

Kepler Space Institute (KSI) at ISDC-2017

By Bob Krone, President, Kepler Space Institute

The Kepler Space Institute continued its participation for the National Space Sciences' International Space Development Annual Conferences events with several sessions at the St. Louis ISDC May 2017 Conference. They were:



BOB KRONE

NATE SHUSHEREBA

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National Space Society
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EIS
PRINT THE FUTURE COMPETITION

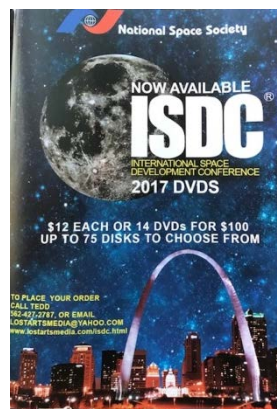
TRACK CHAIRS: BOB KRONE & NATE SHUSHEREBA

- 10:00 AM, Howard Bloom presents Dr. Louis Kauffman, "Recursive Distinctioning Theory"
- 10:35 AM, Print the Future Award Winner-Team Bengal Tigers
- 11:00 AM Howard Bloom presents Dr. Louis Kauffman, "Recursive Distinctioning Applications & Ramifications"
- 2:00 PM Ayse Oren, "Future Space -Architecture"
- 3:00 PM Print the Future Award Winner-Team H2's H2 Capsule
- 3:15 PM Print the Future Award Winner-Team ProtoFluidics
- 3:30 – 5:00 PM Panel: "Space Abundance for Humankind's Needs"

Living in Space Track, ISDC 2017, 28 May

This article documents the presentations of Space professionals in the Living in Space Track at the St. Louis ISDC-2017 Conference, which occurred on May 28 from 10:30 am to 5:00 pm. Subjects are introduced with the slides used to introduce the presentations.

The following page from the Summer *AdAstra Magazine* has instructions for ordering a DVD of any presentation made in the ISDC-2017 Conference.



1. We were proud to include three award-winning presentations from the **Enterprise in Space (EIS)** 3D Printing Competition. The mission of EIS is to motivate students everywhere to reach for the stars. EIS will design, engineer, build, launch, orbit, recover, tour, and exhibit a spacecraft named NSS Enterprise containing over 100 student experiments. The three award winners had designed 3D printing experiments capable of printing in the International Space Station or anywhere in Space.



Living in Space Track, ISDC 2017, 28 May



- **10:35 AM, Team Bengal Tigers' "Multi-Purpose Wrench: A Multifunctional tool to be Manufactured and Used in Space"**
- ... North Carolina State University PhD student Hasan Latif and Bangladesh University of Engineering & Technology Masters students Habibur Rahman, Anky Sultana, Shourav Ahmed and Tavila Sharmin designed a 3D printable tool that reduces the need for multiple different tools required for loosening and tightening various sizes of nuts, bolts and screws. See on Sketchfab.

2. **Dr. Joel Isaacson and Dr. Louis Kauffman**, the world's leading scientists for *Recursive Distinctioning* (aka "Nature's Cosmic Intelligence"), worked together for months prior to ISDC 2017 to create a presentation that provides the 2017 update description, theory, and future ramifications of the 1964 discovery by Joel Isaacson and its paradigm shift implications for science and humanity. Dr. Kauffman was on a world lecture tour in May 2017 and Dr. Isaacson was not able to present personally in St. Louis. Howard Bloom stepped up to make the presentation, which readers can find at:

67256.dl.dropboxusercontent.com/u/11067256/RecursiveDistinctioningMay2017.pdf

Howard Bloom has unique qualifications, as readers can see from the quotes in the following slides used to introduce him.

Howard Bloom - Some Quotes

* Joseph Chilton Pearce, author of *Evolution's End* and *The Crack in the Cosmic Egg*:
"I doubt there is a stronger intellect on the planet"

* Britain's Channel 4 TV:
"Bloom is the Darwin, Einstein, Newton and Freud of the 21st Century"



• Howard Bloom:
"We need a new horizon, a new sense of purpose, a new set of goals, a new frontier to move once again with might and majesty, with a sense of zest that makes life worth living, through the world in which we live. One of the most challenging frontiers left to us hangs above our heads."

