

# AWIS

ASSOCIATION FOR WOMEN IN SCIENCE

Winter **2009** *Volume 38, Number 1*

**Connecting**  
Science and Society

**Loving Computers**

**Becoming Media Savvy**

YOUR NETWORK, YOUR RESOURCE, YOUR VOICE

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Cover art (detail):  
"Himalayan Cloud" (12" x 15").  
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who is continuously exploring  
new ways to make this  
flowing medium work for her.  
Her painting surfaces are  
different papers as well  
as canvas and include  
collages with oriental  
and handmade papers.

More of her work  
can be viewed at her website:  
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## Science and Popular Culture

In this issue of AWIS Magazine we look at how science intersects with popular culture and what this meeting produces. To kick off the issue, Christina Fuentes considers the divide between scientists and the public and how we can go about bridging it.

Advances in technology have made many a contribution to popular culture. Just look at any number of objects that have become indispensable to your

every day existence, such as your cell phone, GPS, and iPod. In her article, Laura Mays Hoopes looks at how future advances in technology may result in human-oriented computing products such as chairs that hug. Lindsay Reese also gives us a rundown of some personal technology items we might soon encounter such as bionic contact lenses and a robot that does laundry, cleans rooms, and mops floors.

Computers have come a long way over the years too, and the ways we use computers have also changed. Many of us spend countless hours on social networking sights such as Facebook, LinkedIn, Twitter, and MySpace. Some of us are also avid bloggers. In her article on finding support in unusual places, Amber Mathews discusses how blogs have increasingly been used as a means to communicate and develop personally and professionally.

And of course, a magazine looking at science and popular culture wouldn't be complete without an article on how scientists and science are portrayed in popular culture including television, movies, books and newspapers. We have several articles that tackle this, including Marsha Lucas' article on the forensic science of CSI (as well as a side bar on women scientists on television) and JaNae Joyner-Grantham's Science and Society column on how science has invaded television programs. In a related article, our new Career Talk columnist, Marykate Crouthamel, looks at how forensic science shows such as CSI are increasing the numbers of people who want to become forensic scientists.

As you know, we are constantly trying to improve AWIS Magazine, and this month we are debuting a new column called To PI, or Not to PI. In this column, Karen Elkin will explore the ins and outs of becoming a PI and give advice for those who are considering going into academia. You'll also notice on page 7 of this issue we have a new Contributors section where we highlight and acknowledge all the wonderful women who wrote feature articles for this issue. ■

# AWIS

A Network, a Resource, a Voice

1200 New York Avenue, NW, Suite 650  
Washington, DC 20005

Tel: 202-326-8940 Fax: 202-326-8960  
email: [awis@awis.org](mailto:awis@awis.org) [www.awis.org](http://www.awis.org)

### EDITOR-IN-CHIEF

**Nicole Kresge**, PhD, American Society for Biochemistry and Molecular Biology, Bethesda, MD

### FEATURES EDITOR

**Allison M. Martin**, MS, Chicago Zoological Society, Chicago, IL

### COLUMNS EDITOR

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**Cathryrne Manner**, PhD, Life Sciences Discovery Fund, Seattle, WA

**Kathleen Sandman**, PhD, Ohio State University, Columbus, OH

**Nancy Sorden**, PhD, NIH, Bethesda, MD

### CONTRIBUTING WRITERS

#### Book Review

**Margaret Reilly**, PhD, Orangeburg, NY

#### Chapter News

**Joy Ramos**, PhD, Chicago, IL

#### Career Talk

**Marykate Crouthamel**, PhD, Washington, DC

#### Money Matters

**Edi Alvarez**, MS, San Francisco, CA

#### Statistics

**Lisa M. Frehill**, PhD, Washington, DC

#### PhD Diary

**Kristin Stephan**, Boston, MA

#### Science and Society

**David Brakke**, PhD, Harrisonburg, VA

#### Technology and the Scientist

**JaNae Joyner-Grantham**, PhD, Winston-Salem, NC

#### To PI or Not to PI

**Karen Elkins**, PhD, Washington DC

### GRAPHIC DESIGNER

**Anna-Maria Furlong** ([amfgraphics@aol.com](mailto:amfgraphics@aol.com))

**Editorial Correspondence** can be submitted to the AWIS National Office at the above address. Articles considered for publication will be subject to editing. Editorial rights are reserved. Statements and opinions presented by the contributors are not necessarily those of AWIS.

