

# Tech Musings

May, 1998

How to bash pseudoscience  
Some wind energy resources  
New white LED caving lamp  
ExtraOrdinary science papers  
Reading web site referral logs

An outfit by the name of the *International Tesla Society* puts on the *ExtraOrdinary Science Conferences* up in Colorado Springs. Where bunches of highly controversial alternate energy and non-traditional medical papers and workshops are encouraged. I've belatedly sat down and gone through their entire last year's video set, and thought I would share several of my impressions with you.

Some of the more technical papers are listed in figure one.

On one hand, I strongly feel that independent thoughts and hands-on personal experiments definitely must be encouraged. Viable forums most assuredly should exist for unpopular or non-mainstream thought.

But—after blearily wading through their great heaping stack of vids, I didn't find all that much here to get excited about. Nothing even remotely in the same league as the real science carbon nanotubes (Rodriguez in the *Hydrogen&Fuel Cell Letter*, Feb, 97) or the photosynthesis metalloradicals (Hoganson in *Science*, Sept 26, 1997) that were coming down at nearly the same time. Or anything that just had to change the scope or directions of my own personal in-house research on magic sinewaves, wireless current isopods, or PIC PostScript robotics.

I strongly feel that *an hour in the library is worth a month in the lab*. Had a lot more time and effort been spent on learning more math, finding out what real science believes and in correctly making basic lab tests, the incredible energy I saw in the videos might have been better spent...

**Cosmic Conversion**— This video from Paul Brown is a curious mix of a real science tutorial about current nuclear battery technologies mixed in with speculation on a bizarre T.H. Moray "free energy" device from the 1920's. He concludes that Moray definitely had a radium battery, possibly had a cosmic ray receiver, and probably just barely missed inventing the field effect transistor.

**Super Steam Technology**— This one appeared to be a fresh look at flash steam generators. Uh, there sure was bunches of white "smoke" and lots of noise in their vids, along with "Boy, look at all of that steam! But I saw precious little in the way of actual efficiency tests. Or addressing those crucial corrosion, scale, and closed loop recycling issues. Compare this to *Power Engineering* where electric utilities are now nearing a staggering 60% efficiency through use of both multi-cycling and close coupling.

**Tesla Turbines**— As figure two shows us, these are just a bunch of smooth and closely spaced disks that use the viscosity of laminar flow to directly convert an input fluid's energy into rotary energy. Or vice versa. These turbines are bladeless, and can in theory even pump water full of live fish. While detailed instructions were given for creating museum quality see-thru models, any efficiency tests seemed conspicuously absent.

**Cold Fusion**— I'll encourage you to form your own opinions on this one, which provided fresh updates on such happenings as the *Patterson Cell* and

other anomalous heat measurements. Sorry, but I came away from this vid with even stronger feelings that (a) cold fusion lacks credibility, and (b) the cold fusion proponents are their own worst enemies.

**Tesla's Lab**— This one is an attempt to duplicate a quarter scale model of Tesla's "free energy" lab and recreate early "earth resonance" experiments. There sure was a lot of attention to detail here in getting just the right width of slats over the correct brand of tarpaper on the sides of the shed. Production of 12,000 foot long sparks are expected by the proponents. From a two kilowatt generator. Ayup.

**Element Five**— The *atomic weight* of any isotope nearly equals its number of protons and neutrons. Curiously, the only low value atomic weight that is *not* yet known is number five. Yes, there are a few possible candidates, but the beastie known as the *curve of binding energy* makes their existence unlikely. Ron Kovak believes his lab has created an isotope five, done by applying his special electromagnetic fields that transmute energy from a hypothetical aether source.

*Advanced GEET System*, Paul Pantone  
*Atomic-5*, Ron Kovack  
*Cold Fusion and the New Energy Age*, Eugene Mallove  
*Conversion of Cosmic Rays to Electricity*, Paul Brown  
*Drawing Energy from Black Holes*, Rastko Marlic  
*Duplicating Tesla's Colorado Springs Lab*, Jerry Labine  
*Implosive Technology Automotive Drive*, Sonne Ward  
*Kirilan Photography*, Linda White  
*Magnetic Ultrathin Films*, Zbigniew Celinski  
*New Innovations in Brown's Gas*, George Wiseman  
*The Neurophone*, Mason Rumney  
*Optical Communications Technology*, Mark Wickert  
*Rife Beam Ray Device*, James Bare  
*Shape Power: A Key to Antigravity*, Dan Davidson  
*Super Steam Technology*, Leonard Dorsett

Fig. 1 – A FEW PAPERS from the 1997 ExtraOrdinary Science conference.

