



***Endocrine News* spoke to 2020 Early Investigator Award recipients to find out more about their award-winning research, the award's potential impact, as well as how they are coping with the COVID-19 outbreak.**

BY GLENDA FAUNTLEROY SHAW

# Laboratory LEADERS:

## TALKING TO THE 2020 EARLY INVESTIGATOR AWARD WINNERS

**E**ach year, the Endocrine Society bestows several researchers in the blossoming stages of their careers with the Early Investigators Award. The award was created to help in the development of early career investigators and to spotlight their accomplishments in endocrine-related research.

The 2020 award winners are: Mehmet Furkan Burak, MD, of Brigham and Women's Hospital in Boston; Dionysios Chartoumpekis, MD, PhD, of the University of Patras in Patras, Greece; Hisham Mohammed, PhD, of Oregon Health Sciences University in Portland; Hongxia Ren, PhD, of Indiana University School of Medicine; and Domenico Trico, MD, of the University of Pisa, Italy.

*Endocrine News* spoke with the five researchers to learn more about what the award means for their work.

---

**Endocrine News:** To get an idea of who comprises our “early investigators,” at what stage are you in your academic fellowship or year as faculty?

**Mehmet Burak:** I am a newly appointed faculty at the Brigham and Women's Hospital, Harvard Medical School, starting on July 1 upon completion of my three-year clinical endocrinology fellowship at the same institution.

**Dionysios Chartoumpekis:** I am a physician-scientist currently in the third year of my clinical and research fellowship in endocrinology in the Department of Internal Medicine, Division of Endocrinology, University of Patras, Greece.

**Hisham Mohammed:** I am in my first year of my appointment as an assistant professor [at the Oregon Health Sciences University in Portland]. My family and I recently moved from the UK to start this position.

**Hongxia Ren:** I joined the faculty rank as assistant professor in July 2016. I have been an independent investigator at Indiana University School of Medicine for a little over three years.

**Domenico Trico:** I am in my first year as an assistant professor of internal medicine at the University of Pisa (Italy).



**Mehmet Furkan Burak, MD,**  
Brigham and Women's Hospital,  
Boston, Massachusetts

“

Since the beginning of medical school, I have been fascinated by the impact of hormones on the entire human body. Due to my interest, I have been closely following the inspiring work of the Endocrine Society for hormone science.

”



**Dionysios Chartoumpekis, MD, PhD,**  
University of Patras,  
Patras, Greece

“

The ultimate goal of my research is to identify novel pathophysiologic mechanisms of insulin resistance and target them with new or repurposed drugs, or dietary supplements so as to combat obesity and type 2 diabetes.

”

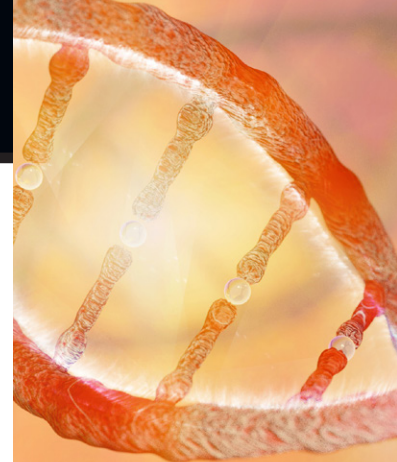


**Hisham Mohammed, PhD,**  
Oregon Health Sciences  
University, Portland, Oregon

“

As a junior investigator, awards like these are important in not only boosting morale, but also increasing chances of winning research grants. Being recognized and gaining exposure to peers in the field of endocrinology is an important first step for an early investigator.

”



We focus on understanding how hormones such as estrogen and androgens regulate diseases breast and prostate cancer. I invented RIME, a method that allows identification of cofactors of hormone receptors. Using this approach, we attempt to understand how receptors can function in different ways under different settings. More recently, we have been working on using several different single-cell sequencing approaches to understand the dynamics of hormone response and how underlying genetic and epigenetic heterogeneity can impact this.

