

İbrahim Çağrı Kurt, MSc, PhD

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Work

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- (Dec. 2022-Now) **Boğaziçi University**
Assistant Professor at the Department of Molecular Biology & Genetics
- (Jan. 2022 – Oct. 2022) **ELM Genomics Biotechnology**
CEO & Co-founder / www.elmgenomics.com & www.genopix.com

Education

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- (2015 – 2022) **Harvard University, MA, USA**
Ph. D. in Biological Sciences, Harvard Graduate School of Arts and Sciences (3.87/4.00)
- (2013 – 2015) **Koç University, Istanbul, Turkey**
M. Sc. in Molecular Biology and Genetics, Graduate School of Sciences & Engineering
Research Assistant and Teaching Assistant (4.00/4.00)
- (2011 – 2012) **University of California Santa Cruz, CA, USA**
Educational Abroad Program (Exchange) (3.47/4.00)
- (2009 – 2013) **Bilkent University, Ankara, Turkey**
B. Sc. Molecular Biology and Genetics (3.35/4.00, Honor)

Research Interests

CRISPR, gene editing, mRNA therapeutics, precision medicine, apoptosis, cancer biology

Research Experience

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- (Jan. 2016– Mar. 2022) Harvard University, School of Medicine
Molecular Pathology Unit, Massachusetts General Hospital
Ph.D. Student in Dr. Keith Joung's Genome and Epigenome Editing Laboratory
<http://www.jounglab.org/>
 - Engineering novel CRISPR-based base editor technologies
 - Developing more sensitive off-target assays for CRISPR-based genome editing platforms
- (Sep. 2013 – Jun. 2015) Koç University, School of Medicine
Research Assistant in Dr. Tugba Bagci-Onder's Brain Cancer Research & Therapy Laboratory
<http://bagcionderlab.ku.edu.tr>
 - Interrogating the function of chromatin modifying enzymes in TRAIL response of glioblastoma multiforme cells
- (Sep. 2014) University of Virginia, School of Medicine, Department of Biochemistry and Molecular Genetics
Visiting Researcher in Dr. Mazhar Adli's Chromatin Biology & Epigenomics Laboratory
 - Conducting ChIP experiments on KDM2B
- (Jan. 2012-Sep. 2012) University of California Santa Cruz, Department of Molecular, Cell and Developmental Biology
Undergraduate Researcher in Dr. David Feldheim's Mammalian Brain Development Laboratory
 - Characterization of the role(s) of Brn3a in maintenance of health and function of adult retinal ganglion cells
- (Jun. 2011 – Aug. 2011) Albert Einstein College of Medicine of Yeshiva University, Department of Genetics
Researcher in Dr. Ertugrul Ozbudak's Systems Biology of Stem Cells and Embryonic Development Laboratory
 - Characterization of the functional domain and protein interactors of Cited3

Teaching Experience

(Fall 2013) Koç University, School of Medicine
Teaching Assistant of Cellular and Molecular Biology (MBGE 110) course's lab

(Summer 2012) University of California Santa Cruz, Department of Molecular, Cell and Developmental Biology
Teaching Assistant of the Cell Biology (BIOL 110) course

Patents

JK Joung, **IC KURT**, Z Ronghao, J GRUNEWALD. "C-to-G Transversion Dna Base Editors". WO2021042047A1. PCT/US2020/048777. (<https://patents.google.com/patent/WO2021042047A1/en>)

Publications

Karl P, Zhang W, Ma J, Schmidts A, Lee H, Horng JE, Kim DY, **Kurt IC**, Clement K, Hsu JY, Pinello L, Maus MV, Joung JK, Yeh JR. "CRISPR prime editing with ribonucleoprotein complexes in zebrafish and primary human cells". *Nature Biotechnology*, 2021 Apr 29, [doi: 10.1038/s41587-021-00901-y](https://doi.org/10.1038/s41587-021-00901-y)

Kurt IC, Zhou R, Iyer S, Garcia SP, Miller BR, Langner LM, Grünewald J, Joung JK. "CRISPR C-to-G Base Editors for Inducing Targeted DNA Transversions in Human Cells". *Nature Biotechnology*, 2020 Jul 20, [doi: 10.1038/s41587-020-0609-x](https://doi.org/10.1038/s41587-020-0609-x)