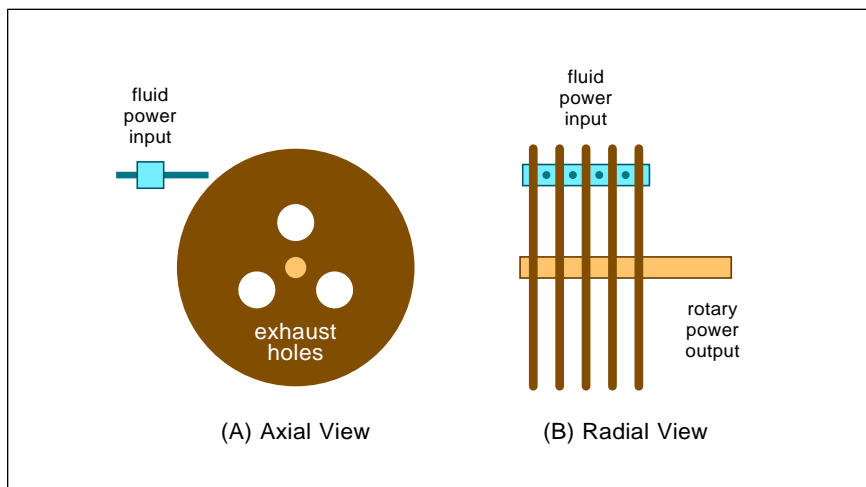


Fig. 2 – A TESLA TURBINE consists of closely spaced bladeless disks. The energy transfer is by way of laminar flow viscous drag. Presence of exit turbulence can severely limit the system efficiency.

**Shape Power**– This idea is basically repackaged "pyramid power", which tries to extract the free energy from a hypothetical (and largely discredited) aether. Sort of a "unified theory" that ties everything from clairvoyance to cold fusion to self-sharpening razor blades to Orgonne energy to dowsing all together. "Supraluminal" activities at 5X light speed are claimed. Along with antigravity effects.

**GEET Technology**– Paul Pantone's ongoing experiments in the "miracle carburetor" arena. This self-induced "plasma" vacuum recycles its exhaust heat to further refine input fuels for a claimed big efficiency improvement

and substantial pollution reduction. Transmutation of carbon *down* into hydrogen is apparently also implied. As is the ability to run on toxic waste instead of gasoline. There do seem to be a lot of true believers. More info: [www.friend.ly.net/GEET](http://www.friend.ly.net/GEET)

Well, these sort of give you the flavor of the conference. Rounding out the tech presentations were some solid and real science papers about magnetic thin films, black holes, and optical communications on one end. And, near the other extreme, lots of *really* far off stuff that I felt clearly went *way* beyond the "few chips shy of a full board" category.

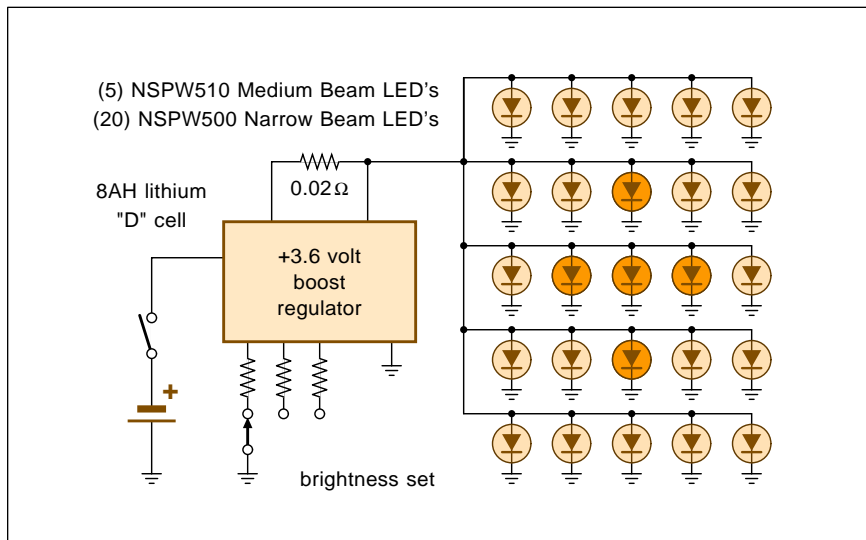


Fig. 3 – A NEW CAVING LAMP from HDS systems uses 25 white LED'S in parallel. The performance and reliability are both exceptional.