#### Announcements and employment information

should be addressed to AWIS National Office.

AWIS Magazine (ISSN 1057-5839)

Published quarterly a year by the Association for Women in Science, Inc. (a non-profit, 501(c)(3) organization).

**Non-member subscription rate:** \$100 per year.

**Annual membership:** \$65 (\$24 allocated to subscription).

Periodicals postage paid at Washington, DC, and additional mailing offices. **Postmaster:** Send address corrections to above AWIS address.

# The Financial Perils of Cyberspace

By Edi Alvarez

Looking back, the engines of popular culture in the nineteenth century were saloons, music halls, theater, and the popular press. They vied with each other and even government for the hearts, minds and pocket books of society. But popular culture, unlike customs and tradition, doesn't stand still. It invariably "fluctuates and recomposes," in the words of Peter Bailey, according to ever evolving tastes (1). Today, the internet fulfills somewhat the same role as music halls, theater and the press, entertaining, informing, and competing for our hard-earned cash (it hasn't yet supplanted public bars). As a consequence, we find ourselves tethered to electronic communications. So much so that accessing information online--that realm we call "cyberspace"--has become an indelible part of our daily routine. As evidence, think of the recent New York Times and CNBC interview with Barak Obama. The president-elect famously admitted that he is so addicted to using his Blackberry that when the time comes White House staff will have to "pry it" from his hands (2).

More and more, we are lured away from our customary brick-and-mortar haunts to download movies, shop or bank online. It is no longer necessary to compose a letter, post it and await a reply some days or weeks out; no longer necessary for us to pull on those winter galoshes, face the ice storm, and pay the bank manager a personal visit to discuss the latest rates on Certificates of Deposit. We need only fill out an online application, jot off an email, text message, or teleconference and receive a real time response, or something very near to it. What I value the most, is that I no longer need to deal with the misogynist car salesman because he is replaced by online car buying software.

If you want to do your own product research, you can Twitter for the best coffee maker out there (by popular acclaim), Yelp your next restaurant choice (by those who choose to review), or Google the "Best mutual funds to invest in." Ah, but therein lies the rub. A Google-search of just that generates 495,000 results! How does one possibly sort through 495,000 results and obtain something meaningful? Should one just trust the advice of perfect strangers on what choices they should make? This may be the answer for some but I contend that as scientist we should develop a much more analytical approach.

To begin with, there is a lot of great information on the web that can serve us well. For example, the many online tools; such

as, "calculators" for retirement planning, saving and investing software, automatic credit card payments, social security calculators, IRA and other estate planning templates. How do you decide which online tools and websites will work for you? One suggestion--steer towards those that help you track how you are doing and NOT tempt you to spend more money. If you are not saving money within a couple of months, you are likely utilizing the wrong cash flow management tool. You'd be well advised to search for tools that will encourage you to save for those things that will add true value to your life and not just spend on the next gadget.

But, don't let the intrinsically democratic nature of the internet lull you into neglecting your due diligence and accepting what appears to be the majority opinion. The internet is unregulated. Products, referrals and services offered online aren't necessarily benign, and even the well-intended advice of strangers may be completely unsuited to your particular needs. Keep in mind that marketing professionals work in cyberspace and make it their business to get us to buy. Bob Gunn and Betsy Raskin Gullickson in an article titled "Mind-set" produced for the Institute of Management Accountants reiterate the tremendous power of words to shape mind-set (3). "It's no wonder that companies often spend tremendous amounts of time and money in choosing and developing a name. It translates to a shorthand description of behavior and context, two tools that leaders ply to get the results they seek." Might this be why we selected iTunes over Napster?

Similarly, there are many websites offering investment software to the unwary. One site I came across boldly proclaims: "Individuals can and do beat the pros! The use of our software enhances your ability to think for yourself so you can be your own stock analyst." We know that the stock market is no place for dabblers yet we can't help but wonder if maybe they have found 'the secret.' If you seriously want to invest, seek the help of an independent financial professional and learn how to align your finances with your goals. Investing is about a consistent application of strategy and rebalancing not a gimmick that can be sold as a quick online product.

