

# AFRL LIBRARY NEWS



Serving Wright-Patterson's Research Community Since 1918

FY2011 No. 2

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## NEW BOOKS

Autonomous Flying Robots: Unmanned Aerial Vehicles and Micro Aerial Vehicles/ Kenzo Nonami...[et al.]

Behind Human Error/ David D. Woods...[et al] 2<sup>nd</sup> edition

Fundamentals of Aircraft and Airship Design: Vol. 1: Aircraft Design/ Leland M. Nicolai, Grant E. Carichner

Handbook of Nanostructured Thin Films and Coatings/ Ed. By Sam Zhang

Microstrip Patch Antennas/ Kai Fong Lee, Kwai Man Luk

Multiple Scales Theory and Aerospace Applications/ Rudraptna V. Ramnath

Semiconductor Nanomaterials for Flexible Technologies: From Photovoltaics and Electronics to Sensors and Energy Storage/Harvesting Devices/ Ed. By Yugang Sun and John A. Rogers

## **Review: *Human – Robot Interactions in Future Military***

### **Operations**

### **Edited By**

**Michael Barnes & Florian Jentsch**

What was considered the purview of science fiction novelists for decades is now a reality in development. Michael Barnes is a research psychologist with the Army Research Lab, and Florian Jentsch is an Associate Professor with the University of Central Florida involved in psychology and training. These two editors have culled together the work of 23 contributors from academia, government, and private sector organizations.

The book, in thorough detail, lays out the nature of humans working with robots toward military objectives and discusses challenges encountered and lessons learned. This volume gives attention to technical challenges of human operators interpreting data from unoccupied air and ground vehicles, physiological disorientation that can result from remotely operating an unoccupied vehicle while the operator's vehicle is also in motion, as well as the most effective balance between the workload of the human and that of the robot in a given task.

At first impression, this book looked to be a thorough technical examination of using robots to augment humans, and physically substitute them in the most hostile environments. And this is correct, to an extent. Partial computer automation to allow operators to focus on primary tasks is elaborated upon

as the best ratio is sought. The authors also discuss temporal latency and situational awareness problems when remotely operating robots in environments too hostile for humans. What gives this book an even more holistic study of its subject is chapter 5, entitled: *Social Factors in Human-Robot Interaction*. As many roboticists have designed their machines along anthropomorphic lines, the contributors discuss human comfort level with such mimicry, and how far the anthropomorphism should go.

Learning of the challenges faced in using robots as information gathering, analysis, and interpretation tools cannot help but give the reader an appreciation of the complexity and effectiveness of the human senses and mind in understanding the information-rich battlespace.

## **DTIC: DOAC Training To Come**

In the next few months, Debie Francis, Manager of the Midwest Regional Office for DTIC will be conducting a presentation and training session for the new interface of DTIC Private. Further details are on page 5.

“All this worldly wisdom was once the unamiable heresy of some wise man.”

Henry David Thoreau

## Holiday Open House is a Success

The D’Azzo Research Library – AFRL held a Holiday Open House on December 3, 2010. The primary purpose of the open house was to show our support and appreciation of the AFRL research community and to open the lines of communication between our customers and library staff.

The library staff provided a large assortment of homemade cookies, candy, hot beverages, electronic reference demonstrations, a survey, and drawing for a Holiday Gift Basket.

The library distributed the survey in person and via Survey Monkey and received very good results and feedback. The library has compiled a list of journals (60% of respondents suggested a title) that were suggested in the survey and we are looking into the pricing and availability of these titles.

Other suggestions from survey respondents are:

1. Web of Science – we are currently acquiring this and it will be accessible in the coming weeks,
2. Full text to PubMed – we are currently working on implementing a “LinkOut” feature so that AFRL resources which are accessed in PubMed will open full-text,
3. Mil Specs – we have recently added Knovel to our collection, and currently all AFRL users should have access to I.H.S. – two very good resources for Mil Specs and research.