The full set of videos is available from the *International Tesla Society*. Who also stock the books, videos, lab time rentals, and even T-shirts of the individual proponents. Their web site is [www.tesla.org](http://www.tesla.org).

### A New Cave Lamp

As you might imagine, cavers tend to be more than a little fussy over their light sources. A few of us still doggedly stick with good old carbide lights. Which certainly do remain cheap, warm, repairable, and reliable. Although pretty much useless in any waterfalls or high wind conditions. These days, some trips underground can last several days. Operating cost, weight, useful life, and reliability are paramount. Obvious solutions such as Mag Lites usually have filaments that are unacceptably fragile.

Henry Schneiker of *HDS Systems* has come up with a new cave lamp scheme that uses paralleled white LED light emitting diodes. Figure three shows you some of the details. The key secret is the new white LED family from *Nichia*. These are really bright blue LED's that have special phosphors added to them to boost the red and yellow spectral output. The color is a "moonlight" white. With a CRI color rendition index of 0.85. Which is not half bad, but not as warm or "carbide-like" as cavers are used to seeing formations with.

There are a total of 25 parallel connected LED's. Twenty of these are narrow beam and five are wider beam. This gives a pattern similar to the reflector on a carbide lamp. The pattern is further adjusted by precise orientation of the diodes.

Surprisingly, there appears to be enough device-to-device uniformity in any selected LED lot that current hogging or brightness variations are not all that much of a problem. At its normal brightness, each LED gets biased to the five milliamper point which gives you the best compromise between its efficiency and brightness. Again at normal brightness, the 125 mils total current is comparable to an incandescent flashlight bulb after it has run for a while.

Unlike some earlier LED devices, the *Nichia* device efficiency is best at *lower* currents.

The current is carefully sensed and

FIELD	EXAMPLE	PURPOSE
00	mirrorii-fxp0-ftp.alaska.net,	client ip address
01	-,	client username
02	2/2/98,	date
03	0:04:17,	time
04	W3SVC,	service
05	TOWER4,	computer name
06	www.Pepperoni.com,	IP address of server
07	311,	Processing time in Msec
08	225,	Bytes received
09	2494,	Bytes sent
10	200,	Service status code
11	0,	Windows NT status code
12	GET,	target of operation
13	/Default.htm,	requested file
14	Mozilla/3.0.... (Win95; U),	client system
15	http://www.r.....htm,	client referral
16	-,	often unused
17	-,	often unused

Each field ends with a "comma-space" delimiter.

Fig. 4 – WEB SERVER EXTENDED LOG FORMAT provides more client data. The new "referral" field #15 can be exceptionally useful.

converted to a switch-mode voltage using either a *Maxim* regulator chip or else a baby PIC. Output voltage is typically 3.6 volts. The usual power source is a 8 ampere hour 2.8 volt lithium "D" cell. Thus, the switching regulator steps up the voltage a little initially, and progressively more as the cell discharges.

A three position switch gives you a choice of "moonlight" with thousands of hours run time, "normal" at forty hours or so, and "extra bright".

The efficiency of the new LED's themselves are around 7.5 Lumens per watt. Which is comparable to a fresh incandescent flashlight lamp. But unlike an incandescent lamp, this efficiency holds up as your batteries age. Do note that the light output is constant as the battery gives up its charge; neither your color nor your efficiency change. The light is also more useful because of the lack of a hot center spot. Also, it is reasonable to expect double or triple efficiency within a year or two as white LED technology further improves. Orange LED's already approach three times incandescent efficiency. Especially those from *Hewlett Packard*.

