



March 18

General Meeting Speaker



**Phil Ross**

*"Mycotecture:*

*The History and Future of Fungal Engineering"*

Phil Ross is a San Francisco based artist, educator and inventor. His creative work is focused on the relationships between human beings, technology and the greater living environment.

Phil's artwork has recently been exhibited at the Miller Gallery at Carnegie Mellon University, the Moscow Biennale of Contemporary Art, and the Museum of Jurassic Technology. His projects include a history of bioreactor design for the Yerba Buena Center for the Arts, the creation of a hydroponic garden for the Exploratorium, and growing the world's first mushroom based architecture: Mycotecture.

"My art is driven by a life-long interest in biology. While I was terrible in high-school science and math, my education about the life sciences emerged from a wide engagement with materials and practices. Through my work as a chef I began to understand biochemistry and laboratory methods. As a hospice caregiver I worked with life support technologies and environmental controls. And through my interest in wild mushrooms I learned about taxonomies, forest ecology, and husbandry."

## MycoDigest:

### Fungi and Heavy Metal Pollution

Sara Branco

Human activity impacts nature in many ways. Mining, industry, and agriculture in particular can lead to accumulation of heavy metals in the soil, creating inhospitable environments that most organisms are not equipped to withstand. In excessive quantities, heavy metals such as zinc, copper, cadmium, lead, nickel, and chromium are known to be poisonous. They interfere with normal metabolism, disrupting proteins essential for basic cellular functions such as respiration and growth. Just like all other soil organisms, fungi are affected by high heavy metal concentrations.



*Suillus luteus*, a species tolerant to heavy metal contaminated soils and known to have independently evolved tolerance to high zinc, cadmium, and copper concentrations.

(Photo by Jerzy Opiola)

Image courtesy of David Patterson/Census of Marine Life E&O, licensed under CC BY-NC-SA 2.0.

Many studies have focused on the impact of chemically harsh environments on ectomycorrhizal (EM) fungi. These are symbiotically associated with woody plants and a wide array of tree species, providing water and nutrients and receiving sugars in return. To date, we possess little information about EM fungal environmental requirements and limitations, as well as accurate distributions for most species. Some knowledge *is* available, however, about the physiological mechanisms of metal tolerance in these fungi, which are regulated and coordinated with detoxification and storage to insure intracellular concentration does not exceed a threshold. At least a selected number of species are known to be tolerant, as they are able to regulate and thus neutralize the toxic heavy metal effects in both the outside and inside

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## PRESIDENT'S POST

*Greetings MSSF Members!*

The MSSF has been asked to participate in the 2014 Bio-Blitz "Biodiversity" Festival. This festival is sponsored by the National Park Service, National Geographic Society, the Parks Conservancy, and the Presidio Trust. We will be one of over 50 presenters at this FREE festival to take place March 28-29 on the Marina Green waterfront, next to Fort Mason in San Francisco. This event is open to students and teachers on the 28<sup>th</sup> and to the general public on the 29<sup>th</sup>. It should be both educational and fun: filled with hands-on activities led by dozens of presenters. Obtain additional information on page seven and on the MSSF website.

**Membership Update:** A new MSSF member, Zachary Mayes, has stepped forward to assume the duties of the MSSF's membership chair. Stephanie Wright will continue as the membership chair until the membership database has been updated and Zachary has been trained to assume the position. Please contact Stephanie at [Membership@mssf.org](mailto:Membership@mssf.org) if you have any questions regarding your membership status.

Many of you have asked for updates on the state's two large burn zones as they relate to possible morel harvesting in the spring. There are two main burn zones in the Sierras from 2013 forest fires: the American and the Rim. Both of these burn zones have been closed by the National Forest Service until September 2014. The MSSF has requested special use permits for several organized weekend forays for our members. Our requests have been received and we are awaiting a response from both the Tahoe and the Stanislaus National Forest Supervisors. We have offered to assist Professor Thomas Bruns and his team at the UC Berkeley Biology department, who will be conducting the upcoming scientific post-fire surveys. To date, we have received positive feedback from the ranger coordinating access to the Rim burn zone for these purposes. Be aware that any MSSF member who is granted access to the burn zones may be required to participate in these post-fire surveys in conjunction with any morel harvesting conducted under special use permits issued to the MSSF. I will keep you updated on our progress to obtain permission for us to lead organized forays into these burn zones.

