

# Spotlight

The Newsletter of the ENTELLIGENCE™  
Young Investigators Award Program



Fall 2011 Vol. 1 Issue 1

## Chairman's Note



Welcome to the inaugural issue of the ENTELLIGENCE Spotlight! This newsletter is designed to highlight some of the important people and events in our Young Investigators Award (YIA) Program. Besides providing more information to the pulmonary vascular community, the Spotlight may also provide insight into the application process for interested researchers. Heading into its 7th year, the independent ENTELLIGENCE program, underwritten by generous support from Actelion, has provided grant awards

for pulmonary vascular disease research to 34 young investigators from around the United States and Canada, and has resulted in 23 presentations at scientific congresses, 8 peer-reviewed manuscripts, 6 published abstracts, and 1 book chapter.

In 2011, four more grants were awarded. In this issue, we interview a recent YIA winner, Dr. Yon K. Sung from Stanford University. Because the mentoring aspect of the research is so critical to overall success, we've also spoken with her mentor, Dr. Mark Nicolls, to provide his perspective on his mentoring role in this research project. Finally, we've reached out to a 2010 YIA winner, Dr. Angela V. Ghatnekar, from the Medical University of South Carolina.

I hope you enjoy reading about their activities and perspectives. On behalf of the ENTELLIGENCE Steering Committee, for those who applied for the 2012 YIA, I look forward to your submissions!

Warm regards,

## Angela V. Ghatnekar, PhD



Dr. Ghatnekar is a 2010 Young Investigators Award Program winner for her project, *The Role of GATA-6 in Pulmonary Arterial Hypertension*. Dr. Ghatnekar is a Postdoctoral Scholar at the Medical University of South Carolina in Charleston, South Carolina. Spotlight caught up with her recently for an update on her project.

**Spotlight:** How did you hear about the Award Program?

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## ENTELLIGENCE Steering Committee

**Ronald J. Oudiz, MD**  
*Program Chairman*

LA Biomedical Research Institute  
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**Harold I. Palevsky, MD**  
University of Pennsylvania

**Ivan M. Robbins, MD**  
Vanderbilt University Medical Center

**Richard M. Silver, MD**  
Medical University of South Carolina

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## Yon K. Sung, MD, 2011 YIA Winner



**Dr. Sung**, a Post Doctoral Fellow and Clinical Instructor in Medicine in the Pulmonary and Critical Care Medicine

Division at Stanford University School of Medicine in Palo Alto, California, is one of this year's ENTELLIGENCE Young Investigators Award Program winners. Spotlight asked Dr. Sung about her upcoming work on the winning project, titled *The Role of Antibodies in the Pathogenesis of Pulmonary Arterial Hypertension*.

**Spotlight:** How does the process of applying for the ENTELLIGENCE award compare with other grant applications?

**Dr. S:** The ENTELLIGENCE award process is very straightforward compared to other grant applications, which often require so many pieces of paper prior to submission that you can lose focus on what's important. I had applied for the ENTELLIGENCE award in 2010 and was turned down, but using the suggestions made by the grant committee, I was able to successfully revise my application for 2011.

**Spotlight:** What is the biggest reward associated with winning the ENTELLIGENCE award?

**Dr. S:** Receiving the ENTELLIGENCE award is very rewarding. The grant/research world is very competitive and it can be disappointing. I found it refreshing to see that my research is appreciated as important

and interesting. Additionally, as a clinician, it is very helpful to have the funds needed to support my learning new research skills and laboratory techniques.

**Spotlight:** What role will your mentor, Dr. Nicolls, play in your investigation?

**Dr. S:** Dr. Nicolls is the brainchild behind this project, which is based, in part, on his prior work. He's been an amazing advisor. When I generate data, we meet and talk about it. He helps me interpret the results and decide on the most appropriate next steps.

**Spotlight:** What are some of the areas that you will be studying?

**Dr. S:** Data show that the presence of auto-antibodies increases the risk of developing pulmonary

## Mark Nicolls, MD, Dr. Sung's Mentor



**Dr. Nicolls** is Associate Professor of Medicine and Chief, Division of Pulmonary and Critical Care Medicine at Stanford University School of Medicine in Palo Alto, California. Dr. Nicolls is the ENTELLIGENCE Young Investigator Award Program mentor of Yon K. Sung, MD, one of the 2011 winners.

**Project Title:** *The Role of Antibodies in the Pathogenesis of Pulmonary Arterial Hypertension*

research. This type of grant is very helpful and the Award Luncheon (for the 2011 ENTELLIGENCE winners) meant a lot to Yon.

**Spotlight:** What role do you anticipate playing in mentoring Dr. Sung during her investigations?

**Dr. N:** I see this as a mechanism for providing support to Yon. She is in my laboratory, I've helped her get onto a good project, and I'll eventually help her transition to independence.