—HISHAM MOHAMMED

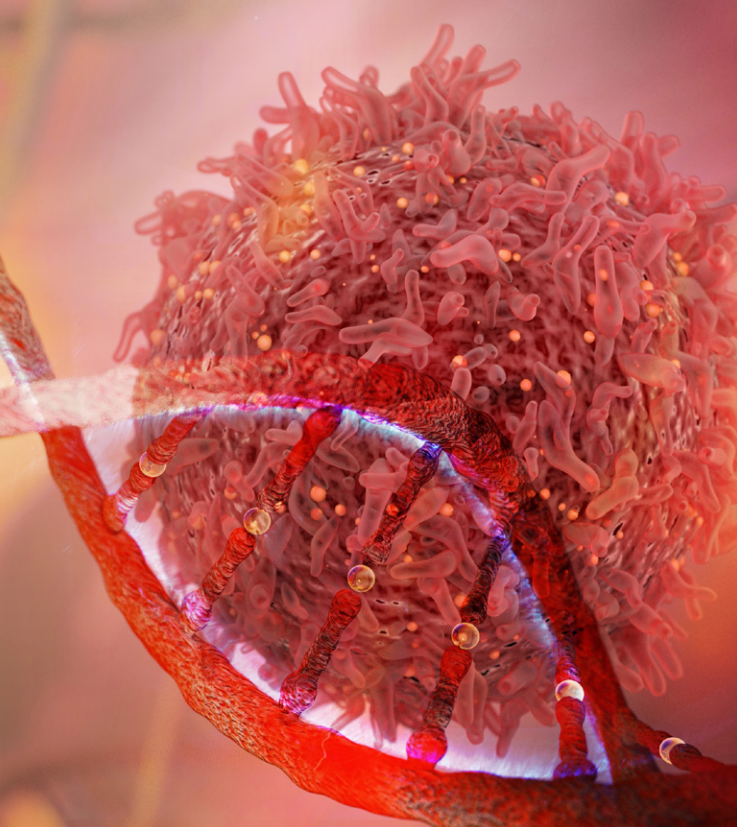
## EN: What inspired you to apply for the award? What was your reaction when you learned the good news?

**Burak:** Since the beginning of medical school, I have been fascinated by the impact of hormones on the entire human body. Due to my interest, I have been closely following the inspiring work of the Endocrine Society for hormone science. It was an honor and a great joy to receive this prestigious award in the field of hormone science to which I have been passionately dedicated for many years. I deeply appreciated receiving this exciting news of major recognition of my work by my peers, mentors, and colleagues.

**Chartoumpekis:** When I decided to apply for this award, I had just started a six-month exchange fellowship supported

by the European Union of Medical Specialists, as part of my training, in Lausanne University Hospital in Switzerland. Having been a member of Endocrine Society for almost seven years and knowing its outstanding programs and awards to support early investigators, I was thrilled to apply for this award to get recognized for my contributions to endocrine science starting from my PhD years in University of Patras, to the post-doc years in University of Pittsburgh and to my current position. When I received the e-mail that informed me about the award, I was very happy to be among excellent colleagues from American and European universities who received the award this year and felt honored and humbled at the same time. I could also not wait for ENDO 2020 and the special “Excellence in Endocrinology” event and award ceremony that were unfortunately cancelled this year due to the coronavirus pandemic.





**Hongxia Ren, PhD,**  
Indiana University School of  
Medicine, Indianapolis, Indiana



**Domenico Trico, MD,**  
University of Pisa, Pisa, Italy

“

The overarching goal of our research is to characterize key molecular players in the endocrine system that function to maintain glucose and energy homeostasis. We conduct basic research by using transgenic animal models and a combination of cellular, molecular, and physiological methodologies.

”

“

The Endocrine Society's award is well known among early-career investigators as it can provide worldwide recognition of your research and a career boost in the critical phase of transition from a postdoctoral to a tenured faculty position.