Henry can be reached via email at [hds@rtd.com](mailto:hds@rtd.com), while that Nichia web site is [www.la.meshnet.or.jp/nichia](http://www.la.meshnet.or.jp/nichia)

### Referral Log Files

On back in *Tech Musings #116*, we looked at using older web log files. Playing with your ISP's log files can be extremely valuable when you have your own web site. It turns out that newer web servers use an *Extended Log File Format* that I've shown in figure four. Several very useful new features are provided. The format is different enough that you'll probably need new code to read it.

The log information and the error information is combined into a single file. Each line consists of ordinary printable ASCII characters and holds one site hit. There are now *eighteen* fields per line.

Each field is *delimited* by a unique ending comma and space.

Some of these new fields tell you such things as Mac users being less than five percent of all web activity, AOL having a three percent share on weekdays up to a four percent on weekends, and Netscape currently sitting at 57% popularity but rapidly falling. By looking at file downloads and sizes, the logs also reveal most of you now having those essential new Acrobat 3.01 PDF file readers. Because Acrobat is now *the* standard way of delivering *all* electronic tech

info across the web.

The processing times tell you how fast your server is serving and how choked up the web is. Plus the usual time-of-day, day-of-week, and total bandwidth stats.

But the really major new field is the *referral* in slot fifteen. This one shows you the *previous* page your visitor *came from*. Besides being an incredible ego trip, this referral info can do all sorts of magic tricks.

For instance, your own site could often be the previously referred page. If there is any internal broken link error, your referral log shows you exactly where the problem lies. Just search for "404" in your log file field #10, then check the referral field #15 for that line. If you are buying banner advertising or using exchange links, you can measure how effective the links are by their total hits.

Yeah, you could use the "find links to this url" of *Hotbot* or that "link:" feature of *Alta Vista* to nail down sites having links to yours. But this referral log shows you which sites actually work and which are doing the most for you. I've found that the referral logs find more new linking sites and do so much faster.

You will find certain commercial packages such as *Webtrends* that can extract all sorts of fancy log info for you. But I prefer to use PostScript instead to directly dig down into the more obscure or more specialized custom stuff. PostScript can easily read nearly any file in almost any format. A looped search can convert every log line into a new array of 18 strings. From there, the data is easily manipulated six ways from Sunday.

For instance, a "raw" referral log will mostly have blank referrals, hits from your own site, newsgroup hits, and search engine hits. Not all that useful in the *Webtrends* summary. Using PostScript, these could all get filtered out to leave you the "real" underlying referrals which tell you what is working and what is not.

Note that typical search engine queries have a "?" somewhere in their url. Normally, you will want to filter these out. But a "popularity list" of what people are searching for when they find your site can sure tell you the direction you should be heading.

