolecular damage in *Cyprinus Carpio* in Buyuk Menderes River: From ecotoxicology to risk assessment. Eurotox 2011 Paris 47<sup>th</sup> Congress 28-31 August 2011. *Toxicology Letters* 205: S121 (2011).
- 14) Rasih Kocagöz, Beste Çağdaş, Hilmi Orhan. "Büyük Menderes Havzası Su Örneklerinde Organoklorlu Pestisit, Çoklu Klorlu Bifenil ve Çoklu Bromlu Difenil Eter Kirliliği" Çevre ve Toksikoloji Sempozyumu, 22 Ekim 2010, Mersin-Türkiye.
- 15) Suna Sabuncuoglu, Ayse Eken, Hilal Ozgunes, Ahmet Aydin, Hilmi Orhan. Cofactor Metal Levels and Enzyme Activities in Cisplatin-Treated Rats: Effect of Antioxidant Intervention. The 9<sup>th</sup> International ISSX Meeting. September 4-8 2010, Istanbul, Turkey.
- 16) Hilmi Orhan, Rasih Kocagoz, Melis Karaca, Fatih Percin, Okan Ozaydin. Monitoring of Industrial and Agricultural Pollution by Antioxidant Enzyme Activities and Protein Oxidation in Carp along the River Buyuk Menderes: Preliminary Implications. XII International Congress of Toxicology, 19-23 July 2010, Barcelona-Spain. *Toxicology Letters* 2010; 196S: S37-S351.
- 17) Fatih Perçin, Okan Özaydın, Serra Nuriye İstanbullu, Hilmi Orhan. Farklı iki ortamdan elde edilen sazan (*Cyprinus carpio*) balıklarının kan serumlarında karaciğer fonksiyon testlerinin karşılaştırılması. 7. Uluslararası Katılımlı Türk Toksikoloji Derneği Kongresi, 29 Mayıs-01 Haziran 2009, Ankara-Türkiye.
- 18) Orhan H, Istanbul SN, Karaca M, Kocagoz R. DNA, lipid and protein damage in response to persistent organic pollutant levels in fish. "Second Copenhagen Workshop on DNA Oxidation-2009" 29-30 January 2009, Copenhagen-Denmark.
- 19) Orhan H, Istanbul SN, Karaca M, Eren B, Kocagoz R, Gunbay M. Evaluation of food quality by analysing lipid decomposition products. Eurotox 2008 Meeting (October 05-08/2008, Rhodes) *Toxicology Letters* 2008; 180 (suppl), S240.
- 20) Istanbul SN, Karaca M, Kocagoz R, Orhan H. Monitoring of Regional Aquatic Pollution by 8-OHdG and MDA Tissue Levels in Fish. Eurotox 2008 Meeting (October 05-08/2008, Rhodes) *Toxicology Letters* 2008; 180 (suppl), S195.

