



**Linda Hall Library**  
SCIENCE, ENGINEERING & TECHNOLOGY  
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**News Release**

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**From Perplexing Puzzles to Redirected Asteroids:  
The Linda Hall Library Announces Spring 2015 Programming**

**Library opens new geometric puzzle exhibition — *Ingenious Objects* — on January 30 with interlocking, exotic wood puzzles from KC-Native Dr. Norton Starr's private collection**

**New in 2015: Library introduces new Science Matters: Second Saturday Conversations; Free series opens to the public beginning Saturday, Feb. 14, with Dr. Norton Starr**

***Spring 2015 Lecture Series invites public to "To Boldly Go" from the depth of the ocean floor to the moon's orbit with leading national experts from Mayo Clinic to NASA***

**KANSAS CITY, MO.** (January 28, 2015) — As the world's foremost independently funded research library devoted to science, engineering and technology, the Library kicks off 2015 with *Ingenious Objects*, a new exhibition of geometric puzzles from the collection of Kansas City native Dr. Norton Starr.

Open free to the public January 30 through May 31, the new exhibition will feature rare, geometric puzzles crafted by Stewart Coffin, recognized as the world's best designer of polyhedral interlocking puzzles. Fashioned from exotic woods, the puzzles are works of art assembled from interlocking pieces fitting together in fascinating, complex ways. The exhibition will feature 30 puzzles from the private collection of Dr. Norton Starr, Brian E. Boyle Professor Emeritus of Mathematics and Computer Science at Amherst College.

The puzzles are made from exotic woods including cocobolo, bubinga, breadnut, rosewood, ebony, beech, satinwood, zebrawood, tulipwood, paroba rosa, oak and blue maho. The exhibit will include landmark mathematics books from the Library's History of Science Collection and patent drawings of world-famous puzzles.

Dr. Starr' interest in puzzles began in 1966 when he first saw a puzzle by Coffin. Since then, Dr. Starr has visited Coffin at his workshop in Lincoln, Mass, noticing Coffin's impressive ability to visualize three-dimensional designs. First attracted by the sheer beauty of the assembled puzzles, Starr admires the puzzles for their symmetry, beautiful wood and difficulty of assembly, as well as the variety of designs possible among interlocking solids.

**Spring Lectures & Second Saturday Conversations**

Alongside the puzzle exhibition, the Linda Hall Library's Spring Lecture Series, *To Boldly Go*, will explore science and exploration in extreme environments. New this spring, the Library will be unveiling *Science Matters: Second Saturday Conversations*, a series of interactive, informal lectures held on the second Saturday of each month from February through



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May 2015. The conversations will feature enlightening conversations with notable science technology and engineering speakers.

Each Linda Hall Library Spring Lecture Series event is free and open to the public on a first-come, first-served basis. Online registration at <http://www.lindahall.org/events/> and e-tickets are required. The Library is located at 5109 Cherry Street in Kansas City. Parking is free in Library parking lots and alongside the west side of Holmes Street between 51<sup>st</sup> and 52<sup>nd</sup> Streets. Make plans now to attend one or more of the following lectures and conversations (more details on following pages):

## To Boldly Go: Science & Exploration in Extreme Environments Spring Lecture Series

(All lectures will be from at 7 to 8 p.m. at the Linda Hall Library)

- **Thursday, March 19 — *Ocean Exploration*** with David Gallo, oceanographer and Director of Special Projects at the Woods Hole Oceanographic Institution.
- **Wednesday, April 1 — *Too Much Information: Identity and Privacy in the Digital Age*** with Dr. Edward Felten, Professor of Computer Science and Public Affairs at Princeton University. Dr. Felten will speak on software and Internet security, electronic voting, cybersecurity policy and technology for government transparency.
- **Tuesday, April 21 — *Everest Expedition*** with Conrad Anker, one of the world's top climbers and research partner on high-altitude human physiology, and Dr. Bruce Johnson, Professor of Medicine and Physiology at the Mayo Clinic.
- **Thursday, May 14 — *NASA's Asteroid Redirect Mission*** with Steve Stich, Director of Exploration Integration and Science at NASA's Johnson Space Center.

## Science Matters: Second Saturday Conversations

(All conversations will be from 11 a.m. to noon in the Linda Hall Library Auditorium)

- **Saturday, February 14 — *Ingenious Objects: Geometric Puzzles by Stewart Coffin*** with Dr. Norton Starr, Brian E. Boyle Professor Emeritus of Mathematics and Computer Science, Amherst College.
- **Saturday, March 14 — *Bitcoin: What Is It and Why Should I Care?*** with Bryan Ballad, veteran Kansas City IT professional, and Founder and Chief Technology Officer of Netsolus.
- **Saturday, April 11 — *Sabermetrics and the Empirical Analysis of Baseball*** with Dr. Daniel Mack, the Kansas City Royal's Director of Baseball Analytics for Research Science.
- **Saturday, May 9 — *A Just Machine: Alan Turing's Computer*** with Dr. Perry Alexander, AT&T Distinguished Professor of Electrical and Computer Science, and Director of the Information and Telecommunication Technology Center at the University of Kansas.