Hint: To find real linked visitors,

SOME WIND ENERGY RESOURCES

**Alternative Energy Trends**  
205 S Beverly Dr  
Beverly Hills CA 90212  
(310) 273-3486

**Alternative Power**  
104 N Main St  
Viroqua WI 54665  
(608) 634-2984

**American Wind Assn**  
122 C St NW, 4th FL  
Washington DC 20001  
(202) 383-2500

**Bergey Windpower**  
2001 Priestley Ave  
Norman OK 73069

**Energy from the Wind**  
SEAL/Colorado State Univ  
Ft Collins CO 80523  
(303) 491-1869

**Home Power**  
PO Box 520  
Ashland OR 97520  
(800) 707-6585

**Jnl Wind Energy Tech**  
Box 4008  
St Johnsbury VT 05819  
(802) 748-2425

**Jnl of Wind Engineering**  
655 Americas Ave  
New York NY 10010  
(212) 633-3730

**New Topper Windmills**  
2508 Bartlett  
Houston TX 77098  
(713) 524-0860

**O'Brook Windmills**  
9435 12th Street  
North Benton OH 44449  
(330) 584-4681

**Old Mill News**  
111 S Main St  
Rockford MI 49341  
(615) 577-7757

**Real Goods**  
966 Mazzoni St  
Ukiah CA 95482  
(800) 762-7325

**Rocky Mountain Institute**  
1739 Snowmass Creek Rd  
Snowmass CO 81654  
(970) 927-3851

**Solar/Renewable Outlook**  
951 Pershing Dr  
Silver Spring MD 20910  
(800) 274-6737

**Solar/Wind Technology**  
655 Americas Ave  
New York NY 10010  
(212) 989-5800

**Southwest Windpower**  
PO Box 22178  
Flagstaff AZ 86002  
(520) 526-0997

**Trace Engineering**  
5916 195th St NE  
Arlington WA 98223  
(360) 435-8826

**Wind Energy Technology**  
DOE/OSTI  
Springfield VA 22161  
(703) 487-4630

**Windmills' Gazette**  
PO Box 507  
Rio Vista TX 76093

**WindPower Monthly**  
PO Box 4258  
Grand Junction CO 81502  
(970) 245-9431

first filter out those "no referrals" by dumping every line less than three characters. Then dump your own site referrals, along with their upper or lower case variations. Then get rid of the search engines by looking for "?".

Next, ignore any "file:" or "news:" lines. Then truncate everything to the right of a partial page "#" link. As a final touch, replace any "%7E" values that may rarely occur with their more common and equivalent "~".

Long term, you can also measure the ratio of your return visitors, by comparing any new referrals against those that bump the counts of already known visiting sites.

I've posted a dozen examples of web site analysis code to [www.tinaja.com/acrob01.html](http://www.tinaja.com/acrob01.html) Especially do check out files [REFLOG1.HTML](#) and [REFSUM1.HTML](#).

Our new **PostScript** routines now appear in three different ways: First as an easy-to-read linked HTML file, second as ready-to-run and simply edited sourcecode, and third as actual Acrobat .PDF demo results.

**Thoughts on Wind Power**

Our Desert Southwest certainly has its unique set of sounds. From the 3 am yip-yarfs of coyote pups to a sidewinder's rattle to the clickings of a coati mundi to the unmistakable call of a canyon wren. By far the

most distinct signature is the classic creaking and groaning of an ancient *Aermotor* windmill. Pumping away in some remote wash.

You can still buy real *Aermotor* windmills. New or used, whole or in bits and pieces. They are not cheap. A new twelve footer costs you just under \$9000 with the tower.

Two sources do appear to be *New Topper Windmills* or else *O'Brook Windmills*. Who also offers windmill books, consulting, and other energy services. I've gathered together some wind power names and numbers as this month's resource sidebar.

A mag known as the *Windmiller's Gazette* seems like a low cost and informal way to get started. So does good old *Home Power*, along with their new CD ROM II. A handful of classic windmill books are offered by

*Lindsay Publicatons*, while *Amazon Books* has most of the rest. I've got a commented and reviewed Amazon book access link newly up for you at [www.tinaja.com/amlink01.html](http://www.tinaja.com/amlink01.html)

Useful wind energy web sites do include [www.ag.ohio-state.edu/~farm/wind.html](http://www.ag.ohio-state.edu/~farm/wind.html) along with [www.nrel.gov/research/wind/wind\\_bib.html](http://www.nrel.gov/research/wind/wind_bib.html), and also [www.me3.org/issues/wind](http://www.me3.org/issues/wind) For a history of *Aermotor*, check into the fine [www.4kllamas.com/history.htm](http://www.4kllamas.com/history.htm).

One newsletter is *awea.wind.home* reached with [tomegray@econet.org](mailto:tomegray@econet.org). Typical newsgroups include...

[alt.energy](#)  
[alt.energy.homepower](#)  
[alt.energy.renewable](#)  
[sci.energy](#)

Please let me know about any wind energy resources I may have missed. Especially any other books you like.

A freebie *Incredible Secret Money Machine II* for your trouble.

**New Tech Lit**

From *Maxim*, the new CD holding their *Full Line Data Catalog*. From *USMikroChips* their new *Hall Effect Solutions* data book.

From *Microchip*, their new second edition CD on their technical library. From *Stanford Microdevices*, a new *Wireless Product Catalog*.

