THE LAND DIVIDED, THE WORLD UNITED: BUILDING THE PANAMA CANAL

Exhibition Opening April 8, 2014
Anniversaries offer the opportunity to look backward and forward in time; the chance to pivot first one way and then the other and in doing so, derive a more knowing sense of where we are. The year 2014 offers the Linda Hall Library’s community intriguing opportunities to gain such perspective.

This year we mark the centennial of the opening of the Panama Canal, one of the greatest engineering accomplishments of modern times. The Canal opened on August 15, 1914, thus expediting trans-oceanic travel and transforming international trade and diplomatic relations. Our year-long examination of the decades of canal building in unforgiving circumstances informs the resulting global transformation and grounds the contemporary reality of today’s Panama Canal with historical context. All of this and more will be the subject of The Land Divided, The World United: Building the Panama Canal, a collection of events that will include a major exhibition and lecture series.

Another opportunity to adjust our bearings will arrive when Harvard professor John Edward Huth discusses the ways in which humans once traveled vast distances using only environmental clues and simple instruments, and asks what is lost when modern technology substitutes for our innate capacity to find our way. The author of The Lost Art of Finding Our Way, Professor Huth will help us understand the challenges faced by voyagers finding their ways across long distances using only environmental clues and some rudimentary tools when he delivers the 12th Paul D. Bartlett, Sr. Lecture on May 13, 2014.

The Linda Hall Library is the ideal place to pause, look, and listen to the many changes in our world and our lives wrought by science, engineering, and technology. We look forward to your visit.

On August 15, 1914, the Panama Canal opened after decades of construction by French and American engineers. Inspired by its centennial, the dramatic series of events leading up to the Canal’s grand opening will be retold in the Library’s exhibition, The Land Divided, The World United: Building the Panama Canal.

The Linda Hall Library is uniquely positioned to offer a one-of-a-kind experience through the public display of the Canal’s construction history from the perspective of Office Engineer A.B. Nichols, one of the first American engineers to arrive at the construction site and remain until the project’s completion.

Aurin Bugbee Nichols (1845-1929), born in Charleton, Massachusetts, served as Office Engineer during the building of the Panama Canal. A graduate of Brown University, Nichols worked as a railroad engineer in the northeast before joining the Isthmian Canal Commission in Panama in 1904.

As a tribute to modern society’s ability to achieve the unachievable, reach unreachable heights, and scorn the notion of “it can’t be done,” the American Society of Civil Engineers sought nominations from across the globe for the Seven Wonders of the Modern World. The Panama Canal was included on this exclusive list of achievements along with the Empire State Building, the Eiffel Tower, and the Golden Gate Bridge. The Canal’s centennial offers an opportunity to look back at the engineering and
other formidable challenges faced by the its builders. Those challenges were economic, sociologic, logistical, and epidemiological, and any one of them posed obstacles that would have been insurmountable by less-determined men.

Visitors to the exhibition will explore the dynamic period of canal building in the early 20th century through the eyes of A.B. Nichols who lived and worked in the Canal Zone from 1904 until the Panama Canal opened. The Nichols Collection contains 1,200 original photographic prints, 1,300 blueprints and schematics, 100 maps, 250 letters and memoranda, and other items including diaries, postcards, news clippings, and hand-colored sketches and drawings documenting the project’s triumphs and tragedies. They also depict life in the Canal Zone for the personnel living, working, and struggling to survive there. The exhibition will explain the engineering challenges posed by geography, topography, and climate; the epidemiology of the Canal Zone as yellow fever and malaria felled thousands of men, women, and children; and the social stratification produced by disparate populations living and working together. Railroads played a crucial role in building the Canal, and their history, beginning in the 1850s, will be an integral part of the exhibition.

The second will be a functioning scale model of a working lock constructed by civil engineering students from the UMKC School of Computing and Engineering. This model will be erected on the Library’s front lawn and will offer visitors the opportunity to operate the lock gates and move water and model ships between the chambers.

The Land Divided, The World United: Building the Panama Canal opens Tuesday, April 8 at 6:00 p.m., followed by a lecture at 7:00 p.m. by Alberto Alemán Zubieta, former CEO of the Panama Canal Authority. Exhibition galleries are open Monday through Friday from 9:00 a.m. to 5:00 p.m. and the second Saturday of each month from 10:00 a.m. to 2:00 p.m. Admission and parking are free.

