BIOGRAPHICAL SKETCH

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NAME: Hoxhaj, Gerta

eRA COMMONS USER NAME (credential, e.g., agency login): GHOXHAJ

POSITION TITLE: Assistant Professor, Children's Research Institute at the University of Texas Southwestern Medical Center

EDUCATION/TRAINING *(Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable. Add/delete rows as necessary.)*

INSTITUTION AND LOCATION	DEGREE *(if applicable)*	Completion Date MM/YYYY	FIELD OF STUDY
Bogazici University, Istanbul, Turkey	B.Sc.	2008	(1) Molecular Biology & Genetics (2) Chemistry
University of Dundee, Scotland, UK	Ph.D.	2013	Life Sciences
Harvard T.H. Chan School of Public Health	Postdoc	2019	Molecular Metabolism

A. Personal Statement

Altered cellular metabolism and oncogenic activation of signaling networks are two major hallmarks of cancer. Signaling pathways have the capacity to reprogram metabolic systems to fulfill the anabolic requirement for rapid cell proliferation. Our lab is interested in understanding the molecular mechanisms that control cancer metabolism. We are also interested in expanding our fundamental knowledge of how metabolic outputs and changing environmental conditions are coordinated with signaling networks to sustain cellular homeostasis and to investigate the consequences of the loss of this coordination in disease. We aim to develop a comprehensive map of the connections between signaling pathways and metabolic networks, which will help to design metabolism-based therapeutic strategies to treat cancer.

B. Positions and Honors

Positions and Employment:

2006	Undergraduate Researcher, Laboratory of Dr. Angus Lamond, The Centre for Gene Regulation & Expression, University of Dundee, Scotland, UK
2007	Undergraduate Researcher, Laboratory of Dr. Laurie Feldman and Dr. Arthur Sytkowski, Harvard Medical School, Boston, MA, USA
2008-13	Ph.D. Student, Laboratory of Dr. Carol MacKintosh, MRC Protein Phosphorylation Unit, University of Dundee, Scotland, UK
2013-19	Postdoctoral Fellow, Laboratory of Dr. Brendan Manning**,** Harvard T.H. Chan School of Public Health, Boston, MA, USA
2019	Assistant Professor, Children's Research Institute, Department of Pediatrics, Department of Biochemistry, UT Southwestern Medical Center, Dallas, TX, USA

Honors:

2002	Ecology Project Contest - Bronze Medal (Balkan Ecology Project)
2003	Full scholarship at Bogazici University (Albanian Ministry of Education)
2007	Exchange Student Scholarship at Boston University (Bogazici University)
2008	Rector's Award: Best International Student of the Year (Bogazici University)
2008	High Honors Award from the Faculty of Art and Sciences (Bogazici University)
2009	Discovery Scholarship at University of Dundee (University of Dundee)
2013	Vicky H. Whittemore Travel Award (Tuberous Sclerosis Alliance)
2014	Postdoctoral Fellowship (Tuberous Sclerosis Alliance)
2018	Cold Spring Harbor Laboratory Young Scholars Symposium
2019	CPRIT Scholar in Cancer Research

C. Contributions to Science

Selected Publications

1. **Hoxhaj G**, Ben-Sahra I, Lockwood SE, Timson RC, Byles V, Henning GT, Gao P, Selfors LM, Asara JM, Manning BD. Direct stimulation of $NADP^+$ synthesis through Akt-mediated phosphorylation of NAD kinase. **Science** 2019, 363:1088-1092 PMID: 30846598

2. **Hoxhaj G**, Hallett JH, Timson R, Ilagan E, Asara JM, Ben-Sahra I, Manning BD. The mTORC1 signaling network senses changes in cellular purine nucleotide levels. **Cell Reports** 2017, 21:1331-1346 PMID: 29091770

3. Ben-Sahra I*****, **Hoxhaj G***, Ricoult SJ, Asara JM, Manning BD. mTORC1 induces *de Novo* Purine Synthesis Through Control of the Mitochondrial Tetrahydrofolate Cycle. **Science** 2016, 351:728-33. PMID: 27244671, *co-first author

4. **Hoxhaj G***, Caddye E, Najafov A, Houde VP, Johnson C, Dissanayake K, Toth R, Campbell DG, Prescott AR, MacKintosh C*. The E3 ubiquitin ligase ZNRF2 is a substrate of mTORC1 and regulates its activation by amino acids. **Elife** 2016, PMID: 27244671, *co-corresponding author

5*.** **Hoxhaj G, Dissanayake K, MacKintosh C*. Effect of IRS4 expression levels on PI 3-kinase signalling. **PLoS One** 2013, PMID: 24039912, *co-corresponding author

6. **Hoxhaj G***, Najafov A, Toth R, Campbell DG, Prescott AR, MacKintosh C*. 2012. ZNRF2 is released from membranes by growth factors and, together with ZNRF1, regulates the Na+/K+ATPase. **J Cell Science** 2012**,** 125:4662-75. PMID: 22797923. *co-corresponding author

Reviews

Hoxhaj G* and Manning BD*. The PI3K-AKT network at the interface of oncogenic signalling and cancer metabolism. **Nat Rev Cancer** 2019. PMID: 31686003 *co-corresponding author

Full bibliography

https://www.ncbi.nlm.nih.gov/myncbi/gerta.hoxhaj.1/bibliography/public/

D. Additional Information: Research Support and/or Scholastic Performance

ONGOING

CPRIT Scholar in Cancer Research (P.I.: Hoxhaj, G.) 10/01/19 - 10/01/24
Cancer Prevention and Research Institute of Texas,
"**The regulation of cellular reducing power in cancer"**

COMPLETED

Tuberous Sclerosis Alliance Postdoctoral Fellowship 01/01/14 - 01/01/16