Details on a new *ISU* inclinometer

**NEED HELP?**

Phone or write all your US Tech Musings questions to:

Don Lancaster  
Synergetics  
Box 809-EN  
Thatcher, AZ, 85552  
(520) 428-4073

US email: [don@tinaja.com](mailto:don@tinaja.com)  
Web page: [www.tinaja.com](http://www.tinaja.com)

**NAMES AND NUMBERS**

**Burr-Brown**  
6730 S Tucson Blvd  
Tucson AZ 85706  
(520) 746-1111

**HDS Systems**  
PO Box 42767  
Tucson AZ 85733  
(520) 881-2632

**Hewlett-Packard**  
PO Box 10301  
Palo Alto CA 94303  
(415) 857-1501

**Hydrogen & Fuel Cell Letter**  
Grinnell St PO Box 14  
Rhinecliff NY 12574  
(914) 876-5988

**Intl Tesla Society**  
PO Box 5636  
Colorado Springs CO 80931  
(800) 379-0137

**Lindsay Publications**  
PO Box 538  
Bradley IL 60915  
(815) 935-5353

**Maxim**  
120 San Gabriel Dr  
Sunnyvale CA 94086  
(800) 998-8800

**Microchip Technology**  
2355 W Chandler Blvd  
Chandler AZ 85224  
(602) 786-7200

**Nichia**  
181 Metro Dr Ste 350  
San Jose CA 95110  
(408) 573-0933

**Power Engineering**  
1421 S Sheridan Rd  
Tusla OK 74112  
(918) 835-3161

**Science/AAAS**  
1333 H St NW  
Washington DC 20005  
(202) 326-6400

**SmartTool Technologies**  
2030 B Fortune Dr  
San Jose CA 95131  
(408) 434-7000

**Snaptron**  
2468 E 9th St  
Loveland CO 80537  
(970) 663-2820

**Stanford Microdevices**  
522 Almanor Ave  
Sunnyvale CA 94086  
(800) 764-6642

**Synergetics**  
Box 809  
Thatcher AZ 85552  
(520) 428-4073

**System ID Warehouse**  
1401 Capital Ave  
Plano TX 75074  
(800) 397-9783

**USMikroChips**  
15 Sutton Rd  
Webster MA 01470  
(508) 943-9430

**WEB Trends**  
621 SW Morrison #1025  
Portland OR 97205  
(502) 294-7025

(electronic level) are available from *SmartTool Technologies*. A catalog on books and products for barcode stuff from *System ID Warehouse*.

Free samples for this month: *Burr Brown* 1NA129 instrumentation amp. Plus *tactile dome switches* from the *Snaptron* folks.

*Radio for the Millions* is the latest new-old title from *Lindsay*. It is full of vacuum tube construction projects from the 1940's.

Useful tools for applying critical thought to pseudoscience claims do appear in my *BASHPSEU.PDF*. With them, you can use your water fueled black helicopter to supraluminally dowse for Brown's Gas in Roswell. The same tools can let you quickly separate useful adjuncts for porcine whole body cleanliness from utter

and total hogwash.

I have just added a new *Captain Video's Secret Mountain Laboratory* library page to my [www.tinaja.com](http://www.tinaja.com) web site. This one is mostly video and NTSC tutorials. I've also added lots of new files to the *Cubic Splines* library page.

I've gathered many of my earlier books all together into my *Lancaster Classics Library*. Check my nearby *Synergetics* ad for more details. Or get one of our new online catalogs at [www.tinaja.com/synlib01.html](http://www.tinaja.com/synlib01.html)

Instant solutions to any technical or research problem can be found at [www.tinaja.com/info01.html](http://www.tinaja.com/info01.html).

As usual, most of the mentioned items should appear in our *Names & Numbers* or *Wind Energy* sidebars. Let's hear from you. ♦

**new from DON LANCASTER**

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The sixteenth (!) printing of Don's bible on analog op-amp lowpass, bandpass, and highpass active filters. De-mystified instant designs. **\$28.50**

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- PostScript Show and Tell . . . . . \$29.50
- PostScript Video & secrets . . . . . \$29.50
- PostScript Reference II . . . . . \$34.50
- PostScript Tutorial/Cookbook . . . . . \$22.50
- PostScript by Example . . . . . \$32.50
- Understanding PS Programming . . . . . \$29.50
- PostScript: A Visual Approach . . . . . \$22.50
- PostScript Program Design . . . . . \$24.50
- Thinking in PostScript . . . . . \$22.50
- LaserWriter Reference . . . . . \$19.50
- Type 1 Font Format . . . . . \$16.50
- Acrobat Reference . . . . . \$24.50
- Whole works (all PostScript) . . . . . \$380.00
- Technical Insider Secrets . . . . . FREE

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(520) 428-4073

