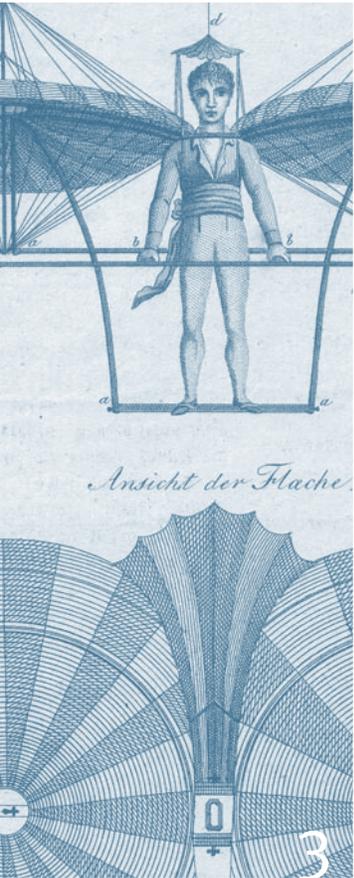


Bib·li·o·Tēch

NEWS FROM THE MIT LIBRARIES

MASSACHUSETTS INSTITUTE OF TECHNOLOGY VOLUME 21, NUMBER 1

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FROM THE DIRECTOR



Photo by Richard Howard

By all accounts, 1932 was a miserable year.

Stock prices had lost 85 to 90 percent of their 1929, pre-Crash values and would never again fall so low. Some 1,616 U.S. banks had failed, and nearly 20,000 business firms had gone bankrupt.

The plight of ordinary wage earners was stark. The average U.S. weekly wage had fallen to \$17, down from \$28 in 1929. Breadlines formed in many cities. Workers demonstrated (sometimes with violent results) outside shuttered manufacturing facilities, and poverty-stricken WWI veterans marched on Washington to demand government subsidies.

Here at MIT, Karl Taylor Compton was starting his third year as President of the Institute. By the time he stepped down in 1948, to become chairman of the Corporation, he had secured a reputation for strengthening the scientific curriculum, developing a new approach to education, and transforming both the academic and administrative structure of MIT. But in 1932, he was confronted with severely constrained resources, declining enrollments, deep needs for student financial aid, and “greatly diminished” external research funding.

By July 1932, the financial position of the Institute had become sufficiently precarious that a salary reserve fund was established in which 10% of all salary dollars were placed (after an exemption of \$500) “for the purpose of providing for a financial emergency” should the budget spiral into deficit. The Faculty additionally voted to make their “Professor’s Fund” (a fund established by faculty to support research sabbaticals) available for the same purpose if needed.

For MIT’s many and distributed libraries, consolidation and increased efficiency had become a driving focus. A Special Committee on the Library had been formed in 1931 for the urgent purpose of eliminating duplication and improving the effectiveness of MIT’s multiple small libraries. By 1932 faculty had accepted the recommendations of this Special Committee which included the establishment of a Central Library, operating under the direction of the Institute Librarian, to be formed by consolidation of numerous branches, with policy direction by a newly formed Faculty Standing Committee on the Library.

In remarkably short order, departmental libraries were consolidated (from 15 to 7), the new Eastman Library opened for business under Central Library supervision, library hours were extended, and circulation of general reading material doubled.

Today we take for granted the cooperative and collaborative approach to resource sharing that has become a hallmark of the MIT Libraries, but in 1932 it was a bold and innovative concept.

Among the benefits of consolidation was improved facilitation of interlibrary borrowing and lending. In 1932, interlibrary borrowing was just beginning to function as a meaningful strategy for meeting the needs of MIT students and faculty. Volumes borrowed from other libraries had doubled since pre-Crash years and were a growing percentage of total volumes acquired.

Then, in December 1932, the MIT Library became one of 42 charter members and the only “technical school” member of the newly founded Association of Research Libraries, whose purpose was “to develop and increase the resources and usefulness of the research collections in American libraries.” This recognition was a considerable point of pride for MIT, and represented a major milestone for its relatively young, scientific and technically-oriented Library. Today we take for granted the cooperative and collaborative approach to resource sharing that has become a hallmark of the MIT Libraries, but in 1932 it was a bold and innovative concept.