Curated by Bruce Bradley, Donna Swischer, and Eric Ward, the exhibition will showcase items from the Nichols Collection many of which have not been seen by the public in nearly 80 years, along with rare books from the Library’s History of Science Collection, and two scale models. The first will be a scale model of the Gatun Locks.

Special thanks to the members of the Panama Canal Exhibition Advisory Committee: Enrique Chaves Carballo, M.D., University of Kansas Medical Center; James Flynn, M.D., Research Medical Center (retired); Dee Harris, Exhibitions Specialist, National Archives and Records Administration, Kansas City; Michael Haverty, Non-Executive Chairman, Kansas City Southern Railway; Dr. David Rogers, Karl F. Hasselmann Chair in Geological Engineering, Missouri University of Science and Technology; Christine Taft, Research Specialist, Linda Hall Library (retired); Dr. Kevin Truman, Dean, School of Computing and Engineering, University of Missouri-Kansas City; and Alan Wrenn, retired civil engineer, California Department of Transportation.

Workers loading rocks with a steam shovel at Culebra Cut in 1911. Slicing through the continent at Culebra was the most significant engineering challenge of building the Canal.

Construction workers atop the Gatun lock gates at the Atlantic entrance to the Canal.

Connect with Linda Hall Library online with Vimeo, Tumblr, Flickr, Facebook, and Twitter.
Spring Programs

Thursday, March 13, 2014 at 7:00 p.m.
The Art and Science of Film Animation
Jason Schleifer, Head of Character Animation
DreamWorks Animation

A behind-the-scenes look at the artistry, computer science, and technical innovations of the latest Dreamworks animated feature, Mr. Peabody and Sherman. Presented by Jason Schleifer, Head of Character Animation on Mr. Peabody and Sherman and Megamind.

Tuesday, March 18, 2014 at 7:00 p.m.
The Future of the Mind: The Scientific Quest to Understand, Enhance, and Empower the Mind
Michio Kaku, Henry Semat Professor of Theoretical Physics, City College of New York

Telepathy. Telekinesis. Mind reading. Photographing a dream. Uploading memories. Mentally controlled robots. A Brain Net to replace the internet. These feats, once considered science fiction, have now been achieved in the laboratory, as documented in The Future of the Mind.

A Rainy Day Books author event co-sponsored by the Linda Hall Library. Copies of The Future of the Mind will be available for purchase and signing.

Tuesday, April 8, 2014 at 7:00 p.m.
The Panama Canal Expansion
Alberto Alemán Zubieta, former CEO
Panama Canal Authority, 1996-2012

In 2007, the Panama Canal Authority began an ambitious $5 billion expansion project to add a third set of locks, an undertaking nearly equal in scope to the original building of the Canal. Alberto Alemán provides an insider’s view of the massive engineering project scheduled for completion in 2015.

Thursday, May 1, 2014 at 7:00 p.m.
Shaping Humanity: How Science, Art, and Imagination Help Us Understand Our Origins
John Gurche, Paleoartist
A University of Kansas College of Arts and Sciences event co-sponsored and hosted by the Linda Hall Library

The KU College of Liberal Arts & Sciences will bestow its Distinguished Alumni Award on paleoartist John Gurche whose paintings, sculptures, and sketches of prehistoric life have appeared in museums throughout the world and in numerous scientific publications. Gurche is widely known for his technical contributions to Steven Spielberg’s Jurassic Park.

Thursday, May 8, 2014 at 7:00 p.m.
Rails Across Panama: From ‘49ers to 40-foot Containers
Peter Hansen, editor, Railroad History; and Michael Haverty, Non-Executive Chairman
Kansas City Southern Railway

Before the Panama Canal, there was the Panama Railroad—and the Canal could not have been built without it. Mile for mile, it may be the most historic railroad on earth: A shortcut for gold-seeking ‘49ers; the means by which California gold went east; and a key player in the Panamanian revolution of 1903, which set the stage for American involvement with the Canal. Reborn in the 21st century as the Panama Canal Railway Company, it is a joint venture between Kansas City Southern Railway and Mi-Jack Products, North America’s leading intermodal terminal operator.