* Joel D. Isaacson, PhD and Louis H Kauffman, PhD:
"Howard Bloom will bring Recursive Distinctioning to the public in his own unique creative style. We thank him for being our spokesman at the International Space Development Conference in St. Louis on May 28, 2017"

• Some Louis Kauffman notes

1. From: Louis H Kauffman <loukau@gmail.com>
Date: May 7, 2017 at 11:22:41 AM CDT
To: Joel Isaacson <isaacsonj@hotmail.com>
Subject: Re: Patterns in the expansion of a unitary square

Dear Joel,

We could call this a New Kind of Science: Using RD to put a microscope on primordial distinctions.
The VERY EARLY UNIVERSE - JUST THIS SIDE OF THE VOID.

2. Dear Bob and Joel, We are doing a trial run in this slide show with the notion that our subject really is about the emergence of distinctions and recursions and recursive distinctions "from nothing". That is, we are looking for the simplest possible processes that are clearly non-trivial. The 1DRD is a prize example for the concurrence of distinction and recursion. It is not the only example. The natural numbers are another, as is the binary system and one can go on and on. The real point is that if you go to nothing or almost nothing and come back, it is not a chaos of rules or some other unfortunate circumstance. There is simplicity and elegance in primordial beginnings.

Lou Kauffman, email, 8 Apr 2017

Louis H. Kauffman, PhD, Professor of Mathematics, University of Illinois, 26 April 2017, E-mail To Dr. Joel Isaacson

On Apr 16, 2017, at 10:19 AM, Louis H Kauffman <loukau@gmail.com> wrote:

Dear Folks,

I do not position RD at the bottom of some hierarchy.

I position the concept of distinction as most basic and systems that use it in a fundamental way such as RD, LOF, Boolean Algebra, Dirac Brackets, Mathematics, Cellular automata and so on as EXAMPLES of the concept. Some examples are whole fields of investigation. RD is such a field and a new one.

Best,

Lou



Howard Bloom had his personal contributions, which have been documented in the Conference DVD discs.

3. **Ms. Ayse Oren** is a brilliant, successful entrepreneur in Turkey. This was her first participation in a National Space Society Annual Conference. Her presentation traced the history of the influence of architecture and the environment on human progress as a model for future Space architecture.



Living in Space Track, ISDC 2017, 28 May

- 2:00 PM, **Ayse Oren**,
“Spacecraft Architecture in long Duration Space Travels”



“If we are going on a different direction in the course of the Homo sapiens evolution, we can do this with designs addressing not only our needs, but also our senses. Well-being of human can be achieved by creating environments supporting the cognitive and social stages in the evolution process.”



Ayşe Oren is a Turkish architect, designer and sculptor. She develops projects focusing on electronics and design, positioning human and human life in the center.



**And Today, May 28th, is Ayşe Oren's
Birthday
Happy Birthday, Ayse !!!**

An important Space future quote of Ayşe Oren at ISDC 2017 was:

Architecture is multitask science that takes abstract human needs into consideration as well. If we are going on a different direction in the course of the *Homo sapiens* evolution, we can do this with designs addressing not only our needs, but also our senses. The well-being of humanity can be achieved by creating environments supporting the cognitive and social stages in the evolution process.

4. The Team ProtoFluidics Print the Future Award Winner project will be an experiment in the ISS during the Fall of 2017.



Living in Space Track, ISDC 2017, 28 May



•3:00pm, *“Team ProtoFluidics: Streamlining Biomedical Research in Space”*

University of Pennsylvania undergraduate students Adam Zachar, Laura Gaoand and Jaimie Carlson designed 3D-printable modules that enable rapid prototyping of microfluidic experiments aboard the ISS

5. The H2 Capsule Print the Future Team created a product designed for Mars Explorers which will find expanding uses throughout society for permanently documenting events and thinking.