As MIT and other institutions come to grips with the impact of the current economic downturn, we at the Libraries will look to the innovative spirit that got us through the difficult days of 1932. The spirit of cooperation, collaboration, and reinvention that arose during those trying times continues to abound in the MIT Libraries, and we look forward to new opportunities for collaboration, resource sharing, and innovation with our colleagues in other great research libraries. Our mission, experience, and the valuable feedback we receive from faculty and students who care deeply about the Libraries will guide us in our strategic planning and in navigating the landscape ahead.

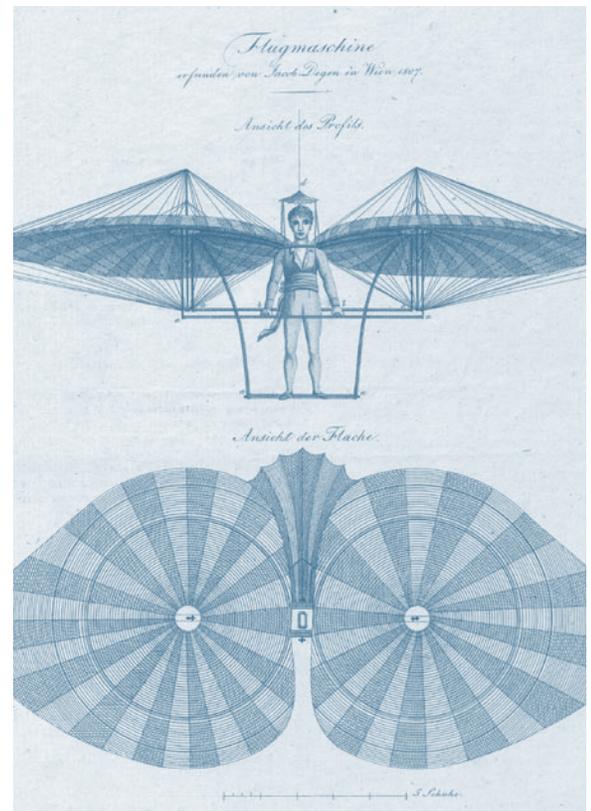
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A NEW EXHIBIT TAKES FLIGHT

For centuries humans have been fascinated by the concept of flight, from the Greek myth of Daedalus, through the 19th century's ballooning craze, and right up to the ongoing popularity of science fiction with its notions of flight through space and time. From simple attempts to fashion human wings, to the serious science of space exploration, our fascination with flight has been constant and compelling, and has literally known no earthly bounds. This allure will be the focus of an exhibit in the MIT Libraries' Maihaugen Gallery beginning this spring.

The Fascination of Flight: Highlights from the MIT Libraries will showcase both the dream and the reality of flight through historical materials, archival records, and current collections owned by the MIT Libraries. The Vail Collection of Aeronautical Prints, Broadsides, and Clippings will offer a colorful look at the excitement, as well as the danger, of early ballooning. The exhibit will trace the development of airplanes through books and illustrations about the Wright Brothers, and examine the impact of flight on American life and popular culture, as commercial flight—once considered fanciful—became commonplace.

It will also reveal MIT's own fascination with flight. Through the pioneering work of the Institute's faculty and students, countless contributions have been made to the science of powered flight. The exhibit will highlight these contributions, beginning with MIT's own "father of flight," Jerome Hunsaker, the development of the Wind Tunnel, and the Daedalus Project, and MIT's crucial contributions to the Apollo Program along with other vitally important work with NASA. It will also



Flugmaschine erfunden von Jacob Degen in Wien, 1807, print from the Vail Collection.

Institute Archives and Special Collections

acknowledge heroic MIT graduates such as Jimmy Doolittle and Buzz Aldrin, and distinguished faculty such as Doc Draper and Robert Seamans.

The exhibit is scheduled to open to the public in April 2009 and will continue through the summer. For more information see: libraries.mit.edu/maihaugen



Broadside from the Vail Collection

ADL ALUMNI CELEBRATION AT THE MIT LIBRARIES

On September 17, 2008, the MIT Libraries in conjunction with the Arthur D. Little (ADL) Alumni Association hosted an event in celebration of the gift of the organization's archives to MIT. The event was an opportunity to celebrate the longstanding connections between ADL and MIT. The afternoon included welcoming remarks from Director of Libraries (and ADL alum) Ann Wolpert and President of the ADL Alumni Association Nancy Smith. Former ADL, Inc. CEO John Magee spoke about the history of ADL and TIAX CEO Kenan Sahin talked about his interests in the company. He also showed the original 1886 letter from Arthur D. Little to Little's father in which ADL talked about starting the company.