Past MSSF President J.R. Blair was our guest speaker in February. His presentation, "Lifecycles and Ecology of Fungi," was a hit with most all who attended. Our guest speaker this March will be Phil Ross. I am looking forward to his presentation, which should be a fascinating fungal art experience.

I hope to see many of you in the forest soon, or at a future MSSF event!

--Curt Haney, [President@mssf.org](mailto:President@mssf.org)

## CULINARY CORNER

*CULINARY CORNER LOOKS TOWARDS SPRING*

Typically, March is a slow month for edible mushroom foraging. We're busy analyzing the fall and winter season's riches (or lack thereof) and starting to get excited about the advent of morels and spring boletes. (April and May are the traditional morel months.) Also arriving in spring is the much beloved *Amanita velosa*. While it boasts a sweet and nutty flavor — I saute them in butter until browned and sprinkle them with some good salt — this mushroom belongs to a genus of fungi that can make one very sick ... or worse. You won't find *A. velosa* for sale at your farmers market or grocery store. Too risky. Too easy to confuse with its dangerous cousins.



*Amanita velosa*

Lack of rain this season has made it difficult to predict what will be in store for spring. It's not certain whether a generous amount of rainfall beyond a species' regular season will still stimulate fruiting. It's indeed possible that we will see black trumpets, yellowfeet, and hedgehogs — mushrooms typically hunted in winter — fruiting as late as March. Who can know, given our eccentric weather patterns? I would certainly like to see a decent chanterelle season one of these years.

But even if edible mushrooms are not in abundance, February and March are excellent times to forage for certain herbs. I particularly like wild mustard, which grows luxuriantly in fields and between rows of grape vines. Pick it before the flowers bloom rich yellow, and cook as you do other potherbs. Another favorite of mine is stinging nettles. They do indeed sting — pick in a long sleeved shirt and wear gloves — but have a wonderful flavor. Pick the tops of young nettles. Wash well and blanch the leaves in salted water for about 10 minutes. Drink the blanching water; it's very good for you, as well as delicious. Drain the cooked nettles and dry on a tea towel or paper towels. For a treat, turn them into ravioli and serve with a mushroom sauce. I created this recently for a vegetarian friend. The recipe is on page five.

The MSSF Culinary Group February dinner was a well attended feast of East Indian cuisine. Almost totally vegetarian, it began with mushroom appetizers supplied by diners. David Eichorn and Jeanette Larsen were our dinner captains with an all-star crew of 12 cooking and serving their contributions:

- mushroom mulligatawny soup (Dave & Peggy Manual)
- vegetable biryani with shiitakes (Sandy Waks)
- dahl, a spiced lentil stew (Jeanette)

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## MycoDigest continued

cells. Tolerance is achieved in the outside cells by binding metal molecules to other compounds in order to neutralize toxicity, storing metals in vacuoles (intracellular membrane bound organelles filled with water and various molecules) or antioxidant detoxification systems. In the inside cells, toxic effects of metals are neutralized by inhibiting the production of free radicals that cause damage or even cell death.

