

Spotlight

The Newsletter of the ENTELLIGENCE™ Young Investigators Award Program



Spring 2012 Vol. 2 Issue 1



Chairman's Note

On behalf of the ENTELLIGENCE Steering Committee, I am pleased to announce the completion of the 7th review cycle for the Young Investigators Award (YIA) Program. Underwritten by generous support from Actelion, 38 young investigators from around the United States and Canada have now received grant awards for pulmonary vascular disease research since 2006.

The 2012 award recipients are:

Eileen Bauer, PhD University of Pittsburgh

Co-Investigator: Stephen Tomlinson, PhD
Mentors: Philip M. Bauer, PhD, Timothy R. Billiar, MD
Complement Activation as a Novel Mechanism of Endothelial Activation in PH

Kenny Schlosser, PhD Ottawa Hospital Research Institute

Mentor: Duncan J. Stewart, MD
Role of Extracellular Circulating MicroRNAs in Idiopathic Pulmonary Arterial Hypertension

Joshua P. Fessel, MD, PhD Vanderbilt University Medical Center

Mentor: James D. West, PhD
The Role of Sirtuins and Lysine Acetylation in Pulmonary Arterial Hypertension

Kelly J. Shields, PhD Allegheny Singer Research Institute

Co-Investigator: Joseph M. Ahearn, MD
Mentor: Raymond L. Benza, MD
The Role of Perivascular Adipose Tissue in Pulmonary Arterial Hypertension

We invite you to celebrate with us as the winners are honored for their outstanding initiatives at the 2012 YIA Ceremony to be held during the American Thoracic Society International Conference (ATS•2012). Our program will take place on:

Monday, May 21, 2012
4:30 PM – 6:30 PM
Ceremony and Reception

The St. Regis San Francisco
Vitrine Restaurant
125 Third Street, San Francisco, CA

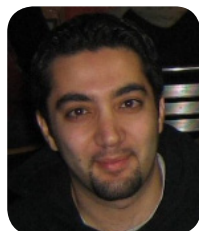
For more information about the 2012 YIA Award Ceremony and to register for this event, please email jfreeman@medtelligence.net.

Meanwhile, please enjoy perusing this second edition of *Spotlight*, which highlights some of the important people and events in the YIA Program. In this issue, we've included interviews with Salah Najm, MD, a 2011 winner, Kingman P. Stroh, MD, Dr. Najm's mentor, and Adaani E. Frost, MD, a Steering Committee member since the YIA Program's inception.

Warm regards,

Ronald J. Oudiz, MD
Program Chairman

Salah Najm, MD, 2011 YIA Winner



Dr. Najm is a 2011 Young Investigators Award Program winner for his project, *Vascular Reactivity in Response to Acute Hypoxia: Defining Features and Mechanisms*. He is a Pulmonary, Sleep, and Critical Care Fellow at University Hospitals, Case Medical Center in Cleveland, Ohio. *Spotlight* spoke with him recently about his project and his future plans.

continued on page 4

ENTELLIGENCE Steering Committee

Ronald J. Oudiz, MD Program Chairman

LA Biomedical Research Institute
at Harbor-UCLA Medical Center

Harrison (Hap) Farber, MD Boston University School of Medicine

Adaani E. Frost, MD Baylor College of Medicine

Mardi Gomberg-Maitland, MD, MSc University of Chicago Medical Center

Maureen D. Mayes, MD, MPH The University of Texas Health Science Center at Houston

Evangelos D. Michelakis, MD University of Alberta

Harold I. Palevsky, MD University of Pennsylvania

Ivan M. Robbins, MD Vanderbilt University Medical Center

Richard M. Silver, MD Medical University of South Carolina

Table of Contents

Chairman's Note	p. 1
ENTELLIGENCE Steering Committee.....	p. 1
Interview: 2011 YIA Winner	p. 1
Interview: 2011 Mentor.....	p. 2
Interview: Steering Committee Member	p. 3
2012 Conferences	p. 3
2012-2013 YIA Program Timeline	p. 4

Kingman P. Strohl, MD, Dr. Najm's Mentor



Dr. Strohl is Professor of Physiology and Biophysics, Director of the Center for Sleep Disorders Research, and

Interim Chief, Pulmonary, Critical Care and Sleep Medicine at the Case Western Reserve University School of Medicine in Cleveland, Ohio. Dr. Strohl is the YIA Program mentor of Dr. Najm, profiled in this issue.