After the remarks the ADL alumni enthusiastically explored the ADL collection in the Institute Archives, and shared memories of their work together. They also took guided tours of the Libraries' conservation lab and saw demonstrations of preservation and conservation work.

Several items, some loaned for the occasion, were on display in the Maihaugen Gallery. These included the materials from Little's time at MIT, the original company board minutes, and the notable silk purse made from sows' ears.



ADL Alumni viewing archive materials

Photo by Sarah Putnam

Institute Archives and Special Collections

ENABLING BREAKTHROUGHS WITH BIOINFORMATICS

The completion of the Human Genome Project in 2003 is one of the most important scientific discoveries in human history. For the first time the complete sequence of 3 billion DNA bases and all human genes were identified, unlocking countless opportunities for biological study. New discoveries continue to prove the real benefits of this scientific landmark. None of which would be possible without bioinformatics, a discipline that uses computers to manage and manipulate vast amounts of data to solve biological problems on a molecular level.

Bioinformatics is important to understanding and advancing the study of functional genomics, biomolecular structure, proteome analysis, cell metabolism, and drug design. It uses computer software tools for database creation, data management, data warehousing, data mining, and global communication to store, retrieve, and analyze biological data such as nucleic acid (DNA/RNA) and protein sequences, pathways and interactions.



students and scholars how to take advantage of these resources. Because MIT is a leading center of bioinformatics research and expertise, the MIT Libraries work closely with the bioinformatics community to share resources and knowledge.

The MIT Libraries' support of bioinformatics at MIT has grown over several years beginning in 2005 with collaborative instruction sessions with partners at the Koch Institute, the Broad Institute, and Harvard's Countway Library of Medicine. Building on the success of the sessions, the MIT Libraries expanded their instruction efforts by hosting bioinformatics training courses, sponsoring seminars from leading experts, purchasing bioinformatics software tools, and developing a series of bioinformatics video tutorials. These initiatives to bring new bioinformatics skills to the MIT community have met with unprecedented success.

"I am very pleased with the MIT Libraries' initiative to support bioinformatics. It's great that they are offering seminars in various topics of interest to the community. The collaborative licensing is terrific as well. It enables our scientists to get access to many more software tools and databases than would otherwise be possible," said Fran Lewitter, Director of Bioinformatics and Research Computing at the Whitehead Institute.

The MIT Libraries continue to strengthen electronic and print collections in bioinformatics and have recently hired a full-time bioinformatics librarian, Courtney Crummett, to work as a subject expert in this area. Crummett brings relevant knowledge and experience from the National Library of Medicine where she was most recently an Associate Fellow.

"I work with students, faculty, and research staff to recommend bioinformatics resources, programs, or databases for their research questions. Students can consult with me when they are beginning their research process or planning experiments," Crummett said.

Crummett is also looking at ways MIT can realize cost savings on bioinformatics resources by implementing a collaborative funding model with the MIT community. Many different MIT affiliated groups spend money on the same products. In an effort to conserve funds, Crummett has collaborated with community members on licensing and purchasing resources.

To learn more about the Libraries' bioinformatics resources and upcoming training sessions see: libguides.mit.edu/bioinfo



Photo by L. Barry Hetherington

Courtney Crummett, Bioinformatics Librarian

MIT researchers in the fields of biology, engineering, and computer science use bioinformatics. There are several facilities on campus devoted to its use including the Bioinformatics and Computing Core Facility at the Koch Institute for Integrative Cancer Research, and the Laboratory for Metabolic Engineering and Bioinformatics in the Department of Chemical Engineering.

Academic libraries have a natural role in supporting bioinformatics because of their expertise in aggregating, storing, sharing, and extracting useful knowledge from large databases as well as their experience teaching

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SUPPORTING THE LIBRARIES: ROTC LIBRARY RECEIVES CONNICK STAINED GLASS COLLECTION

The MIT Libraries were recently given a significant collection of stained glass panels, drawings, and archival records from the famed Connick Studio of Boston. The gift was from the Charles J. Connick Stained Glass Foundation, who along with the Boston Public Library has stewarded the collection since the studio's closing in 1986.