- 21) Istanbul SN, Karaca M, Orhan. A preliminary study on monitoring of environmental pollution by measuring 8-OHdG and MDA tissue levels in fish: a regional comparison. The 3<sup>rd</sup> Euro-Asian Conference on Hazardous Waste & Human Health, March 27-30/2008, İstanbul-Turkey.
- 22) Atasayar S., Ozgunes H., Orhan H. Bismuth and medazepam-mediated interference of malondialdehyde measurement by TBA test: A cautionary note. 6<sup>th</sup> International Congress of Turkish Society of Toxicology (6<sup>th</sup> IC-TST), November 2-5/2006, Antalya-Turkey.
- 23) Gurer-Orhan H., Orhan H., Vermeulen N.P.E., Meerman J.H.N. Induction of oxidative damage by halogenated biphenyls and biphenyl ethers in rat hepatocytes. 6<sup>th</sup> International Congress of Turkish Society of Toxicology (6<sup>th</sup> IC-TST), November 2-5/2006, Antalya-Turkey.
- 24) Y. Cesaretli, O. Güven, H.B. Uluocak, H. Orhan. Public intoxication upon consumption of endosulfan contaminated food in Karanlıkdere town of the province of Nigde. 6<sup>th</sup> International Congress of Turkish Society of Toxicology (6<sup>th</sup> IC-TST), November 2-5/2006, Antalya-Turkey.
- 25) S. Atasayar, H. Ozgunes, H. Orhan. Effect of aminoguanidine or vitamin C-vitamin E combination on cisplatin-induced oxidative stress. 6<sup>th</sup> International Congress of Turkish Society of Toxicology (6<sup>th</sup> IC-TST), November 2-5/2006, Antalya-Turkey.
- 26) Atasayar S., Ozgunes H., Orhan H. Bismuth and medazepam-mediated interference of malondialdehyde measurement by TBA test: A cautionary note. 31st FEBS Congress, 24-29 June 2006, Istanbul-Turkey. *FEBS Journal* 2006; 273 (suppl. 1), 185.
- 27) Atasayar S., Orhan H., Ozgunes H. Malondialdehyde quantification in blood plasma of smokers and non-smoker individuals. 03-08 October 2004, 19<sup>th</sup> European Workshop on Drug Metabolism, Antalya-Turkey. *Proceeding*, 154.
- 28) Orhan H., Commandeur J.N.M., Sahin G., Vermeulen N.P.E. Use of <sup>19</sup>F- NMR and GC-ECD techniques in the quantitative analysis of fluorine containing metabolites in urine of sevoflurane-anesthetized patients. 03-08 October 2004, 19<sup>th</sup> European Workshop on Drug Metabolism, Antalya-Turkey. *Proceeding*, 195.
- 29) Orhan H., Vriese E., Gurer-Orhan H., Vermeulen N.P.E., Meerman J.H.N. Application of multiparameter biomarker for oxidative stress studies in Chinese Hamster Ovary (CHO) cells. October 30-November 2/2003, 5<sup>th</sup> International Congress of Turkish Society of Toxicology, Antalya-Turkey.
- 30) Orhan H., Vermeulen N.P.E., Tump C., Zappey H., Meerman J.H.N. Simultaneous determination of tyrosine and phenylalanine oxidation products and 8-hydroxy-2'-deoxyguanosine in biological samples as non-invasive multi-parameter biomarker for oxidative damage by LC-tandem MS and GC-ECD. 2002 FIGON Dutch Medicines' Days (October 10-11/2002, Lunteren, The Netherlands) *Conceptuur* October 2002; no. 32, pp. 33.
- 31) Orhan H., Vermeulen N.P.E., Tump C., Zappey H., Meerman J.H.N. Simultaneous determination of tyrosine and phenylalanine oxidation products and 8-hydroxy-2'-deoxyguanosine in biological samples as non-invasive multi-parameter biomarker for oxidative damage. 9<sup>th</sup> Annual Meeting of the Oxygen Society (November 20-24/2002, San Antonio) *Free Radical Biology & Medicine* 2002; 33 (suppl. 2), S389.
- 32) Orhan H., Vermeulen N.P.E., Sahin G., Aypar U., Sahin A., Commandeur J.N.M. Sevoflurane biotransformation in man: quantification of Compound A-derived mercapturic acids hexafluoroisopropyl-glucuronide. Eurotox 2001 Meeting (September 13-16/2001, Istanbul) *Toxicology Letters* 2001; 123 (suppl. 1), 295.
- 33) Orhan H., Vermeulen N.P.E., Sahin G., Commandeur J.N.M. Characterisation of thioether compounds formed from potentially nephrotoxic alkaline degradation products of enflurane. Eurotox 2000 Meeting (September 17-20/2000, London) *Toxicology Letters* 2000; 116 (suppl 1), 421.
- 34) Orhan H., Onderoglu L., Sahin G. Circulating biomarkers of oxidative stress in complicated pregnancies. DMW/ISSX 2000 Meeting (June 11-16/2000, Scotland-Great Britain), *Drug Metabolism Review* (suppl.) 2000; 32: 98.