Additionally, the library is working on providing more Technical Directorate focused

training with monthly New User Tours and Orientations. Lastly, as a reminder, we strongly encourage DTIC registration. The survey showed 40% of respondents were not registered.

We truly appreciate your business and wish to thank all our participants for their valuable comments and suggestions. We look forward to serving you every day!

Please send questions or suggestions to: [afrl.wsc.library@wpafb.af.mil](mailto:afrl.wsc.library@wpafb.af.mil).



## Active SBIR Season

December 2010 saw a near-record number of SBIR searches submitted from our five on-base Directorates. Just over 100 searches were conducted representing widely varied research topics.

As in past months, SBIR I and New Start searches represented the bulk of the requests with SBIR I taking the top spot in search volume and a close second involume over the past two years. The Sensors Directorate submitted the most requests for searches followed quite closely by the Propulsion Directorate. The full breakdown is as follows: RY: 32, RZ: 29, RX: 22, RH: 9, RB: 6.

Thank you for all your cooperation and coordination in helping us get all the searches successfully completed. We appreciate your business and look forward to helping all Wright-Patterson Directorates in future research efforts.

## FYI: Interlibrary Loan Explained



AFRL ILL services delivers articles and provides the loan of books (and some other select formats) from libraries whose collections hold resources currently not found in The D'Azzo Research Library. The service is available to AFRL personnel; contractors must be currently under contract. The process for making a request is as follows:

- Get, and maintain, library privileges by having an up-to-date library card.
- Use the Interlibrary Loan form to make a request. To ensure...and speed up...the delivery process, include information like the year of publication and the ISBN/ISSN numbers
- Go to: <http://www.afrl.af.mil/wrslibrary/fo rms.cfm> to learn how to get a library card and to find ILL forms.



### FYI: About articles

Copyright law precludes the electronic delivery of articles from most of the recently published scientific literature; i.e. articles published within the last 12 to 18 months. If the lending institution maintains a paper subscription to these journals, they can, and will, provide us with a paper copy. In keeping with copyright restrictions, this copy must be passed on to the patron in paper form.

Following email notification of the document's arrival, paper copies are placed at the AFIT Circulation Desk and kept for 10 days before being sent to the patron in an interoffice envelope. Call the ILL Office at 95-4262, to make arrangements for all paper copies to be mailed via base mail.

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### FYI: About books

Local and regional libraries fill many of our book requests. However, not all books that are part of a local/regional library's collection will be available for loan at the time of a request. A week or two can be added to the delivery time when a national library fills the request. If timeliness is an issue, add a "No longer needed by (date)" statement to the 'Comments' section of the ILL request form, to be notified of a possible delay in delivery.

The AFRL ILL office checks out to the patron all ILL-requested books before putting them at the AFIT Circulation Desk for pickup. At that point, an email notice is sent to the patron. Materials are held at the desk for 10 days, and, then one more email notice is sent to the patron. If there is no response...and the material is not picked up...it is returned to the lending institution.

Although overdue notices for ILL-requested books are issued by the AFIT Circulation Desk, renewal, for these materials only, is done by the AFRL ILL office. The lending institution determines whether or not it will allow renewals.

Call 95-4262 or email [afri.wsc.interlibrary@wpafb.af.mil](mailto:afri.wsc.interlibrary@wpafb.af.mil) to make a renewal request.

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## Remote/Mobile Database Access

In addition to standard on-base access, vendors such as IEEE, EBSCO, Engineering Village, and CSA provide off-site access to their resources. Mobile versions of [IEEE](#) and [EBSCO](#) are also available. Just [email](#) the AFRL reference desk for access.

“The art of being wise is the art of knowing what to overlook.”

**William James**

“There is a  
wisdom of  
the head,  
and a  
wisdom of  
the heart.”

Charles  
Dickens

## SciVerse ScienceDirect Image Search Released

From *Advance Technology Libraries*, December 2010: [Image Search](#), a new SciVerse ScienceDirect feature that enables users to quickly and efficiently find images and figures relevant to their specific research objectives, has been released by Elsevier.