Charles J. Connick (1875-1945) is considered to be one of the greatest American designers of traditional stained glass. His work can be seen in churches, cathedrals, libraries, and chapels across the U.S. and abroad. Intense colors and strong lines from medieval influences often characterize his style. Connick received many commissions through prominent architects of his day, Ralph Adams Cram and Bertram Goodhue, both of whom had connections to MIT. The Charles J. Connick Studio he started in 1913 continued receiving commissions and operating from its location in Boston's Back Bay several years after his death in 1945, until its eventual closing in 1986.

MIT's Rotch Library for Architecture and Planning was chosen by The Connick Foundation's board of directors as a fitting home for the collection because of the library's history and experience stewarding rare materials. Rotch Library was created to serve the nation's first academic architecture and planning program, which began at MIT in 1868. It remains one of the top academic architectural libraries in the country, serving the research needs of the MIT community and sharing many of its unique collections with researchers worldwide.

The Charles J. Connick Stained Glass Foundation Collection was transferred to the MIT Libraries' Library Storage Annex (LSA) in December of 2008. With funding from a grant, the collection will be thoroughly inventoried over the next year and an early assessment of its condition will be made. It is estimated that the collection contains over 30 stained glass panels ranging in size from 2'x2' to 7'x3', approximately 6 temporary panels, numerous preliminary charcoal drawings (known as "cartoons"), approximately 20 oil paintings by Connick himself, many tools used to work with stained glass, as well as many boxes of archival records.



Portrait of Charles Connick with his work, ca. 1945



Stained glass panel from the Connick Collection

Photo by L. Barry Hetherington

“I had to know early windows well before I realized that paint patterns were used to control the action of light through patterned color... If those [early] craftsmen were eager worshippers they must have also had an understanding of light action that we now call scientific.”

Charles J. Connick, from his 1937 book *Adventures in Light and Color*

The hope is that once the Connick collection is assessed and conserved it will be shared with students and researchers here at MIT and well beyond. “The Connick Collection is a wonderful addition to our collections. Stained glass represents an intersection of art and science—something of great interest to MIT,” said Ann Whiteside, head of Rotch Library. “We look forward to processing the collection and sharing Connick's treasures with MIT and with the world.”

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LISTENING TO YOU: RESULTS FROM THE LIBRARIES' 2008 SURVEY

In the fall of 2008 the MIT Libraries launched its second tri-annual survey of faculty, students, postdocs, and other academic and research staff – more than 15,000 people who make up the Libraries' core constituency. Remarkably, the response rate was even greater than the last time, with 7,497 responses, or 49.5% – in 2005 the response rate was 46%. The student response rate was 54% while over 30% of the faculty responded.

As part of the Libraries' overall strategy for assessment, the goals of the survey were to

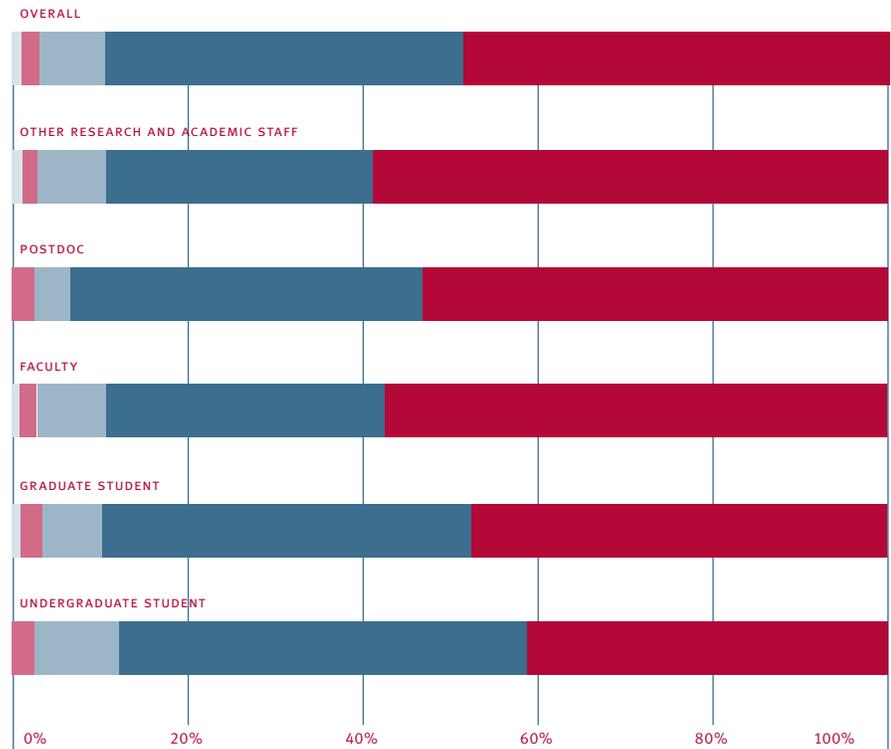
- measure users' perceptions of the services provided by the MIT Libraries
- measure whether the MIT Libraries' services are appropriate to users' needs and to identify potential gaps in service
- measure users' levels of awareness of the services and policies of the MIT Libraries
- provide our users with an opportunity to submit feedback and ideas for improvement
- gather data which can be compared to the 2005 survey and which can serve as a benchmark for future surveys