*\*Please note that the Main Reading Room and the History of Science Center are closed on Saturdays. Reference, research, and circulation services are not available on Second Saturdays.\**



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**Below is a listing of all Linda Hall Library Spring Programming in order by date of occurrence:**

Saturday, February 14, (11 a.m. to noon, Linda Hall Library)

***Ingenious Objects: Geometric Puzzles***

E-tickets are available [here](#).

Learn more about the world of geometric puzzles on display in the Library's exhibition hall opening on January 30. Fashioned from exotic woods, the puzzles are works of art assembled from interlocking pieces fitting together in fascinating, complex ways. Kansas City native **Dr. Norton Starr** will discuss his private collection and have puzzles available for hands-on activities. Named a full professor at Amherst in 1976, Dr. Starr taught courses in advanced calculus, complex variables, probability, statistics, and data analysis, among other subjects. He has a Ph.D. in mathematics from MIT.

Saturday, March 14, (11 a.m. to noon, Linda Hall Library)

***Bitcoin: What Is It and Why Should I Care?***

E-tickets are available [here](#).

Increasingly, well-known vendors such as Overstock, Dell, Expedia, and DISH are accepting Bitcoin as payment. **Bryan Ballard**, an 18-year Kansas City IT veteran, will explain what the online currency is and discuss its future. Ballard's company, Netsolus, has built a niche in hosting custom gear for virtual currency. Bitcoin customers represent 75 percent of the revenue for the Kansas City-based service provider, which is now building custom data centers for large Bitcoin mining customers.

Thursday, March 19, (7 to 8 p.m., Linda Hall Library)

***Ocean Exploration***

E-tickets are available [here](#).

Are we taking the oceans for granted? **David Gallo**, oceanographer and Director of Special Projects at the Woods Hole Oceanographic Institution, thinks we are, and he is becoming increasingly outspoken about the relationship between humanity and the sea. He feels strongly that we need to recognize the oceans' critical role in providing the air we breathe, the water we drink, and the food we eat. Dr. Gallo is personally committed to conveying the excitement and importance of ocean exploration to the public-at-large.

For more than 25 years, Dr. Gallo has been at the forefront of ocean exploration, participating in and being witness to the development of new technologies and scientific discoveries that shape our view of planet earth. He has been described by TED (Technology, Entertainment & Design) Conferences as "an enthusiastic ambassador between the sea and those of us on dry land." With more than 8 million views, his TED presentation "Underwater Astonishments" is among the top three TED Talks viewed to date.

Dr. Gallo has participated in expeditions to all of the world's oceans and was one of the first scientists to use a combination of robots and submarines to explore the deep seafloor. Most recently, he co-led an expedition to create the first detailed and comprehensive map of the RMS *Titanic* and he co-led the successful international effort to locate the remains of Air France flight 447. He is presently involved in planning an international expedition to locate and document the wreckage of Ernest Shackleton's ship, HMS *Endurance*. Dr. Gallo received bachelors and masters degrees in geological science from the State University of New York at Albany and a Ph.D. in oceanography from the University of Rhode Island.

Wednesday, April 1, (7 to 8 p.m., Linda Hall Library)

***Too Much Information: Identity and Privacy in the Digital Age***

E-tickets are available [here](#).

From attacks against retail merchants and banks to the revelations about the broad scope of government surveillance around the world, the assurance of privacy and the safety of personal information are increasingly difficult online. Even popular social



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media outlets such as Facebook, where people publish detailed information about their lives, are vulnerable to security breaches and the mishandling of personal data. This talk will examine the technical tradeoffs and the future of information security policies in the Digital Age.

**Dr. Edward Felten** is the Robert E. Kahn Professor of Computer Science and Public Affairs at Princeton University and Director of Princeton's Center for Information Technology Policy. His research interests include computer security and privacy, and public policy issues relating to information technology. Specific topics include software security, Internet security, electronic voting, and cybersecurity policy. He often blogs about technology and policy at "Freedom to Tinker." Dr. Felten received a B.S. in physics at Caltech, and an M.S. and Ph.D. in computer science and engineering at the University of Washington.

Saturday, April 11, (11 a.m. to Noon, Linda Hall Library)

***Sabermetrics and the Empirical Analysis of Baseball***

E-tickets are available [here](#).

Sabermetrics, the empirical analysis of baseball statistics, has become an integral part of player development in Major League Baseball. The book and film *Moneyball* introduced sabermetrics to the general public but what, exactly, do WAR, OPS, and all the new stats really mean? Find out from Kansas City Royals front office executive **Dr. Daniel Mack**, who is entering his third season with the team as Director of Baseball Analytics. He has a BS in computer science from Notre Dame, a MS in computer science from Columbia, and a Ph.D. in computer science from Vanderbilt University.

Tuesday, April 21 (7 to 8 p.m., Linda Hall Library)

***Everest Expedition***

E-tickets are available [here](#).

What do extreme athletes who can summit the peaks of Mt. Everest have in common with people with heart failure? The answer is: more than you might think. Researchers at Mayo Clinic say climbers or anyone exposed to extreme altitudes suffer some of the same physiological changes as heart failure patients. In 2012, they teamed up with National Geographic, The North Face, Montana State University, and a group of extreme climbers to ascend the slopes of that mountain. One of their goals: to discover more about the body as it responds to high altitude in hopes of developing new ways to treat disease.