**Spotlight:** What was the most rewarding experience you have had so far while mentoring Dr. Sung?

**Dr. N:** I've been incredibly impressed with Yon's writing ability – she is one of the best writers I've ever worked with. She has a very lettered academic background, I love her enthusiasm, and I've been very impressed with her very clear writing style, which is one of the most important qualities of any successful academician.

**Spotlight:** What is the strongest aspect of her grant, from your experience?

**Dr. N:** The mainstay of treating pulmonary arterial hypertension

**Spotlight:** What is the importance of the ENTELLIGENCE award for Dr. Sung?

**Dr. N:** She's a clinical investigator and it's very difficult now, with the state of NIH funding, to pursue biomedical disease research careers, especially in a clinically demanding field like pulmonary and critical care medicine. It can be hard to entice MDs, especially women who may be looking to raise a family, into

## Yon K. Sung, MD (continued from page 2)

arterial hypertension (PAH). We've hypothesized that the antibodies themselves can be pathogenic by attaching to the endothelium or some other part of the pulmonary vasculature and triggering other inflammatory mediators, which can cause vascular damage. We will be looking into the

roles of the antibodies themselves in this process.

**Spotlight:** What are your goals in relation to this project beyond the ENTELLIGENCE award itself?

**Dr. S:** Our group is always interested in how the immune system is involved

in the pathogenesis of PAH. My project addresses a small portion of that question. I've proposed 2 fairly straight-forward aims that are big, interesting, and important questions and I plan to continue working on them beyond this project.

## Mark Nicolls, MD (continued from page 2)

(PAH) focuses on vasodilation and we're coming at this from a different perspective, which is that inappropriate inflammation may be the cause of the vascular disease.

Yon has a strong animal model that's tied to this ongoing human study. It's a very translational model because it will tell us a lot about how antibodies may or may not lead to propagation of

the disease and how directive therapy might be most useful in preventing or treating active disease.

## 2012 PULMONARY VASCULAR DISEASE CONFERENCES

### American College of Cardiology

ACC.12  
Chicago, IL  
March 24–27, 2012  
<http://www.accscientificsession.org/Pages/home.aspx>

### International Society for Heart & Lung Transplantation

32nd Annual Meeting & Scientific Sessions  
Prague, Czech Republic  
April 18–21, 2012  
<http://www.ishlt.org/meetings/annualMeeting.asp>

### 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>

## Drs. Sung's and Nicolls' Research Group



Clockwise from bottom left: Yon Sung, MD; Xinguo Jiang, PhD; Joshua Sante, PhD; Rasa Tamosiuniene, MD, PhD; Mark Nicolls, MD; Yu-Chun Lin, PhD; Afzal Khan PhD; Missing: Wen Tian, PhD

## Steering Committee Update

*Thank You*

to our previous member,  
**Jocelyn Dupuis, MD, PhD**  
University of Montreal

*Welcome*

to our new member,  
**Evangelos D. Michelakis, MD**  
University of Alberta



**Dr. G:** Through my mentor, Richard M. Silver, MD, who helped me narrow down the genes I investigated and helped steer me towards possible GATA-6 mechanisms.

**Spotlight:** Did the results of your research match your hypothesis?

**Dr. G:** We are still getting physiological data, but yes, we found that the loss

of GATA-6 in endothelial cells leads to vascular remodeling in mice and the loss of human GATA-6 *in vitro* leads to changes in the genes responsible for endothelial cell activation and function.

**Spotlight:** Based on your results, what role do you think GATA-6 agonism plays in pulmonary arterial hypertension (PAH)?

**Dr. G:** It could signal an early change in the disease. There is some evidence from rat models and from human lung cells, which showed reduced GATA-6 in both remodeled and non-occluded vessels.

**Spotlight:** What was the biggest obstacle you faced in completing your project thus far?

**Dr. G:** The histology analysis, using double immunostaining for mice under hypoxic and normal conditions, was very time-consuming.

**Spotlight:** Where have you been able to publish and/or present the results of your project?

**Dr. G:** We have a manuscript in preparation, while waiting for more *in vivo* data, which will be submitted soon.

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

**Dr. G:** In the short-term, I plan to continue with this project and in the long-term, I want to teach and continue my research in pulmonary vascular disease.

## 2011 Award Winners



Yon K. Sung, MD (Stanford University)    Salah Najm, MD (Case Medical Center)    Marco Mura, MD, PhD (University of Toronto)    Jana Bagarova, PhD (Harvard Medical School)

## ENTELLIGENCE Young Investigator Award Program Timeline

	2011				2012		
	Sept	Oct	Nov	Dec	Jan	Feb	Mar
Letter of intent (LOI) submission	Sept 26 – Nov 14, 2011						
LOI review			Nov 16 – Dec 14, 2011				
Grant submission					Dec 19, 2011 – Feb 2, 2012		
Grant review						Feb 6 – 27, 2012	
Selection meeting							Mar 5, 2012
Notify applicants							Mar 26, 2012