Visit any of the social networking websites like YouTube, Facebook, MySpace or Twitter and you will find people seeking and giving advice. True, you may learn how individuals have recovered from financial distress, made a bundle from their invest-

ments or used certain financial tools to achieve their own success. The anecdotal evidence you find for making one particular choice or another may seem compelling, but you must always ask yourself: "What are the qualifications of the person offering the advice or information? What is their motive? Is the advice or information offered truly relevant?" When navigating cyberspace, be wary of miracles and watch out for possible conflicts of interest. There is a saying in financial circles that may help you when trying to decide if you should accept advice: "Follow the money." The idea is that if you track who is getting paid, you'll learn who truly benefits from the advice. You may find that the 'free' advice you are receiving actually benefits those who are giving it free but are not appropriate for your situation.

Exchange sites like Craigslist, Kijiji and Amazon can be used easily by unethical users. Don't expect that someone who has posted "\$\$\$ We can help you! \$\$\$ No matter how bad your current credit or financial situations are you can get the cash you need!" seriously has your best interest at heart. You may laugh, but this sort of posting wouldn't be there if it didn't work at some level.

Lastly, be very self-aware of how much personal and financial information you disclose online. There's no harm in perusing a website with a critical eye; it's quite another to divulge your personal details. Identity theft is a very real and growing threat. Self-professed personal growth and guidance websites (like celebrity-babies or savingadvice or mainstream) lure readers with sensational headlines that focus on celebrity personalities or trendy tips for self improvement. The verdict is still out on the utility of this sort of education. It is pretty clear to me that we have little to learn about our finances from Britney Spears and Kevin Federline's prenuptial agreement. The thinly veiled purpose of these websites is to promote sponsor links and products. Personally, I object to websites that blur the lines between advice, gossip, and a sales pitch.

The bottom line--major purchases with life-long implications require detailed and thoughtful analysis. Women are playing an increasing role in making financial decisions according to Point for Credit Union Research & Advice (4). "About 90 percent of women say they're either the primary financial decision maker or equally share in the decisions. About two-thirds also say they manage their money entirely on their own." If this is true, then a prudent approach to cyberspace and a respect for what it is, and isn't, is of great concern to all of us as its reach and influence grows in the coming years. The best rules of thumb:

■ **Whatever your purchase, do your best to determine that it is a 'good deal' for you [follow the money] and aligned with your goals.**

■ **Do your own assessment. Does this purchase contribute in good measure to your sense of security and belonging, self-respect, self-expression, taste or cultural mores?**

■ **Based on your goals and values, is this purchase in harmony with what you know to be true about yourself, or is it influenced by outside forces unacquainted with your needs and means?**

Answer these simple questions when making your online purchase or researching the web and you are likely to avoid the perils of cyberspace.

## References

1. Bailey, Peter (2003) *Popular Culture and Performance in the Victorian City*, Cambridge University Press.
2. Clifford, Stephanie (2009) *For BlackBerry, Obama's Devotion Is Priceless*. The New York Times, Media & Advertising, January 9, B1
3. Gunn, Robert W., & Gullickson, Betsy Raskin (2005) *Mind-Set*. Strategic Finance 87(3), 9-11
4. *Understand Women's Financial Needs and Behaviors*. Point for Credit Union Research and Advice, 20-21, June 1, 2007



**Edi Alvarez** works in the financial services industry. She holds a Master of Science and Bachelor of Education and Bachelor of Science degrees from Queen's University, Canada, and serves on the executive board of the San Francisco AWIS Chapter. Edi can be contacted at [edi@aikapa.com](mailto:edi@aikapa.com).

