

ISSF 2018
June 27, 2018
Opening Ceremony Remarks
Dr. José M. Torres, President
Illinois Mathematics and Science Academy, Aurora, Illinois

For the past 14 year, the International Student Science Fair has convened talented students and their amazing teachers and school leaders to share scientific knowledge and develop life long friendships. This year, we have 90 Students, 30 Teachers, and 32 Principals or school leaders representing 18 countries here in the USA! Five continents are reflected here in this room!

The theme for this year's ISSF is "to significantly influence life on our planet through cooperation and collaboration."

The phrase, "significantly influence life on our planet," has its origin in IMSA's philosophy coined by our founder, Leon Lederman, Nobel Prize Physicist, who said,

If we do what we know and feel is right, it is bound to happen that among our graduates there will be numbered scientists, engineers, and those who go on to earn degrees in law and letters. There are likely to be those few who create new intellectual worlds, cure a dreaded human ailment, or in some other way significantly influence life on our planet. Our philosophy will be to treat our charges as if each one is capable of this extraordinary achievement.

(look to your right--look to your left--) you are sitting next to someone who one day may be a scientist, engineer, lawyer, historian, teacher, doctor--a few of you might even be sitting next to someone who might cure cancer or some other terrible disease, create a new abstract world, exponentially improve life on earth; solve the problem of hunger, lack of water, or clean and affordable energy.

Lederman ended his statement on "enrolling in our possibility" by saying,

"Our philosophy will be to treat our charges as if each one is capable of this extraordinary achievement. Only one such product will make the effort and expense of this school for its entire duration worthwhile."

During this week, let's treat each other as if each one of us, each one of you, is capable of this extraordinary achievement! Agreed?

Good morning and welcome to the 14th Annual International Student Science Fair 2018 at the Illinois Mathematics and Science Academy in Aurora, IL! This is the first time in its 14 year-history that ISSF is held in the USA!

IMSA is proud to be your host! As our IMSA host students are saying, "We are looking forward to the adventures we'll have, the memories we'll make at ISSF. We're beyond excited to meet you!" We look forward to showing you the beautiful cities of Aurora and Chicago and its surrounding neighborhoods! And we're beyond excited to celebrate the bicentennial of Illinois with you!

And, we want you to experience some American hobbies and past-times, such as going to a baseball game, eating hamburgers at a barbecue, and seeing an outdoor movie!

Are you excited? Are you excited? Are you excited?

ISSF 2018 at IMSA is an official event of the IL Bicentennial Commission!

During ISSF 2018, we want to offer you opportunities to share your scientific research with us and with each other.

Our students and IMSA staff under the able leadership of Mary Collins, Project manager for ISSF, have worked hard to prepare for your stay with us. Mary, Steering Committee, and everyone who worked in preparation, or is working in support of ISSF, please stand. Please give them a huge hand. We appreciate all of your hard work! Thank you!

This week, we will address three of the world's grandest challenges that surpass national boundaries and cannot be solved by any one country acting alone. We will encourage and foster cooperation and collaboration among all of you: participating students and educators while addressing the global goals of **zero hunger, clean water and sanitation, and clean and affordable energy**.

These are three out of 17 UN Sustainable Development Goals. IMSA has adopted all 17 global goals, to not only teach STEM, but also to prepare our students for now and for their future. Ultimately, IMSA wants to solve or to contribute to the attainment of these goals.

The three goals of **zero hunger, clean water and sanitation, and clean and affordable energy** are designed to meet the following three challenges:

1. According to the United Nations, 795 million people in the world, or **one in nine** people are undernourished and not healthy enough to lead an active life. **Hunger** and malnutrition are the number one risk to health worldwide.
2. Fresh **water** sustains human life and is vital for human health. However, due to reduced economics or poor infrastructure, 40 percent of the global population is affected by water scarcity. 783 million people, **1 in 9 don't have access to clean water. 1 in 3 lack access to a toilet!**
3. Finally, **One in five people** globally lacks electricity to light their homes or conduct business. **Clean and affordable energy** is central to nearly every major challenge and opportunity the world faces today — jobs, security, climate change, and food production.

Let us join together through cooperation and collaboration to significantly influence life on our planet by working to meet the UN SDGs of Zero Hunger, Clean Water and Sanitation, and Affordable and Clean Energy! Are you with me?

This morning, four of our IMSA students will join me to welcome you at ISSF 2018 by playing and singing for you an original song in the tradition of the Chicago Blues! They call it the IMSA Blues!

As they come up to the stage, let me give you a crash course on the Chicago Blues and the Delta Blues and explain why I believe that the Blues serves as an apt metaphor for the work we want to accomplish here at ISSF 2018.

What does "blues" mean? It describes feelings of depression, gloom, and low spirits. The blues are grounded in a heavy heart and mournfulness. The Chicago Blues is a musical expression (with a strong electric guitar sound) rooted in the Delta Blues that came from the experience of slavery and the African American experience.

The Blues, as many other musical genres and artistic expressions do, provides a way of expressing experiences --"this is what I went through..."

The Blues provides guidance on what to do when times are tough. The Blues turns sadness into sweetness. The Blues reflect where you are coming from and what you can look toward in your future.

When one in nine go hungry every night and when one in five do not have electricity, what can they do? What should they do? They can sing the Blues!

BB King, one of the founders of the Chicago Blues said, "What is the blues? Life. Life as we live it today, life as we've lived it in the past, and life as I believe we will live it in the future."

sing:

It's been a long, long, day!

And I have the hunger blues.

It's been a long long day

And I have the thirsty blues.

So, with no electricity,

I'm gonna go for a walk without shoes.

Yea, I have the blues!

So the Blues is a narrative...a narrative of catastrophe lyrically expressed.

Ralph Ellison said, “The blues is an impulse to keep the painful details and episodes of a brutal experience alive in one's aching consciousness, to finger its jagged grain, and to transcend it, not by the consolation of philosophy but by squeezing from it a near-tragic, near-comic lyricism. As a form, the blues is an autobiographical chronicle of personal catastrophe expressed lyrically.”

You see friends,

The Blues...Doesn't allow **catastrophe** to have the last word!

The Blues...Doesn't allow **despair** to have the last word!

The Blues...Doesn't allow **dejection** to have the last word!

As in jazz, improvisation is part of the blues. For improvisation to be even possible, one must know the structure of music--One needs to know the rules to deviate from them. One needs to know the rules to break them!

To break out, to innovate, or to invent a new theory or a new solution to a problem, you have to know the rules you are breaking, the limits of the theory you are replacing, the failed solutions from the past that you are innovating.

If you're still asking yourself, what do the Blues have to do with ISSF 2018? I reply to you: **everything!**

In the face of world hunger, lack of clean water and sanitation, and lack of clean and affordable energy, we cannot give in to despair nor dejection.

Through cooperation and collaboration, through inquiry and innovation, through improvisation, we have high hopes. We hope--and, we commit to solving these intractable problems.

Thus, the Blues serves as a metaphor for what we are doing here at IMSA over the next 5 days during ISSF 2018.

And, now, we have the opportunity to listen to the IMSA Blues and on the screen you'll see "Faces of IMSA"- an exhibit that you can learn more about in our IRC-library.

In the blues tradition, our IMSA students sing the IMSA Blues--a song about bad news and bright hope. They sing, "I have a whole big set of problems and a million dollar future hanging out the door."

Please join me in welcoming: TJ Ptak, Renzo Ledesma, Ian Folwer, and Brandon Young-Eleazar as they play and sing in the tradition of the Chicago Blues--an original song called, The IMSA Blues!

Thank you!