Living in Space Track, ISDC 2017, 28 May



3:15pm Team H2: *“H2 Capsule: Ritualizing Death for Future Mars Explorers”*

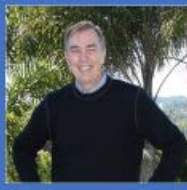
University of Pennsylvania Masters students Hyung Jin Yoo and Haimin Yie created a capsule that early Mars Explorers can use to store objects and media to convey their stories and personalities to future generations, as a means of confronting and accepting death as a possible outcome of their mission. [See on Sketchfab.](#) s

6. Distinguished Space leaders, teachers, and researchers were panel members for the two-hour Sunday afternoon panel titled *Space Abundance for Humankind's Needs*. The Bob Krone introduction for the panel was as follows:



Living in Space Track,
ISDC 2017, 28 May

PANEL: "Space Abundance for Humankind's Needs"



HOWARD BLOOM, MARK HOPKINS, CHRISTINE NOBBE, DAVID SCHRUNK, MIKE SNEAD, MADHU THANGAVELU

The Law of Space Abundance



DR. BOB KRONE

**Not a law from human
legislation, but a natural
law of the universe.**



Living in Space Track,
ISDC 2017, 28 May

- This ISDC 2017 *Space Abundance for Humankind's Needs* Panel is a major long-term research subject of The Kepler Space Institute.
- All of you, here in the audience today, are invited to contribute your ideas, statements, essays over the next two months to me at: BobKrone@aol.com.
- The condensed programs of these conferences always prevent in-depth discussion and sharing of ideas, so your future contributions will create valuable additions.
- The Six Space Professionals on the panel are each experts in one or more areas within "The Law of Space Abundance"

Our panel agenda today will be:

- Each Panel Member will begin with a short introduction of the focus they have selected.
- Then a full hour of open discussion & Q and A from the audience. The presentations at this panel will become an article in the Fall 2017 *Journal of Space Philosophy* issue.

7. **Dr. Howard Bloom.** See the remarkable quotes describing Howard Bloom, above, in this article.

8. **Mark Hopkins.** Mark Hopkins currently serves as Chairman of the Executive Committee (the Chief Executive Officer) of the National Space Society. He has served as an officer in one position or other for 35 of the last 41 years. He has received numerous degrees in economics from Cal Tech and Harvard. He has written numerous space economics articles.

Hopkins initiated the merger negotiations and conducted most of the L-5 side of the discussions that led to the creation of the National Space Society from the L-5 Society and the NSI in 1987.



Living in Space Track, ISDC 2017, 28 May

• 3:30 – 5:00 PM, PANEL, MARK HOPKINS,
Chairman, Executive Committee
National Space Society



Subject: Space Resources and a Hopeful Prosperous Future For All

This presentation concerns space resources in general rather than a particular resource. It argues that the large scale utilization of these resources is almost inevitable and that doing so will lead to a prosperous hopeful future.

Hopkins was participating in his thirty-sixth Annual ISDC Conference as an original founder of the National Space Society and its Chief Executive Officer. Attendees always seek his views. During this panel, he was asked to give his thoughts about the progress of Space exploration, development, and human settlement. His answer was:


I wish it were going faster, but we are indeed winning, and along with those of us in the Space advocacy community, all of humanity.

9. **David Schrunk, MD.** David Schrunk is an aerospace engineer and medical doctor with board certifications in the medical specialties of nuclear medicine and diagnostic radiology. Dr. Schrunk retired from the practice of medicine in 1994, and now dedicates his time to his two passions: the future exploration and human development of the Moon and the science of laws. He has given presentations and presented scientific papers on lunar development tools and on the science of laws, and he is a co-author of the book *The Moon: Resources, Future Development, and Colonization*, published by Wiley-Praxis in 1999. The second edition of “The Moonbook” was released by Springer-Praxis in 2007. Dr. Schrunk founded the Science of Laws Institute in 1995, and he authored the book, *The End of Chaos: Quality Laws and the Ascendancy of Democracy*, published in 2005 by the Quality of Laws Press. Dr. Schrunk lives in Poway, California.