The new feature allows researchers to search across more than 15 million images contained within SciVerse ScienceDirect. Results include tables, photos, figures, graphs, and videos from trusted peer-reviewed full-text sources. Saving researchers significant time, Image Search ensures increased efficiency in finding the relevant visuals.

Search Results can be refined by image type and contain links to the location within the original source article, allowing researchers to verify image in context. Researchers can take advantage of Image Search to learn new concepts, prepare manuscripts, or visually convey ideas in presentations and lectures. The new feature is available to SciVerse ScienceDirect subscribed users at no additional cost.

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## After-Hours Library Access

1630–2100 Monday–Thursday &  
weekends 1100–1800.

### Contractors:

1. Ask your Government Sponsor/QAP/Monitor to request afterhours access to Building 642 for you and submit approval request to the attention of “Library Director Afterhours Access” at [afrl.wsc.library@wpafb.af.mil](mailto:afrl.wsc.library@wpafb.af.mil)
2. Once the Library Director receives & approves your request, she will send you the contact information to schedule an appointment with the Facilities Manager in Bldg 642 to program your CAC for afterhours access.

### Government/Military:

1. Submit an afterhours request to Building 642 to the attention of “Library Director Afterhours Access” at [afrl.wsc.library@wpafb.af.mil](mailto:afrl.wsc.library@wpafb.af.mil)
2. Once the Library Director receives and approves your request, she will send you the contact information to schedule an appointment with the Facilities Manager in Bldg 642 to program your CAC for after-hours access.

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## Current Awareness Alerts

Though the databases and publications in the AFRL Library collection provide a great wealth of resources to search through, for those who may not know, some can search for you. With current awareness alerts, databases such as Engineering Village and publications such as Nature automatically deliver updates to your inbox. Here are a few quick steps to set that up:

### Engineering Village:

1. If you don't have an account, you can register [here](#).
2. Enter your name, email and password to quickly create an account.
3. Click 'My Profile' or 'My Alerts' at the top right of the screen and follow the instructions on the subsequent page.
4. Once you enter search terms, EV can keep you aware of the latest developments in those subjects.

### Nature:

1. If not already registered, you can do so [here](#).
2. Once registered, click the 'My Account' link at the top of the website if it does not automatically connect to your account page.
3. You can then set up subject and TOC alerts, save website searches, and modify your profile information [here](#).

**Continued on p5**

## ***From Current Awareness Alerts p4***

Through these and other databases provided by the Library, you have another way to automatically remain up to date with the latest developments in your fields.

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## **DTIC: DOAC Training**

Debie Francis from the Defense Technical Information Center (DTIC) Midwestern Regional Office will offer hands-on Boot Camp workshops this Winter and Spring designed to train you in the use of DTIC's Suite of Services and resources tailored for the DoD.

DTIC's Services are aimed at saving valuable time and resources, leveraging existing research to reduce the taxpayer's burden, increasing collaboration between the science and technology community, sharing knowledge, and reducing the time it takes to move enabling technologies into the hands of the Warfighter.

DTIC Online Access Controlled (DOAC) houses unclassified, limited information for Defense research, development, engineering, and warfighter communities. DOAC provides access to citations as well as to the full text of Technical Reports (TR), Research Summaries (RS), Independent Research and Development reports (IR&D). The hands-on class covers the contents of DTIC's databases and provides practical instruction and real-world exercises in searching and retrieving information.

Also covered are other S&T resources and financial and budget resources found on the Web site. The class includes an overview of DTIC and the many information resources to help users find the right resource to meet his information needs.

## **The Return of Knovel!**

After a hiatus from our digital collection, Knovel has returned to the cadre of databases we provide access to. With this, scientists and engineers will be able to access titles in a variety of subjects from medical to mechanical, some of which are not available through other AFRL resources.