PRIORITIES FOR THE FUTURE

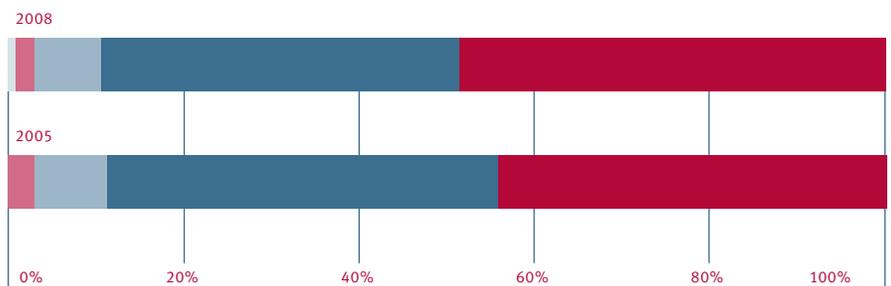
The data from the survey, both quantitative and qualitative, is rich with indicators of current user behavior as well as the future desires of the community. Similar to three years ago there is an overwhelming cry for more digital content – more historic depth to online journals, additional online subscriptions, and e-books. Simplified search and discovery also continues to be a very high priority. Awareness of some of the Libraries' more specialized services remains low, while interest in them is high. Improving library space ranked very high, and students were very keen on having more support for capturing lecture videos and having them available for replay during the semester.

AGAIN – A HIGH LEVEL OF SATISFACTION

Overall satisfaction with the Libraries remains very high.



And has even improved from three years ago.



NEXT STEPS

A library team is currently analyzing the results of the survey which ended in mid-December. At press time for this article only preliminary results were available. A public site disseminating further results from the survey will be available from the Libraries web site sometime this spring.

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FROM THE ARCHIVES

“PROJECT WHIRLWIND” COMES BACK HOME

The Project Whirlwind Computer collection, a compilation of pioneering digital computing research conducted in the 1940s and 1950s was recently transferred back to MIT from the MITRE Corporation. The research project, which originated at MIT, had moved to Lincoln Lab and then to MITRE. Materials in the collection were previously unavailable to researchers but with its transfer to MIT, the collection is now accessible to the public. In addition key documents from the Whirlwind collection have been digitized and will soon be made available online.

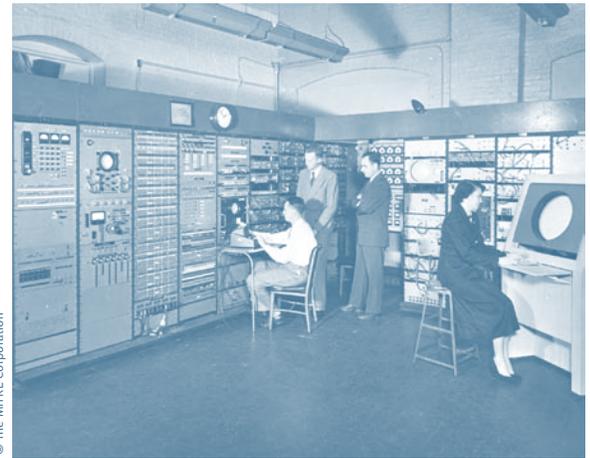
Project Whirlwind began in 1944, when the U.S. Navy contracted with MIT to develop a computer for a flight simulator used to study aircraft stability and control problems. When the initial analog computer proved too slow and inaccurate for the Navy’s purposes, a research team led by Jay Forrester, director of MIT’s Digital Computer Laboratory, and associate director Robert Everett, who later served as MITRE’s president, set out to design a high-speed computer—one that could produce fast-changing, reliable, and realistic simulations.