Lectures are free and open to the public; however, seating is limited and e-tickets are required. The e-ticket registration form is available at www.lindahall.org/events. If you have questions, please email events@lindahall.org or call 816.926.8772 to leave a message.
Long before GPS, Google Earth, and global transit, humans traveled vast distances using only environmental clues and simple instruments. John Huth asks what is lost when modern technology substitutes for our innate capacity to find our way. Weaving together astronomy, meteorology, oceanography, and ethnography, Dr. Huth puts us in the shoes, ships, and sleds of early navigators for whom paying close attention to the environment around them was, quite literally, a matter of life and death.

The Linda Hall Library Bartlett Lecture is presented in association with the Harvard-Radcliffe Club of Kansas City, the Princeton Alumni Association of Greater Kansas City, and the Yale Club of Kansas City. Made possible through generous support from Marilyn and Jim Hebenstreit and Mr. and Mrs. Paul D. Bartlett, Jr.

Tuesday, May 20, 2014 at 7:00 p.m.
Big-Ship Ready: The Post-Panamax Era
Geraldine Knatz
Executive Director (retired) Port of Los Angeles

The current Panama Canal expansion project is a game-changer: the immense post-Panamax containerships will radically alter global trade routes. Are we ready for a new definition of “big?” Dr. Knatz discusses the state of readiness of U.S. ports, the competitive issues between the east and west coasts, what is likely to happen, and why.

Thursday, June 12, 2014 at 7:00 p.m.
Saving American Orchids
Dennis Whigham, Senior Botanist
Smithsonian Environmental Research Center

With nearly 60 percent of the 250 orchids native to North America considered threatened or endangered, botanist Dennis Whigham and his team have established the North American Orchid Conservation Center, the first organization to integrate native orchid ecology, conservation, and education.

In September, a delegation of Egyptian library directors and information specialists on a coast-to-coast tour of American academic and research libraries visited the Linda Hall Library. While here, they toured the Library and participated in a discussion with members of the Library's senior management about the Library's role in the community, and its contribution to public education in the STEM fields. The visit was made possible through the U.S. Department of State's International Visitor Leadership Program and the International Visitors Council of Greater Kansas City.

The Linda Hall Library was also a stop on a nationwide tour taken by a group of Brazilian engineering professors and academic administrators in October. The purpose of their 14-day tour, sponsored by the U.S. Embassy to Brazil in partnership with the Fulbright Commission, was to study the American system of higher education.

“We were delighted to host the groups and to share with them the Linda Hall Library’s unique role in preserving the printed record of science, engineering and technology,” said President Lisa Browar. “We are honored that our colleagues from Egypt and Brazil included the Linda Hall Library on their very full itineraries.” President Browar continued, “We hope that we enhanced their understanding of the ways in which the Library leverages its vast resources throughout the U.S. and the world. I know we learned a great deal from them.”

Free tours of the Library are available Monday through Friday at 10:00 a.m. and 2:00 p.m. Adult and school groups that would like an in-depth tour of the History of Science Center or bibliographic instruction should contact Eric Ward at 816.926.8753 to schedule a time.
Library Welcomes New VP of Development

The Linda Hall Library is pleased to welcome Angela Tangen as its new Vice President of Development. Immediately prior to taking up her new post, Angela served as Vice President of Development at the National World War I Museum at the Liberty Memorial. With a decade of nonprofit and political fundraising experience, and nearly as much experience in government relations, Angela brings with her a strong background in developing major donor programs and implementing strategic development plans.

At the National World War I Museum, Angela built sustainable development programs and created a $7.5 million dollar capital campaign. Angela will create and oversee a comprehensive development program at the Linda Hall Library designed to promote long-term and sustainable growth including major gifts, corporate and foundation relations, planned gifts, and annual giving. She may be reached at 816.926.8727 or tangena@lindahall.org.

Eric N. DeLony Engineering and Bridge Collection

Over 15 years ago, Eric N. DeLony inscribed a copy of his book, *American Landmark Bridges*, “It is with extreme honor that I donate a copy of my book to the Linda Hall Library, one of the most significant engineering and history of technology repositories in the nation.”

In 2012, the Linda Hall Library became the fortunate recipient of the Eric N. DeLony Engineering and Bridge Collection, which also includes Eric DeLony’s working papers. This collection is a significant enhancement to the Library’s outstanding holdings in engineering.