Spotlight: How did you hear about the YIA Award?

Dr. S: From Dr. Robert Schilz, who is part of our division and has been active in pulmonary arterial hypertension (PAH) clinical trials and patient groups. His enthusiasm encouraged my interest in PAH.

Spotlight: Describe the experience of mentoring Dr. Najm.

Dr. S: This is an extraordinary individual in his ability to work through problems. This particular model looks at acute pulmonary vascular response to a hypoxic exposure. The novelty of the model requires the ability to catheterize the

pulmonary artery in an anesthetized rat, control ventilation using a ventilator in an anesthetized, paralyzed rat, and rapidly change inspired oxygen concentrations to produce discrete amounts of hypoxemia in rats and monitor it with an oximeter, tracking oxygen levels at very high heart rates. I am amazed at his ability to adapt to the needs of this protocol and make it work successfully. Importantly, Dr. Najm has been able to attract helpers, as this project is intellectually interesting to other physicians.

Spotlight: What is the current status of Dr. Najm's YIA research?

Dr. S: He is in the third year of his fellowship and, due to the ENTELLIGENCE award, he's working about 75% full time on this research. We've been able to amplify this with technical assistance from a very experienced laboratory person.

Spotlight: Is there any particularly rewarding experience you have had while mentoring Dr. Najm?

Dr. S: I've been continually surprised, in a good way, in his ability to work as a young researcher. He's not distracted by much, he's a well-rounded scientist, and he's very good at designing experiments,

an ability he developed in an early timeframe. He understands that if there's a clear hypothesis and a clear answer to that hypothesis, then the pathway to the next step is revealed.

Spotlight: What is the strongest aspect of Dr. Najm's grant, from your experience?

Dr. S: One of the things that we can do now is precisely challenge a rat with hypoxia for a certain length of time. Dr. Najm had to discover the best length of time to obtain a measurable response without engaging systemic effects on blood pressure, cardiac output, and arrhythmias. That particular observation then permits this model, perhaps, to be applicable to a model of cardiopulmonary arrest without having the organ system damage that comes with chronic disease. So, this is how supporting bright clinicians in their early, formative years in a project can lead to insights in important research areas.

Spotlight: Overall, what do you think of the YIA Award?

Dr. S: It's very important in its ability to fulfill a fundamental need to fund worthy people in transition between training and beginning their careers as junior faculty members.

2011 YIA Ceremony



Dr. Najm and Dr. Strohl

YIA Program Fast Facts

- Year established: 2005
- Review cycles completed: 7
- Awards distributed: 38
- Letters of Intent: Received from 47 centers in 2011-2012
- YIA winners (2005-2012)
 - Presentations at scientific congresses: 25
 - Peer-reviewed manuscripts: 12
 - Published abstracts: 7
 - Book chapters: 1

Adaani E. Frost, MD, Steering Committee Member



Dr. Frost is Professor of Medicine and Director of the Pulmonary Hypertension Center at Baylor College of

Medicine in Houston, Texas.

Spotlight: How long have you been a member of the ENTELLIGENCE Steering Committee (Committee)?

Dr. F: I've been with the Committee since its inception in 2005. The Committee's goal has been to stimulate research, to advance the understanding of pulmonary hypertension (PH), and perhaps even more importantly, to excite young investigators and encourage them to enter the field of pulmonary vascular disease (PVD). Interestingly, we've seen a huge burgeoning in both the quality and the quantity of the applicants since the beginning of the program.

Spotlight: How has the field of PVD changed during that time?

Dr. F: Our understanding and our grasp of PH and disorders of the

pulmonary vascular bed have evolved tremendously in the past 5-10 years, with greatly improved benefits for patients. Importantly, what we've learned about idiopathic PH, which we consider a purely pulmonary vascular disorder, has been extrapolated to provide a better understanding of other diseases with a major pathology in the pulmonary vascular bed, including cardiac diseases, sickle cell anemia, and kidney disease.

Spotlight: How do you feel the ENTELLIGENCE program is equipped to manage these new findings and challenges?