“Whirlwind I,” the first digital computer at MIT and the fastest of its time, was completed in 1951. That year Project Whirlwind was detached from the Servomechanisms Lab to become the MIT Digital Computer Laboratory. Unclassified research projects using the Whirlwind I computer were managed by the Digital Computer Lab staff on the MIT campus, where Whirlwind I occupied 3,300 square feet within the two-story Barta Building (N42). The building was acquired in 1947 to provide sufficient space for the computer as it was designed and constructed.

The precursor to modern day computers, Whirlwind’s fingerprints are evident in today’s software and hardware. Parallel digit processing, random-access and magnetic core memory made the initial launch of commercial computers, and interactive visual computer displays, possible. Its groundbreaking design also laid the foundation for simulation and real-time technology. In operation until 1959, Whirlwind formed the basis for the U.S. Air Force’s Semi-Automatic Ground Environment (SAGE) air defense system, the development of which was assigned to MIT’s Lincoln Laboratory and later transitioned to MITRE.



Fully operational Whirlwind, 1951.



Stephen Dodd, Jay Forrester, Robert Everett, and Ramona Ferenz at Whirlwind I test control in the Barta Building, 1950.

MITRE, a non-profit corporation providing systems engineering, research and development, and information technology support to the government, assumed custody of the Whirlwind collection in 1958, upon Everett’s and other Whirlwind researchers’ transfer from Lincoln Laboratory to MITRE. At MITRE the records had been securely housed and recently organized and de-classified. With input from Everett, MITRE’s Corporate Archives office digitized 1,800 Whirlwind memos and summary reports from microfilm to PDF format.

In 2008 staff of the MIT Libraries worked closely with MITRE to transfer the materials to the MIT Institute Archives and Special Collections. Upon arrival Archives staff refined the description of the 60 feet of records in order to allow researchers better intellectual access to the material. Here the collection joins other notable materials documenting important early computing research, including the papers of Jay Forrester, and the records from MIT’s Servomechanisms Laboratory and Digital Computer Laboratory.

Work on the Whirlwind collection continues as metadata is added to the digital files so that they will be easier to locate online. The documents, along with several notebooks, represent a portion of the collection, which will soon be available through the MIT Libraries’ web site at: libraries.mit.edu/archives/whirlwind

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**LIBRARIES RECEIVE RARE
AUDUBON LITHOGRAPHS**

The MIT Libraries were recently given 37 hand-colored lithographs from John James Audubon's *Viviparous Quadrupeds of North America*. The rare lithographs were generously donated by Mr. Ron Juster and family, in honor of Josh Juster, M. Eng. 2004.

The prints embody one of the 19th century's most artistically successful attempts to catalog, illustrate, and promote understanding of the natural world. Following the monumental success of his publication *Birds of America*, naturalist and artist John James Audubon (1785-1851) attempted to produce accurate illustrations of every quadruped native to North America. The result was 150 paintings that are widely celebrated for both their scientific accuracy and their artistic beauty.

NEW BOOK SCANNERS

New self-service scanners have arrived at the Libraries. The large format scanners can scan notes, problem sets, and books up to 17"x 24" in full color. Scans can be instantly converted into JPEG files, searchable PDFs, and even MP3 audio files of scanned text and emailed or stored on a USB drive. The service is free to all Libraries' patrons. Currently the scanners are available in Barker, Dewey, Hayden or Rotch libraries. To find out more see:

libraries.mit.edu/book-scanners

**DOCUMENT SERVICES
OFFERS SLIDE SCANNING**

Do you have slides or photographs that you need converted to digital files?

The MIT Libraries' Document Services Department is now offering affordable scanning options for slides, photos and more. Individual items or collections of materials can be converted to digital files for ease of use and convenient sharing with students and colleagues.

To find out more contact:
617 253 5668 or email
docs@mit.edu

UPCOMING EVENTS

Wednesday April 1st, 1-3:00 pm,
Maihaugen Gallery
The Fascination of Flight
Exhibit Opening

Friday, April 17th, 12:00 pm,
Lewis Music Library
7th Annual Prokopoff Concert