- 35) Orhan H., Vermeulen N.P.E., Sahin G., Commandeur J.N.M. Characterisation of thioether compounds formed from potentially nephrotoxic alkaline degradation products of enflurane. 4th Xenobiotic Metabolism and Toxicity Workshop of Balkan Countries (April 12-16/2000, Antalya-Turkey) *Proceeding*, 81: P046.
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- 37) Sahin A, Orhan H, Ocal T., Aypar U., Sahin G. Glutathione S-transferase activity and lipid peroxidation in anesthesiologists. European Society of Anesthesiologists Annual Congress (May 29-June 1, 1999, Amsterdam, The Netherlands) *British Journal of Anaesthesia* 1999; 82 (suppl. 1), 4-5, A14.
- 38) Aydin A., Orhan H., Sayal A., Ozata M., Sahin G., Isimer A. The relationship between antioxidant status and nitric oxide in type I diabetic patients. Abstracts of the International Congress of Toxicology-ICT VIII (5-9 July 1998, Paris-France), *Toxicology Letters* (suppl.) 1998; 1/95, 114.
- 39) Sahin A, Orhan H, Ocal T., Aypar U., Sahin G. Anesteziyologlarda glutatyon S-transferaz aktivitesi ve lipid peroksidasyonu. XXXII. Turk Anesteziyoloji ve Reanimasyon Kongresi, (28 Ekim-01 Kasim 1998, Antalya-Turkiye) *Proceeding*, 170.
- 40) Aydin A., Orhan H., Sayal A., Ozata M., Sahin G., Isimer A. The relationship between antioxidant status and nitric oxide in type I diabetic patients. 3<sup>rd</sup> Congress of Balkan Military Medical Committee (May 10-13/1998, Athens-Greece) *Proceeding*, 0205.
- 41) Orhan H., Sahin G., Duru S. In vitro effects of non-steroidal anti-inflammatory drugs (NSAIDs) on oxidative stress-related parameters of human erythrocytes. 2nd National Toxicology Congress (April 3-6/1997, Antalya-Turkey) *Proceeding*, P-15.
- 42) Orhan H., Sahin G. The effect of cigarette smoking on oxidative stress-related parameters in human blood. 2nd National Toxicology Congress (April 3-6/1997, Antalya-Turkey) *Proceeding*, P-14.
- 43) Orhan H., Sahin G., Onderoglu L. Evaluation of antioxidant defence system in pregnant women with hypertension and diabetes. 2nd National Toxicology congress (April 3-6/1997, Antalya-Turkey) *Proceeding*, P-10.
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- 45) Orhan H., Sahin G., Akalin S., Duru S. Assessment of erythrocyte glutathione S-transferase rho activity in diabetics. The 34th European Congress of Toxicology (34<sup>th</sup> EUROTOX), 27-30 August 1995, Prague, Czech Republic, *Toxicology Letters* (suppl.) 1995; 1/78: 63.
- 46) Orhan H., Sahin G., Duru S. The effect of nicotine and cotinine on the erythrocyte glutathione S-transferase activity in vitro and determination of the effect of cigarette smoking on the same enzyme. 4th International Symposium on Pharmaceutical Sciences (June 27-30/1995, Ankara-Turkey) *Proceeding*, P-48.
- 47) Orhan H., Sahin G., Duru S. The effect of cigarette smoking on human erythrocyte glutathione S-transferase activity. ISSX Proceedings (April 22-25/1995, Noordwijkerhout-The Netherlands) *Proceeding*, 7; 98.
- 48) Orhan H., Sahin G., Duru S. The effect of aluminium, lead and cadmium on the erythrocyte glutathione S-transferase activity. The 33rd European Congress of Toxicology (33<sup>rd</sup> EUROTOX), 21-24 August 1994, Basel, Switzerland, *Toxicology Letters* (suppl.) 1994, 1/74; 59.
- 49) Sahin G., Orhan H., Duru S. The effect of nicotine and cotinine on the erythrocyte glutathione S-transferase activity. 14th European Workshop on Drug Metabolism (July 3-8/1994, Paris-France) *Proceeding*, 63.