”

**Mohammed:** Despite over a decade of endocrine research, I have had limited exposure to the Endocrine Society, and hence saw this as an opportunity. I was very pleased to learn that I was awarded.

**Ren:** I have been a member of the Endocrine Society since my days in graduate school. Over the years, I have benefited from the years of mentored training in the endocrine field, the Endocrine Society Annual Meetings to disseminate research findings in the endocrine community, *Endocrinology* with its rigorous peer-review process to strengthen our publication, and the collegial support from colleagues in the Endocrine Society. I was inspired to apply for this Early Investigator Award because it provides support to assist in the development of early-career investigators and recognition of their accomplishments. I was super excited when I learned the good news. I really appreciate that Dr. Carmella Evans-Molina, who has been a mentor and role model since I joined the faculty rank at Indiana University, nominated me for this prestigious award. I am very pleased to accept the award and look forward to continuing to build and grow in the field of endocrine research. I am honored and humbled to be among the distinguished colleagues who received this award.

**Trico:** The Endocrine Society's award is well known among early-career investigators as it can provide worldwide recognition of your research and a career boost in the critical

phase of transition from a postdoctoral to a tenured faculty position. For these reasons, I was excited and honored to be chosen as a recipient among other distinguished colleagues.

### EN: Can you explain your research in a few sentences?

**Burak:** My research focuses on the role of fatty acid binding protein 4 (FABP4/aP2) in obesity-related immunometabolic diseases such as diabetes, fatty liver disease, and asthma. We are developing new therapeutic strategies against those diseases using anti-FABP4 agents. We think that FABP4 plays a critical role in the pathogenesis of metabolically driven chronic low-grade inflammatory diseases, such as obesity, diabetes, asthma, fatty liver disease, and atherosclerosis, which share similar lipid derangements and immune-metabolic underpinnings.



As a clinical scientist with a longstanding interest in diabetes and nutrition, my primary research focus has been to evaluate the effects of macronutrients on beta cell function and to dissect their potential pathogenetic role in type 2 diabetes development and progression in adults and children. —DOMENICO TRICO

**Chartoumpekis:** My research mainly revolves around the role of druggable stress-response pathways in obesity and type 2 diabetes with main focus on Keap1/Nrf2 antioxidant pathway in liver and adipose tissue and its crosstalk with other metabolic modulators and processes, such as Fgf21, Notch, gluconeogenesis, and lipogenesis. The ultimate goal of my research is to identify novel pathophysiologic mechanisms of insulin resistance and target them with new or repurposed drugs, or dietary supplements so as to combat obesity and type 2 diabetes.

**Mohammed:** We focus on understanding how hormones such as estrogen and androgens regulate diseases such as breast and prostate cancer. I invented RIME, a method that allows identification of cofactors of hormone receptors. Using this approach, we attempt to understand how receptors can function in different ways under different settings. More recently, we have been working on using several different single-cell sequencing approaches to understand the dynamics of hormone response and how underlying genetic and epigenetic heterogeneity can impact this.

**Ren:** The overarching goal of our research is to characterize key molecular players in the endocrine system that function to maintain glucose and energy homeostasis. We conduct basic research by using transgenic animal models and a combination

of cellular, molecular, and physiological methodologies. We have also developed translational research programs through productive collaborations with basic and clinical researchers in the endocrine field.

**Trico:** As a clinical scientist with a longstanding interest in diabetes and nutrition, my primary research focus has been to evaluate the effects of macronutrients on beta cell function and to dissect their potential pathogenetic role in type 2 diabetes development and progression in adults and children.

#### **EN: How, if at all, has your research been impacted by the COVID-19 pandemic?**

**Burak:** Unfortunately, we had to close our lab, suspend our animal work and cellular experiments. I am currently focused more on the patient care to fight against COVID-19.