Living in Space Track, ISDC 2017, 28 May

3:30 – 5:00 PM, PANEL, BOB KRONE, MODERATOR
"Space Abundance for Humankind's Needs"



HOWARD BLOOM, MARK HOPKINS, CHRISTINE NOBBE, DAVID SCHRUNK, MIKE SNEAD, MADHU THANGAVELU

David Schrunk's presentation titled: *Silicon and Sunlight: Key Resources for the Beginning of the Spacefaring Age* included:

A milestone in space development will occur on the Moon sometime in the coming decade. A robotic processing and fabrication device will be landed on the Moon and directed to create the first functioning solar cell from lunar regolith material (e.g., silicon). This milestone demonstration of the use of space materials to generate electricity from sunlight will inaugurate the Spacefaring Age, in which human technological expertise is linked to the unlimited resources of space. Human activities in space will grow exponentially from that point forward; we will explore the solar system on a grand scale, create permanent homes in space, and open endless frontiers.

10. **Mike Snead.** Mike Snead presented a sophisticated video concept for how America can become a commercial spacefaring nation. It included a LEO 100-person habitat which can be assembled with eight SLS cargo missions, and pressurized Space hangars for in-orbit maintenance and servicing for Earth or the Moon.

- 3:30 – 5:00 PM, PANEL, **MIKE SNEAD**

Mike Sned is a professional engineer and president of the Spacefaring Institute. He is an associate fellow of the American Institute of Aeronautics and Astronautics. He will speak on building the spacefaring logistics infrastructure needed to open the central solar system to commercial spacefaring operations with focus on space solar power.



11. Madhu Thangavelu



Living in Space Track, ISDC 2017, 28 May

- 3:30 – 5:00 PM, PANEL
“Space Abundance for Humankind’s Needs”

MADHU THANGAVELU

PRIMARY SUBJECT: “Space and Spirituality”

ABOUT MADHU:



All great civilizations have a spiritual background, upon which science and technology were nurtured and thrived. To present science and scientific process as the pinnacle of human thought may be hollow without due appreciation of history. One way to dodge the question is seen in Templeton award winner Martin Rees’s response to the pointed question from Ian Sample: “What do you gain from churchgoing, considering you don’t

subscribe to religious dogma or believe in God?” Rees’s response was, “Well, I think it’s a common traditional ritual which one participates in as part of one’s culture.”

Best, Madhu

Concluding Comments by Bob Krone

Kepler Space Institute (KSI) leadership and members are proud to have sponsored the above professional contributions to the 2017 International Space Development Conference at St. Louis. We thank our Vice President for Public Relations, Naté Sushereba, for all the planning and coordination she did in preparation, followed by her working from dawn to end-of-dinner every day during the Conference. Things progressed smoothly in the normal chaotic environment of conferences due to her attention to every detail. And we thank all the professionals shown above for their time and creative contributions. The primary reasons that the National Space Society ISDC conferences have attracted people for the past thirty-six years are the networking, updating, and learning that always occur. And all of those contributing to these KSI sessions volunteered their time and knowledge. Thanks and congratulations to you all.

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About the Author: Dr. Bob Krone is President of Kepler Space Institute (www.keplerspaceinstitute.com). He is an Emeritus Professor of Systems Management at the University of Southern California; has been the principal sponsor for PhD, DBA, and Master’s Degree Program candidates for forty years; and is a USAF Colonel (Ret).



Editor’s Notes: Kepler Space Institute continues to make significant contributions to ISDC, and will no doubt continue to do so. This illustrates both the breadth and the depth of the expertise we can offer. *Gordon Arthur.*