



# ecodwell™

GOING BEYOND GREEN™ — HEALTHY HOME MONTHLY

presented by INTERNATIONAL INSTITUTE FOR  
BUILDING-BIOLOGY® & ECOLOGY

## APRIL 2014

**Message from Executive Director, Michael Conn** 1

**Calendar of Events** 2

**Beyond Green** 2  
*Earth Day, Florida! Reserve Your Seat, Toxic Electricity, by Steven McGee*

**Featured Article** 3  
*The Right Filtration System ~ by Ron & Lisa Beres*

**You heard it here first!** IBE might very well be launching Building Biology Magazine. Thanks to a generous grant from Cameron Das, BBEC, EMRS, we are investigating the viability of publishing a semi-monthly magazine, in both print and digital format. Research into this thrilling venture is being spearheaded by Erik Rosen, our Director of Interactive Services; Erik's 90-day report will be submitted for discussion to IBE's board of directors at their May meeting.



**Our students are seizing an inaugural opportunity** to capitalize on the extensive credentials of Gail Brandys, one of our new co-instructors for our *Indoor Air & Water Quality seminar, IBE 211*. Gail brings decades of industrial hygiene experience to the 5-day event (4 through 8 May 2014), and a wealth of air quality knowledge. Learn the methods for detecting, identifying, and mitigating the dangerous elements, chemicals, and organisms that are present in our indoor air, water, and building materials. Join us for five days of lectures, hands-on labs for instrumentation use, instructor-led discussions, and demonstrations. To download the seminar syllabus and enroll in IBE 211 today, [click here](#).

**IBE's new professional certification level is open for enrollment:** *Electromagnetic Radiation Specialist (EMRS)*. Everything you'll need to know to enroll in this exciting new opportunity is now available online by [clicking here](#). Designed for people who want to concentrate on better helping their clients identify and eliminate or remediate electromagnetic issues in homes, schools, workplaces, and lifestyles, this certification can be earned in addition to BBP or BBEC certification, or as a stand-alone pursuit. Questions? Write to: [mconn@buildingbiology.net](mailto:mconn@buildingbiology.net).

**IBE advances its Advanced Electromagnetics Radiation Seminar:** This advanced seminar has a minimum of lecture and a maximum of lab and practical experiences to allow you to develop your skill set for best measurement practices, remediation planning and remediation costing. Attendance at this seminar is required for completion of our new EMRS Certification track. Seats are already limited. [Click here](#) to learn more.

With your help we can all live in healthier indoor environments. Make your personal commitment to sustainable design and indoor vigilance: Join us today.

### Become an IBE Member

- o Basic Member \$45
- o Advanced Member \$100
- o Lifetime Member \$1000

View our membership page for more information on the benefits of membership. **Sign up today** to start making a real sustainable difference in global indoor environments.

[Click Here To Join Us!](#)

Michael Conn, IBE Executive Director



# ecodwell™

GOING BEYOND GREEN™—HEALTHY HOME MONTHLY

presented by INTERNATIONAL INSTITUTE FOR  
BUILDING-BIOLOGY® & ECOLOGY

## Beyond Green



### Earth Day, Florida!

Diana Schultz, BBEC and John Henderson, BBEC manned IBE's booth at the Central Florida Earth Day celebration, in Orlando. A huge crowd attended, and our booth throughout the day was swarmed. Diana was one of the featured presenters,

addressing the crowd on the topic: *The Holistic Study of our Natural and Built Environments and Human Health*. To check out all the speakers on the Central Florida Earth Day website, [click here](#).



**Reserve Your Seat(s):** Want a seat held for you in our upcoming and/or other future seminars and events without paying your tuition?

Find the orange IBE pay icon on our [Seminars](#) and our [Certifications](#) pages, click to submit a \$300 deposit (refundable up to 30 days prior to the event), and your seat is reserved. Questions? Write us at: [infopod@buildingbiology.net](mailto:infopod@buildingbiology.net)

### Toxic Electricity

by Steven Magee



Dr. Steven Magee discovered widespread radiation sickness in modern society, found the “Multiple-Sun Effect” in architecture, and developed the “Extinction Energy,” “Electromagnetic Blue Sky”

and “Electromagnetic Population Growth” theories. He is now one of the leading radiation and human health experts in the world.

Toxic Electricity provides a clear and comprehensive description of the many ways in which electrical fields impact human health and offers simple steps that anyone can take to live a more vibrant life in our electrically toxic world. The author does a masterful job of presenting some fairly complex concepts in a way that is easily understandable. Reading this book will give you a deeper understanding of how unseen radiation in your living and working environment may be impacting you.

[amazon.com](http://amazon.com), or [barnesandnoble.com](http://barnesandnoble.com)

## Calendar of Coming Events

### IBE Seminars for 2014/15:

**[IBE 211 – Indoor Air & Water Quality](#)** 4 through 8 May 2014, Kanuga Retreat & Conference Center, Hendersonville, North Carolina.

**[IBE 212 – Electromagnetic Radiation](#)**: 8 through 12 September 2014, Kanuga Retreat & Conference Center, Hendersonville, North Carolina.

**[IBE 312 – Advanced Electromagnetic Radiation](#)**: 4 through 7 December 2014; IHM Retreat/Conference Center, Santa Fe, NM.

**[IBE 311 – Advanced Indoor Air & Water Quality](#)**: 10 through 13 November, IHM Retreat/Conference Center, Santa Fe, NM.

**[IBE 213 – Natural Healthy Building & Remodeling Practices](#)**: 23 through 27 February 2015, IHM Retreat/Conference Center, Santa Fe, NM.