**Chartoumpekis:** My research program has been halted due to social distancing measures that were implemented the last two months. Mouse colonies had to be reduced and experiments had to be postponed for months. I am trying to retain part of my productivity by teleconference and finalizing some pending writing and review work. I understand that this is an international crisis and there is a need to increase competitive funding in science worldwide in response to this pandemic.

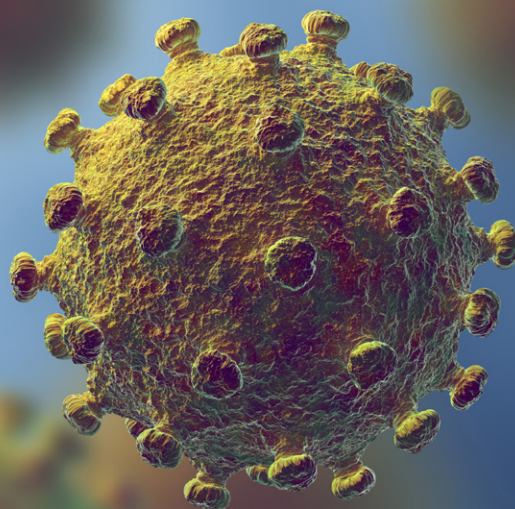


## EARLY INVESTIGATOR AWARD

Among the benefits of the Early Investigator Award are a monetary gift and one-year complimentary membership to the Society.

Additional information on this award and the recipients is located at [www.endocrine.org/awards/early-investigators-awards](http://www.endocrine.org/awards/early-investigators-awards).

*The new application cycle opens in September 2020.*



My research program has been halted due to social distancing measures that were implemented the last two months. Mouse colonies had to be reduced and experiments had to be postponed for months. I am trying to retain part of my productivity by teleconference and finalizing some pending writing and review works. I understand that this is an international crisis and there is need to increase competitive funding in science worldwide in response to this pandemic. —DIONYSIOS CHARTOUMPEKIS

in *Endocrinology* event at ENDO (though, unfortunately, this has been cancelled). All of these will facilitate my career development as an academic researcher in the general endocrine field.

**Trico:** Receiving public recognition of my research accomplishments by the Endocrine Society adds weight to my research and provides fundamental support to my career advancement as a clinical scientist. <sup>EN</sup>

**Mohammed:** Our labs are fully shut down. However, we are using this time to analyze sequencing datasets, write manuscripts, and other work that can be done in a non-lab setting. Importantly, at this point we all do our bit to minimize the spread of this disease.

**Ren:** The Indiana Stay-At-Home Order took effect on March 24. Our campus was shut down with classes going as a web-based format and research activities halted. Our research, which is almost entirely wet lab based, has been greatly disrupted.

**Trico:** Italy has been affected earlier and harder by the spreading of [COVID-19] than other countries. As an internist, I immediately quit my research activities to give priority to the full-time care of coronavirus patients.

### EN: How do you hope the award will support your goals?

**Burak:** I hope that this award will give me the opportunity to reach out to other endocrine scientists from all over the world and facilitate more collaboration. Also, I am working on a unique complication of obesity, namely asthma. The obese asthmatics do not respond well to conventional therapies. I hope that this award will help to raise an awareness on this condition which urgently demands developing novel therapeutics.

**Chartoumpekis:** I hope that this award will increase my visibility as a physician scientist in the Endocrine Society, in the research community and academia in general, and will help me towards my goal of a tenure-track academic position. Most importantly, this award gives me strong motivation to continue being dedicated to my research projects and for my patients.

**Mohammed:** As a junior investigator, awards like these are important in not only boosting morale, but also increasing chances of winning research grants. Being recognized and gaining exposure to peers in the field of endocrinology is an important first step for an early investigator.

**Ren:** I really appreciate the support that comes with the Early Investigator Award, which includes the monetary award, the one-year complimentary membership to the Society, the one-year complimentary access to the Society's online journals, public recognition of research accomplishments in various Society platforms and an invitation to attend the *Excellence*