In most cases, it is unclear whether the ability to withstand high heavy metal concentrations is the result of local adaptation — harsh environments selecting for the evolution of coping mechanisms — or an inherent fungal ability to tolerate harsh chemicals. Many species are able to survive in toxic and non-toxic environments. Genetic differences between populations from such habitats have rarely been reported, suggesting widespread metal tolerance in EM fungi. Yet there are also examples of fungi so well-adapted to heavy metal rich soils that suggest at least some species developed physiological mechanisms to cope with high metal concentrations. *Suillus sp.*, a widespread pine forest associate genus, is one of the best examples of heavy metal tolerance among EM fungi. Some *Suillus luteus* populations have adapted to high levels of zinc, cadmium, and copper. Not only do these differentiated populations accumulate lower metal concentrations in their mycelia, but they also do so in a slower fashion than sensitive ecotypes. They are able to reduce metal intake by trapping metals in molecules in the outer part of the cell wall as well as metals that do get inside cells in vacuoles, subsequently storing them in inactive forms. But even with these protective mechanisms, metal concentrations can at times exceed healthy concentrations within fungal tissues. Whenever this happens, *S. luteus* can excrete metals by including them in proteins that can transverse cell membranes and be deposited back in the soil surrounding the fungal tissue. This mechanism is also known to occur in metal tolerant plants such as the genus *Thlaspi*, famous for its ability to grow in heavily contaminated soils. Moreover, it is noteworthy that *S. luteus* includes ecotypes associated with at least three different heavy metals, suggesting this species is particularly prone to adapt to these environments. Even more interesting is the fact that its close relative *S. bovinus* also includes a zinc tolerant ecotype. Perhaps the whole genus *Suillus* is predisposed to the evolution of metal associated ecotypes, although further research on other genera is needed to confirm this theory.

Understanding the physiology of heavy metal tolerance and accumulation in EM fungi is particularly relevant for the fields of restoration and bioremediation, as particular fungal species or strains can be used in combination with suitable plants for faster habitat recovery projects. It has been suggested that heavy metal tolerant EM fungi can alleviate metal toxicity in plants. In fact, experimental work has shown EM plants perform better in heavy metal contaminated soils when associated with tolerant fungal ecotypes. These have similar soil nutrient uptake abilities compared to sensitive ecotypes and provide suitable plant nutrition even in nutrient poor soils.

Given such enormous diversity among fungi, it is highly probable that many other fungal groups also exhibit environment-related differentiation and the ability to withstand inhospitable environments. Recognizing this differentiation has stakes far greater than mere appreciation for fungal diversity. Not only does it elucidate how organisms evolve in less than ideal conditions (unfortunately more and more common these days), but it also offers specific tools relevant for nature conservation and management.

## Further reading:

- Colpaert, J.V., Wevers, J.H.L., Krznaric, E., Adriaensen, K. 2011. How metal-tolerant ecotypes of ectomycorrhizal fungi protect plants from heavy metal pollution. *Annals of Forest Science* 68:17-24.
- Muller, L.A.H., Vangronsveld, J., Colpaert, J.V. 2007. Genetic structure of

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To subscribe, renew, or make address changes, please contact Stephanie Wright:  
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Past issues of *Mycena News* can be read online at [www.mssf.org](http://www.mssf.org)

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## MycoDigest continued

*Suillus luteus* populations in heavy metal polluted and nonpolluted habitats. *Molecular Ecology* 16:4728-4737.

- Gadd, G.M. 1993. Interactions of fungi with toxic metals. *New Phytologist* 124:25-60.

**About the Author:**

Sara Branco is a postdoctoral researcher at the University of California, Berkeley. Sara fell in love with fungi at age 16 and has been studying them ever since. She is interested in fungal ecology and evolution; that is, how fungi live in nature. She has studied on fungal communities both in Europe and the U.S. and more recently started a population-level study based on whole genome sequencing.

## FUNGAL BREWING: NOT ALL MUSHROOMS ARE CREATED EQUAL

### India Mandelkern

In the last issue of *Mycena News*, culinary contributor Patricia George called upon West Coast brewers to start tinkering with fungi in beer. Turns out that her call has been answered. Last San Francisco Beer Week (February 7-16) writer, brewer, and MSSF member William Bostwick debuted a Candy Cap Cacao Porter, which was poured at Cerveceria de Mateveza in San Francisco's Mission District.