Kurt IC, Sur I, Kaya E, Cingoz A, Kazancioglu S, Kahya Z, Toparlak OD, Senbabaoglu F, Kaya Z, Ozyerli E, Karahuseyinoglu S, Lack NA, Gumus ZH, Onder T, and Bagci-Onder T. "KDM2B/JHDM1B, an H3K36-specific demethylase, regulates apoptotic response of GBM cells to TRAIL". *Cell Death and Disease*, 2017 Jun 29;8(6):e2897. [doi: 10.1038/cddis.2017.288](https://doi.org/10.1038/cddis.2017.288)

Conferences

Oral Presenter: Kurt IC. "CRISPR base editors for installing targeted DNA transversions in human cells". Washington University School of Medicine in St. Louis (STL Genome Editing 2021 Virtual Conference), 2021. (<https://youtu.be/mLTRmociaGo?t=3645>)

Oral Presenter: Kurt IC. "Programmable C-to-G Transversions in Human Cells with Engineered CRISPR Base Editors". American Society of Gene & Cell Therapy (ASGCT) Annual Meeting, Boston, USA, 2020.

Poster Presenter: Kurt IC. Authors: Kurt IC, Kahya Z, Cingoz A, Kaya Z, Lack N, Gumus ZH, Onder T, Bagci-Onder T. "KDM2B, an H3K36-specific demethylase, regulates apoptotic response of GBM cells to TRAIL". International Cell Death Society (ICDS) Meeting, Prague, Czech Republic, Poster presentation, 2015.

Poster Presenter: Kurt IC. Authors: Kurt IC, Kahya Z, Toparlak D, Lack N, Onder T, Bagci-Onder T. Interrogating the function of chromatin modifying enzymes in TRAIL response of GBMs. *International Cell Death Society (ICDS) "Cell Death and Diseases" Meeting, Cape Town, South Africa*, Poster presentation, 2014.

Laboratory Skills

- Biosafety Level 2+ viral cell culture; lentivirus/retrovirus production
- Protein engineering, rational protein design, and protein purification
- Large-scale complex library cloning (>100k diversity)
- CRISPR-based genome and epigenome editing tools (nucleases, base editors, prime editor, CRISPRi, CRISPRa)
- ChIP-seq, RNA-seq, GUIDE-seq, CIRCLE-seq
- Genome-wide CRISPR knockout and shRNA knockdown screening
- In vivo imaging (IVIS) of bioluminescence and fluorescence in mice
- Immunohistochemistry
- Germline NGS analysis per GATK best practices
- Variant filtering & annotation per ACMG/AMP guideline
- Python, Cromwell, WDL, Arvados, GCP Compute Engine, HPC

Languages

Turkish - *Native*

German - *Basic*

Arabic - *Intermediate*

Honors, Scholarships, Awards and Memberships:

(15 Nov 2022)	Slush 2022, Newborn DNA Screening Product Showcase, Helsinki (https://youtu.be/Q_amWySBBr4)
(12 May 2020)	ASGCT Excellence in Research Award Recipient (https://annualmeeting.asgct.org/am20/abstracts/award-recipients)
(2020-Present)	Associate Member of American Society of Gene & Cell Therapy (ASGCT)
(10 May 2014)	1 st place in poster prize, "Interrogating the function of chromatin modifying enzymes in TRAIL response of GBMs". International Cell Death Society, "Cell Death and Diseases" meeting, Cape Town, South Africa
(21 Mar 2014)	Travel award by Graduate School of Sciences & Engineering of Koç University for attending "Cell Death and Diseases" meeting of International Cell Death Society in Cape Town, South Africa
(Jan. 2014 - 2016)	Member of the European Association for Cancer Research (EACR)
(Jan. 2014 - 2016)	Member of the International Cell Death Society (ICDS)
(2013 - 2015)	Master's scholarship with the code of 2210-E (2211 now) by TUBITAK (The Scientific and Technological Research Council of Turkey)
(2013 - 2015)	<i>Koç University</i> , M. Sc. full-tuition grant, student scholarship and accommodation scholarship
(2009-2013)	Undergraduate science scholarship with the code of 2205 by TUBITAK (The Scientific and Technological Research Council of Turkey)
(2009-2013)	Partial Scholarship – half-tuition grant at Bilkent University
(2009)	Ranked 4466 in the top 0.25% among ~1.700.000 high school graduates in ÖSS (Nationwide University Entrance Examination in Turkey)

References

J. Keith Joung, MD, PHD

Associate Chief of Pathology for Research
Professor of Pathology, Harvard Medical School

Molecular Pathology Unit, MGH

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David A. Feldheim, PhD

Professor of MCD Biology

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Tugba Bagci-Onder, PhD

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Ertugrul M. Ozbudak, PhD

Professor

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