# ecodwell™

GOING BEYOND GREEN™— HEALTHY HOME MONTHLY

presented by INTERNATIONAL INSTITUTE FOR  
BUILDING-BIOLOGY® & ECOLOGY

## How to Choose the Right Filtration System

By Ron & Lisa Beres

Water filters come in many forms, but they all rely on a limited number of technologies to remove the numerous contaminants typically found in water. Municipal water treatment systems employ several technologies to treat the water so that it's fit for human consumption; however these disinfection methods come with a steep price tag on health. To protect drinking water from disease-causing organisms or pathogens, chloramines or chlorine are typically used to treat the water. Once either reacts with organic material, disinfection byproducts such as Trihalomethanes, Haloacetic Acids, Bromate and Chlorite are created, which can pose health serious risks.

*Some people who drink water containing total trihalomethanes in excess of the MCL over many years could experience liver, kidney, or central nervous system problems and increased risk of cancer. ~ Environmental Protection Agency (EPA)*

Understanding the types of technologies available to treat water for both biological and chemical contaminants will make it easier for you review the pros and cons of each. You can achieve clean, purified water by installing the appropriate filtration system that removes the toxins of concern from your water.

Here are a few pointers to help narrow down your search:

- Some filters combine the power of several technologies, while others work with one type of technology.
- To verify if a filter removes a certain contaminant, check whether it's certified for that contaminant by a reputable agency such as [NSF](#) or the California Department of Public Health.
- Filters labeled "NSF" may be certified to remove toxins from water but these certifications aren't all created equal. A filter may be certified to remove a specific contaminant, or in some cases, certification might be for improving water taste; be sure to read the fine print.

### Seven Water Filtration System Basics:

**1) Activated Carbon/Carbon Filters:** These vary in effectiveness, but generally *carbon* filters remove contaminants such as lead, mercury, asbestos, and several other volatile organic compounds (VOCs). Activated carbon chemically bonds with contaminants and removes them from the water – but it also has its limitations. These do not remove inorganic compounds such as fluoride. Additionally, depending on the NSF certification, some are effective at removing

## Going Beyond Green

**"Some people ... could experience liver, kidney, or central nervous system problems."**

chlorine whereas others only remove chlorine taste and odor. Here are the two most common:

**Carbon Block:** These filters have a larger surface area than that of granulated activated carbon fiber which makes them more effective. This type of filter is made by heating activated carbon into blocks. Keep in mind though, that the speed at which water flows through the filter also determines how effectively filtered it is.

**Granulated Activated Carbon:** Carbon block filters work better than this type of filter. Granulated Activated Carbon contains tiny grains of activated carbon and they have a small surface area. Their performance is also affected by how fast water flows through them.



# ecodwell™

GOING BEYOND GREEN™— HEALTHY HOME MONTHLY

presented by

INTERNATIONAL INSTITUTE FOR  
BUILDING-BIOLOGY® & ECOLOGY

**2) Ultraviolet (UV):** Ultraviolet light can be used to kill certain microorganisms and bacteria; however, this process can *not* remove chemical pollutants.

**3) Distillation:** This type of filter uses heat to vaporize water and then the steam is condensed back to water. A large number of bacteria are removed this way, as well as chemicals and viruses. Distillation does not remove volatile organic chemicals (VOCs), chlorine or trihalomethanes.

**4) Mechanical Fibers:** These work like ceramic filters by removing solid contaminants. In order to clean the water more effectively, they are used in combination with other types of filters.

**5) Reverse Osmosis:** This can be effective at removing contaminants such as arsenic, fluoride, nitrates, hexavalent chromium and many other contaminants. In order to filter the contaminants, water is pushed through a semi-permeable membrane where particles larger than water molecules are blocked out.

**6) Deionization:** In case you would prefer a more complex form of filtration, deionization removes electrically charged molecules and iron salts through an ion exchange process. Microorganisms and non-ionic compounds (ie: many VOCs or trihalomethanes) can not be removed through an ion exchange process.

**7) Ozone:** According to the EPA, Bromate occurs when bromide in the water reacts with the disinfectant, ozone. It is great at killing bacteria and additional micro-

organisms, but works best when paired with other filtration methods as it is not effective at removing chemical contaminants.

### **Which System to Choose:**

When filtering drinking water for your home, you're basically trying to remove a host of contaminants including microbial forms such as bacteria, parasites and algae, or inorganic contaminants such as copper, brass, aluminum, iron, etc. Untreated water contains a large number of potentially harmful organisms and compounds, all of which require advanced filters to remove.

**POU (Point-of-Use)-** These types of filtration devices introduce water at a single water connection (eg: kitchen sink) and include under-counter (eg: Reverse Osmosis), countertop eg: Filtration never before available in a pitcher and Berkey) or faucet mounted filters (eg: PUR or Aquasana shower filters).

**POE (Point-of-Entry) –** These are installed at the main water line where water enters the home. They are also referred to as *Whole House Water Filters* because they provide filtered water to all sinks, baths, showers, dishwashers, refrigerators, washing machines and toilets – basically, the entire house (eg: Rhino whole house water filter).

No single filter can remove all undesirables from your drinking water but using a filter lowers the risk of infection or long-term exposure to chemical contaminants. In order to get healthy water for your home, you may need to combine two or more filtration systems. Be sure you understand what the filter removes and test your water (if necessary) before purchasing the appropriate filter for optimal health.

**Don't Forget ... Change Your Filters!**

No filter will give you consistently good performance over the long term unless it receives regular maintenance. As contaminants build up, a filter can not only become less effective, but actually can make your water worse by starting to release harmful bacteria or chemicals back into your filtered water.

*Reprinted with the kind permission of Ron & Lisa Beres*