*From Knovel Press Release:* The following topic areas are included in the corporate subscription:

- Industrial Engineering & Operations Management
- Nanotechnology
- Optics & Photonics
- Process Design, Control & Automation
- Transportation Engineering
- AIChE/CCPS - Center for Chemical Process Safety
- ASM International Materials Collection
- ASME Boiler & Pressure Vessel Code 2002-2007
- DIPPR Project 801
- Landolt-Bornstein, Group IV Physical Chemistry - Phase Equilibria, Crystallog
- The Merck Index - An Encyclopedia of Chemicals, Drugs, and Biologicals
- Patty's Toxicology
- Sax's Dangerous Properties of Industrial Materials (11th Edition) Vol. 1-3

In similar fashion to I.H.S., researchers can access PDF's of the subscribed content by creating an account. Additionally, the Interactive Tools enable users to access and sort data in spreadsheets to extract the needed information more efficiently. Knovel can be accessed [here](#), with tutorial videos available [here](#). Instructions for creating an account are available on our [homepage](#).

**“The  
invariable  
mark of a  
dream is to  
see it come  
true.”**

**Ralph Waldo  
Emerson**

## THE D'AZZO RESEARCH LIBRARY AFRL STAFF DIRECTORY

### Contact Information

Email	Phone
<b>Reference Questions</b> <a href="mailto:afrl.wsc.library@wpafb.af.mil">afrl.wsc.library@wpafb.af.mil</a>	255-5511 x4238
<b>Circulation (checkouts &amp; renewals)</b> <a href="mailto:CIRCDESK@afit.edu">CIRCDESK@afit.edu</a>	255-3005
<b>Literature searches</b> <a href="mailto:afrl.wsc.library@wpafb.af.mil">afrl.wsc.library@wpafb.af.mil</a>	255-5511 x4238
<b>Interlibrary Loan</b> <a href="mailto:afrl.wsc.inter-library@wpafb.af.mil">afrl.wsc.inter-library@wpafb.af.mil</a>	255-5511 x4262
<b>Online Searching Problems</b> <a href="mailto:afrl.wsc.library@wpafb.af.mil">afrl.wsc.library@wpafb.af.mil</a>	255-5511 x4239
<b>Technical Reports Center</b> <a href="mailto:wsc.secure-room@wpafb.af.mil">wsc.secure-room@wpafb.af.mil</a>	255-7415
<b>Acquisition/Collections Services (purchase suggestions)</b> <a href="mailto:afrl.wsc.library@wpafb.af.mil">afrl.wsc.library@wpafb.af.mil</a>	255-5511 x4242
<b>Library Director</b> <a href="mailto:afrl.wsc.library@wpafb.af.mil">afrl.wsc.library@wpafb.af.mil</a>	255-5511 x4270
<b>FAX</b>	656-7746

### WEB SITE:

<http://www.afrl.af.mil/wrslibrary/>

### The D'Azzo Research Library, Wright Site

Det 1, AFRL/WSC  
2950 Hobson Way  
Building 642, Room 1300  
(AFIT Complex)  
Wright-Patterson AFB, OH 45433-7765  
Phone: 937-255-5511 x4238  
Fax: 937-656-7746

### Hours:

Hours of assistance from AFRL staff:

**Monday to Friday, 0800-1630.**

Library Facility Open Hours:

**Monday-Thursday 0730-2100**

**Friday 0730-1700**

**Saturday & Sunday 1100-1800**

**Closed Federal Holidays.**

The D'Azzo Research Library at WPAFB is operated under contract by Vistrionix, Inc.

### Borrowing from the Library

AFRL personnel may borrow materials for 56 days with their AFRL Library Card. Video loan time is 14 days.

Limited renewals are available.

### Do you use MSN messenger?

Add us and try our new chat reference service! To get started, send a note to the AFRL Library Reference Desk, [afrl.wsc.library@wpafb.af.mil](mailto:afrl.wsc.library@wpafb.af.mil), with "IM startup" or something to that effect in the subject line. You will receive a reply from your TD Librarian Liaison. Alternatively, you can immediately add the name of an AFRL Librarian to your MSN Messenger contacts right now.