Dr. F: The program has evolved fabulously well over the past 5 years. While the program originally concentrated on PH, the thought processes of our young investigators have advanced beyond PH to what goes wrong in the pulmonary vascular bed. The other part of the equation is how best to be able to support such innovative research. To that end, ENTELLIGENCE funding has stressed quality over quantity, with large-value grants that address what investigators need. ENTELLIGENCE was the first

to provide a standard, annual, young investigator-initiated research funding program, which other companies are now attempting to replicate, with varying levels of success.

Spotlight: What advice would you give to young applicants for the ENTELLIGENCE award?

Dr. F: The applicants that the Committee seriously considers have usually very carefully refined their questions to formulate a succinct hypothesis that can be reasonably addressed in the timeframe and with the funding of the award. Sometimes applicants are too broad-reaching in the scope of their application, and those applications invariably fall out in the early rounds. Additionally, this award is designed to not just expand the field of knowledge, but to bring bright, young investigators into the field of PVD. In other words, the program aims to provide people new to the field an entrée into a novel area, get them enthused about the pulmonary vascular bed, and let them get a toe in the door of research with a first shot at funding in a competitive world.

2012 PULMONARY VASCULAR DISEASE CONFERENCES

American Thoracic Society

ATS • 2012 International Conference
San Francisco, CA
May 18–23, 2012
<http://conference.thoracic.org/2012>

European Society of Cardiology

ESC Congress 2012
Munich, Germany
August 25–29, 2012
<http://www.escardio.org/congresses/esc-2012/Pages/welcome.aspx>

European Respiratory Society

ERS Annual Congress
Vienna, Austria
September 1–5, 2012
<http://www.ersnet.org/>

The American College of Chest Physicians

CHEST 2012
Atlanta, GA
October 20–25, 2012
<http://www.chestnet.org/accp/>

American Heart Association

Scientific Sessions 2012
November 3–7, 2012
Los Angeles, CA
<http://my.americanheart.org/professional/index.jsp>

Spotlight: Tell us about the experimental set-up for your grant.

Dr. N: We study the acute hypoxic arterial response in four genetically different strains of rats, including a recently-added NADPH oxidase knockout. We're also looking at chronic hypoxia.

Spotlight: How does acute or chronic hypoxia become involved in pulmonary vascular disease?

Dr. N: Our main hypothesis is that the acute hypoxic response is predictive of the chronic hypoxic response. We think that the acute response is a contraction of the pulmonary vasculature without much remodeling, while the chronic hypoxic response elicits remodeling, neovascularization, and other changes, ultimately leading to chronic pulmonary hypertension.

Spotlight: Is there a correlation that could be tested in humans?

Dr. N: That's exactly what we're trying to determine. We have data on the acute

hypoxic response and now we're starting to look at chronic hypoxia. We have submitted a Methods paper, describing how we do our experiments. Now we're running experiments to provide more data and develop a model that can hopefully predict the chronic response.

Spotlight: What is the biggest obstacle you've faced in conducting your YIA project thus far?

Dr. N: Since I'd never done rodent studies before, almost everything was an obstacle at first. However, with the grant from ENTELLIGENCE, I was able to obtain the equipment and supplies we needed, including more rats and medications, as well as a cardiac output monitor and a nitric oxide analyzer.

Spotlight: What has been the biggest reward from your YIA project?

Dr. N: Really, everything I've done so far has been rewarding, especially the experience of submitting our publication and the anticipation of more publications to come. I'm hoping to be

able to develop a new predictive model for chronic pulmonary hypertension and better describe the pathway for the relationship between acute and chronic hypoxia.

Spotlight: Will you be presenting the results of your YIA research in the near future?

Dr. N: I submitted an abstract to the American Thoracic Society and am waiting to hear back from them. I will be presenting a poster on the differences between two strains of rats, the WKY and Brown Norway. I'm hoping by then to have data on the third and fourth strains for another abstract.

Spotlight: What are your short- and long-term professional goals?

Dr. N: In the short-term, I plan to finish my fellowship and complete this study. In the long-term, I'm looking to expand the lab, continue the work I'm doing, and obtain more funding.

ENTELLIGENCE Young Investigator Award Program Timeline

	2012							2013
	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Jan
Letter of intent (LOI) submission		Jun 26 – Aug 13, 2012						
LOI review			Aug 16 – Sept 11, 2012					
Grant submission				Sept 19 – Nov 5, 2012				
Grant review						Nov 7 – Dec 3, 2012		
Selection meeting							Dec 10, 2012	
Notify applicants								Jan 10, 2013