## **H. MEETING ORGANIZATION:**

- 2018** The 54<sup>th</sup> EUROTOX Congress. 2-5 September 2018, Brussels - Belgium, Scientific Programme Committee member.
- 2017** The Workshop on 3Rs&2D and 3D Liver, Skin, Eye and Intestinal Regulatory Models. 2-3 November 2017, Kocaeli-Turkey. Yerel Düzenleme Kurulu üyesi, Scientific Programme Committee member.
- 2017** The 53<sup>rd</sup> EUROTOX Congress. 10-13 September 2017, Bratislava - Slovakia, Scientific Programme Committee member.
- 2017** The IV. Toxicology Symposium: Career Days in Toxicology. 21-22 January 2017, Eskişehir-Türkiye, President and member of Scientific Advisory Board of the Symposium.
- 2016** 52<sup>nd</sup> EUROTOX Congress. 7-10 September 2016, Seville- Spain, Congress Scientific Secretary, members of Local Organizing Committee and Scientific Programme Committee.
- 2015** The 51<sup>st</sup> EUROTOX Congress. 7-10 September 2015, Porto- Portugal, Scientific Programme Committee member.
- 2014** The 50<sup>th</sup> EUROTOX Congress. 4-7 September 2014, Edinburgh- Scotland, Executive Committee member.
- 2013** The II. Toxicology Symposium: Contemporary Issues in Toxicology. May 3-4<sup>th</sup>, 2013, Eskişehir-Turkey, President and member of Scientific Advisory Board of the Symposium.
- 2012** The 8<sup>th</sup> Congress of the Turkish Society of Toxicology. 14-18 November 2012, Antalya-Türkiye, Member of Scientific Advisory Board and Secretary of the Congress.
- 2010** Persistent Organic Pollutants Workshop. 3-5 November 2010, Antalya-Turkey, Member of Scientific Advisory Board.
- 2010** The I. Toxicology Symposium: Environment and Toxicology. 22 October 2010, Mersin- Turkey, Member of Scientific Advisory Board and secretary of the Symposium.
- 2010** I. National Palandoken Congress of Toxicology. 30 May-01 June 2010, Erzurum-Turkey, Member of Scientific Advisory Board.
- 2009** The 7<sup>th</sup> Congress of the Turkish Society of Toxicology. 30 May-01 June 2009, Ankara-Turkey. Member of Scientific Advisory Board and Secretary of the Congress.
- 1999** The 4<sup>th</sup> Congress of Toxicology in Developing Countries. 6-10 November 1999, Antalya-Turkey. Member of Organizing Committee.
- 1997** 2<sup>nd</sup> National Congress of Toxicology with International Participation. 3-6 April 1997, Antalya-Turkey. Member of Organizing Committee.

## **I. SCHOLARSHIPS AND AWARDS**

- 2018** Global Senior Scholar Exchange Award - Society of Toxicology (SOT), USA.
- 2008** Bo Holmstedt Memorial Lectureship Award / Bo Holmstedt Memorial Foundation (BHMF)-Sweden.
- 2007** International Union of Toxicology (IUTOX) / Society of Toxicology (SOT)-Astra Zeneca Travel Award.
- 1996** NATO Science Fellowship Grant by TUBITAK.

## **J. AS REFEREE:**

- **International scientific journals**

Ankara Üniversitesi Eczacılık Dergisi  
Chemosphere  
Coronary Artery Disease  
Current Drug Metabolism



Diabetes/Metabolism Research and Reviews  
 Environmental Toxicology  
 Environmental Toxicology and Pharmacology  
 Expert Opinion On Drug Metabolism & Toxicology  
 FABAD-Journal of the Society of Pharmaceutical Sciences of Ankara  
 Food and Chemical Toxicology  
 Free Radical Research  
 Hacettepe Üniversitesi Eczacılık Dergisi  
 Journal of Chromatography A  
 Journal of Chromatography B  
 Journal of Faculty of Pharmacy of Ankara University  
 Journal of Separation Science  
 New Zealand Journal of Marine and Freshwater Research  
 Medicinal Chemistry Research  
 Molecular Biology Reports  
 Pharmacological Research  
 Rapid Communication in Mass Spectrometry  
 Science of the Total Environment  
 Toxicology and Applied Pharmacology  
 Toxicology and Industrial Health  
 Toxicology In Vitro  
 Toxicology Letters  
 Toxicology Mechanisms and Methods  
 Turkish Journal of Aquatic Science  
 Türkiye Klinikleri Dergisi

- **Belgium-Fonds Wetenschappelijk Onderzoek Vlanderen Projects referee, 2016-**
- **Fransa-INSERM Projects referee, 2015-**
- **Referee for Life Sciences Research Projects of various universities, 2009-**
- **Tubitak Panel Member of Health Sciences Research Projects, 2010-**
- **Tubitak Panel Member of Monitoring Committee for Exact Sciences Research Projects, 2007-**
- **Tubitak Panel Member of Exact Sciences Research Projects, 2006-**
- **E.U. Leonardo da Vinci Vocational Training Progr. Independent External Referee, 2003-2005**