# AWIS

## ASSOCIATION FOR WOMEN IN SCIENCE

### 2009 Executive Board

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**For equity cases** contact  
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## AWIS NATIONAL OFFICE

1200 New York Avenue, NW, Suite 650, Washington, DC 20005

**Phone:** 202-326-8940 **Fax:** 202-326-8960 **Email:** awis@awis.org

**Executive Director:** Janet Bandows Koster

**Program Manager:** Meredith Gibson **External Relations Associate:** Raina Aronowitz

## AWIS LOCAL CHAPTERS

**AK Fairbanks:** Contact Elena Bautista  
Sparrow ffebs@uaf.edu

**AL Auburn:** Contact L.K. Milton  
Miltolk@auburn.edu

**AR Northeast:** Contact Jeannette  
Loutsch jloutsch@astate.edu

**AR Ozark:** Contact Sreekala Bajwa  
sgbajwa@uark.edu

**AZ Central:** Contact Susanne Neuer  
susanne.neuer@asu.edu

**AZ Tucson-Southern:** Contact Beatrice  
Mueller mueller@psi.edu

**CA East Bay:** Contact Mara Jeffress  
mara.jeffress@gmail.com

**CA Los Angeles/Ventura County:** Contact  
Safura Babu-Khan safurab@amgen.com

**CA Palo Alto:** Contact Neesha Savarna  
sneesha@hotmail.com

**CA Sacramento Valley:** Contact Ingrid  
Neumann lnphysics@gmail.com

**CA San Diego:** Contact Jenny Chaplin  
president@awissd.org  
Cindy Atwell secretary@awissd.org

**CA San Francisco:** Contact Edi Alvarez  
sfawis-board@lists.sfawis.com

**CT** Contact Holly Soutter  
holly.h.soutter@pfizer.com

**DC** Contact Jodi Wesemann  
J\_Wesemann@acs.org

**FL Tallahassee:** Contact Penny J. Gilmer  
gilmer@chem.fsu.edu

**GA Southwest:** Contact Melissa Bryan  
melissa.bryan@darton.edu

**GA University of Georgia:** Contact  
Co-Pres Sana Hashmi shashmi@uga.edu  
Co-Pres Nithya Natrajan nithya78@uga.edu

**IL Chicago:** Contact Sandy Pearce  
sandyandmatt@hotmail.com

**IL Heart of Illinois:** Contact  
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Grace Foote Johns johns@phy.ilstu.edu

**IN Indianapolis:** Contact Rebecca S. Domeck  
domeck\_rebecca\_s@lilly.com

**KS Flint Hills:** Contact Beth Montelone  
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**KS Sunflower:** Contact Sarah LaFrenz  
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Elizabeth Smith esmith@kdhe.state.ks.us

**LA Northern:** Contact Anna M. Hill hill@ulm.edu

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Rebecca.pitts@perkinelmer.com

**MD Bethesda:** Contact Daphne Robinson  
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**MI Detroit:** Contact Noemi G. Mirkin  
nmirkin@umich.edu

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Anett Trebitz trebitz.anett@epa.gov

**MO Kansas City Area:**  
Contact Emily Abdoler  
abdolere@william.jewell.edu

**MO St Louis:** Contact Genevieve Croft  
croft@wustl.edu

**NC RTP Triangle Area:** Nina Stromgren Allen  
nina\_allen@ncsu.edu

**NH Durham-University of NH:** Contact  
Anita Klein anita.klein@unh.edu

**NJ Central:** Contact Julia Heinrich  
heinrich\_jn@mac.com

**NY Buffalo:** Contact Gail Willsky  
gwillsky@acsu.buffalo.edu

**NY Metropolitan:** Contact Kathleen Nolan  
knolan@stfranciscollege.edu  
Contact Harini Patel adhikariha@cs.com

**OH Columbus-Central Ohio:** Contact Raquel  
Diaz-Sprague diaz-sprague.1@osu.edu

**OH Northwestern:** Contact Karen Bjorkman  
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**PA Philadelphia:** Contact Sita Awasthi  
president@awisphl.org

**SC Columbia:** Contact Sarah Baxter  
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lenhart@math.utk.edu

**TX Corpus Christi:** Contact Janie De Santos  
Jdesantos@islander.tamucc.edu

**TX Gulf Coast - Houston:** Contact Irmgard  
Willcockson Irmgard.Willcockson@uth.tmc.edu

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celine.godard-codding@TIEHH.TTU.edu

**VA New River Valley:** Contact Claudia Brodtkin  
clbrodtki@vt.edu

**WA Seattle:** Contact Contact Marissa Braff  
info@seattleawis.org

**WV Morgantown:** Contact Amy Keese  
ams\_510@yahoo.com