A prominent industrial archaeologist with an international reputation in the history of engineering and bridges, Eric N. DeLony enjoyed a long and noteworthy career with the Historic American Engineering Record Program (HAER) of the National Park Service (NPS) where he served as Chief for 16 years. The HAER was formed by the NPS, the American Society of Civil Engineers and the Library of Congress. For his contributions to the field, he won the Society for Industrial Archaeology’s Award for Distinguished Service in 2000.

As a noted historic preservationist with a strong commitment to documenting the history of bridges and other structures, Mr. DeLony has been an avid collector of research material developing a splendid collection of materials on industrial archeology, and significant works in the engineering, construction, architecture, and history of bridges. The rarely held materials range in date from the 1800s to the current century and include 90 rare books, hundreds of contemporary books, pamphlets, and technical reports; and thousands of visual items documenting historic bridges and other important engineering achievements.

Eric DeLony was hailed as “a pontist without peer” by one of his colleagues. The Library is honored to receive the *Eric N. DeLony Engineering and Bridge Collection* and to serve the engineering and academic communities by preserving and providing access to this collection for future scholarship.
A Case of Botanical Espionage

With the blessing of the French Minister of the Navy and the promise of a large financial reward, French botanist Joseph Thiery de Menonville undertook a secret mission in 1777 to steal valuable cochineal insects from the Spanish in Mexico. The Linda Hall Library recently acquired a copy of Thiery's rare account of his exploits, *Traité de la culture du Nopal, et de l'éducation de la cochenille dans les Colonies Françaises de l'Amérique* (Cap-Français, 1787).

The cochineal insect, a small beetle that is the source of carmine dye, was one of the most prized discoveries of the New World. It was the second most profitable export from Mexico after silver, and was so valuable that the Spanish controlled a monopoly on its trade for centuries. Thiery de Menonville’s “mission impossible” was to go to Mexico, study the culture of the cochineal insect, and smuggle some of the insects and the cacti on which they live to Haiti, known then as the French colony of Saint Domingue.

French ships were unwelcome at the Mexican port of Veracruz, so Thiery went first to Havana in the guise of a physician in search of herbal pharmaceuticals. He convinced the governor to grant him a Cuban passport to Veracruz and, once there, he pretended to be a botanist (he was) who was trained as a physician (he was not) in search of local flora for use as medicinal products. Possibly suspicious of Thiery’s motives, the viceroy of New Spain refused him permission to travel beyond the immediate vicinity of Veracruz and told him to leave Mexico at the earliest opportunity.

Instead, Thiery went out the back door and deeper undercover, pretending to take an extended walk while secretly traveling the back roads to Oaxaca, where the cochineal plantations were located. If questioned, he planned to claim he was a visiting Catalan from the French frontier who spoke bad Spanish but good French, and that he was lost.

When Thiery reached the cochineal region, a local farmer sold him some cacti infested with live insects which Thiery said he needed for a gout remedy. He hid them with hundreds of other botanical specimens packed in chests for a sea voyage and, after a prolonged journey, arrived with a few of them still alive in Saint Domingue. In the botanical garden at Port-au-Prince, Thiery managed to grow enough of the cacti and insects to send high quality samples of the dye to Paris for testing. Thiery died shortly thereafter, in 1780, of yellow fever. His garden was neglected, the Mexican cochineal insects died, and Thiery’s grand plan came to an end.

The diary of his exploits and his notes on the culture of cochineal were found several years later and published in 1787, providing us with the account that is now part of the Library’s History of Science Collection.
The “1904 Men”

On May 4, 1908, 30 men gathered at the elegant Hotel Tivoli on a hill overlooking Panama City to celebrate the fourth anniversary of the commencement of the U.S. construction of the Canal. The dinner guests were employees of the Isthmian Canal Commission who had arrived in Panama in May, June, or July of 1904 to begin the formidable task of building the Canal. After enjoying an excellent dinner, they voted to name the group the Incas and form a permanent organization, electing the eminent physician Colonel William Gorgas as its first president.

A.B. Nichols was a founding member of the Incas and served as the club's president before returning home to Philadelphia in October 1914. Nichols was one of the first engineers to arrive at the Canal and one of the few to stay throughout its construction. The photograph at left of the May 1915 dinner is included in the A.B. Nichols Panama Canal Collection. The photo was sent to Nichols by the attendees, along with a copy of the impressive menu and a greeting card signed by all.