**Conrad Anker's** specialty, simply put, is climbing the most technically challenging terrain in the world. This quest has taken him from the mountains of Alaska and Antarctica to the big walls of Patagonia and Baffin Island and the massive peaks of the Himalaya. On Everest in 1999, he was first to locate and identify the remains of George Mallory, a pioneering climber lost in 1924. In May 2012, Conrad summited Everest for the third time, leading an educational and research-based expedition to the Southeast Ridge with The North Face, National Geographic, The Mayo Clinic, and Montana State University. That summit came without supplemental oxygen, a distinction claimed only by the world's top climbers. Team members measured the summit, conducted groundbreaking geological research, and worked with the Mayo Clinic to conduct tests on high-altitude human physiology.

**Dr. Bruce Johnson** is Professor of Medicine and Physiology at the Mayo Clinic. His research interests center on heart and lung interactions under various conditions (e.g., hypoxia, high altitude, exercise) and in various populations (e.g., heart failure, health, lung disease, aging). More specifically, he is interested in how cardiovascular function influences breathing and how breathing may in turn influence cardiovascular function. In 2012, he led the science team from Mayo Clinic on their Everest expedition. The team spent six weeks at base camp, elevation 17,500 feet. By studying the climbers, six of whom reached the summit, the researchers gained insight into heart failure, lung disease and sleep apnea—all conditions related to a low-oxygen, or hypoxic, state. A better understanding of such changes could eventually lead to drugs that could artificially induce acclimatization and help with heart and lung diseases that limit oxygen levels in the body. He has a B.A. in biology from Pacific Lutheran University, an M.S. in exercise/ cardiopulmonary physiology from St. Cloud State University, and a Ph.D. in respiratory physiology and biodynamics from the University of Wisconsin, Madison.



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Saturday, May 9 (11 a.m. to Noon, Linda Hall Library)

***A Just Machine: Alan Turing's Computer***

E-tickets are available [here](#).

Alan Turing is largely credited for developing stored program computing, using one general-purpose machine to execute multiple sets of instructions that solve many different problems. Years before the first physical computer, Turing's A-Machine embodied everything we know about modern computers. What motivated Turing? What were the problems he was trying to solve? Was his creation just a machine, or A Just Machine?

**Dr. Perry Alexander** is the AT&T Distinguished Professor of Electrical and Computer Science and Director of the Information and Telecommunication Technology Center at the University of Kansas. His research and teaching interests include formal verification and synthesis, trusted systems, and programming language semantics.

Thursday, May 14, (7 to 8 p.m., Linda Hall Library)

***NASA's Asteroid Redirect Mission***

E-tickets are available [here](#).

Is this NASA's most daring mission yet? Called the Asteroid Redirect Mission, NASA's plan involves capturing a relatively small asteroid using a robotic spacecraft and placing it into orbit around the moon where astronauts can visit the asteroid in 2025. While this may sound like a very specific kind of mission, the technology and skills used to get astronauts safely to and from the asteroid will help NASA get to the Red Planet. Just as the Mercury and Gemini projects helped the Apollo missions reach the moon, the Asteroid Redirect Mission will pave the way for a trip to Mars, expected to take place sometime in the 2030s. NASA has identified multiple candidate asteroids and continues the search for one that could be redirected to near the moon. After an asteroid mass is captured, the spacecraft will redirect it to a stable orbit around the moon called a "Distant Retrograde Orbit." NASA will choose an asteroid mass for capture with a size and mass that cannot harm the Earth, because it would burn up in the atmosphere. Astronauts aboard NASA's new Orion spacecraft will explore the asteroid, testing the capabilities needed for a crewed mission to Mars.

**Steve Stich** is Director of Exploration Integration and Science at NASA's Johnson Space Center where he is responsible for integration of all exploration activities including mission planning, extravehicular activity, and other exploration systems development, planetary science, advanced technologies, and strategic partnerships. Additionally, Mr. Stich leads a NASA team developing the mission concept for the crewed segment of the Asteroid Redirect Mission. He has 27 years of human spaceflight experience serving in multiple leadership positions at the Johnson Space Center, including Space Shuttle ascent/entry and orbit Flight Director for numerous missions and as the Deputy Manager of the NASA White Sands Test Facility. He is a graduate of Texas A&M University with a B.S. in aerospace engineering.

**About the Linda Hall Library**

The Linda Hall Library is the world's foremost independently funded research library devoted to science, engineering and technology. A not-for-profit institution, the Library is open to the public free of charge. Since 1946, scholars, researchers, academic institutions and businesses around the world have accessed the Linda Hall Library's collections to learn, investigate, invent, explore and increase knowledge. Hundreds of people of all ages attend the Library's public programs each year to expand their awareness and understanding of science and technology. The 14 acres surrounding the Linda Hall Library are maintained as an urban arboretum open to the public for education and enjoyment. To learn more, visit [www.lindahall.org](http://www.lindahall.org).

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