This is not the first mushroom beer has been served in recent history. In the last issue of *Mycena News*, we mentioned that the Hershey, Pennsylvania-based Troegs Brewery had released a small batch of Mushroom Porter last fall. Brewed with maitakes, shiitakes, champignons, and portabellas, the beer was a veritable homage to the Keystone state, which actually grows *half* of America's mushrooms. You can thus imagine my delight when I recently had the opportunity to try it for myself. Given the volume of mushrooms added to the brew, I found the meaty flavors of the shrooms less intense than expected, yet this full-bodied porter still left an unmistakable damp, earthy taste in my mouth. Sort of like rocks.

Bostwick's Candy Cap Cacao Porter, on the other hand, could not have been more different. Brewed with four and one half ounces of locally foraged candy caps, which were then added to an ounce of Madagascar cacao beans, this medium-bodied porter delighted the palate with aromas of brown sugar and maple syrup, chocolate and toasted nuts, topped off with a smooth, slightly sweet finish. The public's reaction was highly favorable. "Out of control," "fantastic," and "the Johnny Weir of beers," were some of the comments overheard in the bar.

This triumph, needless to say, is very encouraging to mushroom lovers. After all, for a beer brewing culture as adventurous as San Francisco's, mushroom brews have been remarkably few and far between. But given the popular success of Bostwick's brew, will shroom beer become the next big thing?

Bostwick is doubtful.

"The bitterness of hops doesn't really 'go' with a mushroom's rich umami flavor," he explains. "Mushrooms match butter, and butter, in beer, is bad — an infamous off flavor, caused by weak yeast, bacterial infection, or an oxygen-poor fermentation."

It's hard to know whether fungal brew has always been an acquired taste. But we do know that it seems to touch a sensitive nerve in the human psyche. For thousands of years, we have associated both fungi and fermented beverages with mystery, ritual, intoxication, and spiritual renewal. Combine the two, and you're in for a treat. The pre-Columbian Aztecs paired psilocybin with their fermented liquid chocolate, and flavored their agave beer with corn ergot. The mysterious soma drink of Vedic rituals, some have hypothesized, contained none other than *Amanita muscaria*, or fly agaric. Even as late as the 18<sup>th</sup> century, some remote Russian tribes were to imbibe a potent fermented beverage called *moukhamorr*, concocted from a poisonous red mushroom. Given this rich history, small wonder that the Candy Cap Cacao Porter was released in a "Shaman Series" along with ales brewed with medicinal herbs such as sage, eucalyptus, yarrow, and licorice. All of them are were flavorful and incredibly unique, but don't expect them to alter your consciousness.



The 'Shaman Series:'  
Candy Cap Porter is third from left

Read more about the history of brewing in Bostwick's forthcoming book, *A Brewer's Tale*, which will be published by Norton this fall.

## Culinary Corner continued

green chicken curry (David), vegetarian curry (Paul Lufkin), gajar (Tony Kiely), raita, two ways (Zoe Caldwell and Pat Raley), mushroom chutney (Monique Carment), green mango chutney, two ways (Patricia George), cilantro chutney (Lesley Stansfield), rosewater lassi (Robin Talel), custard in phyllo crust (Dave Bell and his daughters).

Nettle Ravioli Filling

1 cup cooked nettles  
 1/2 cup sheep's milk ricotta  
 1/4 cup parmesan cheese  
 Salt and pepper  
 Any other stuff you fancy adding to this mixture but keep it wet, but not runny.  
 Fresh egg pasta sheets

Mix well and make ravioli using the egg pasta sheets. Cook in lots of boiling salt water until the ravioli float but do check for doneness. Serve with mushroom sauce.

Mushroom Sauce

2 Tbsp unsalted butter    1/2 cup mushroom broth  
 1 finely chopped shallot    1/2 cup heavy cream  
 1/2 pound mixed fungi    Pinch of nutmeg  
 1/4 cup Cinzano extra dry    Salt and pepper

Saute the shallot just until it is translucent in butter, then add whatever kinds of fungi you have. I used reconstituted morels, king trumpets, namekos, and a little fresh shiitake. When the mushrooms have softened and browned, splash them with the Cinzano. Cook until it is reduced by half and then add the mushroom broth. Reduce by another half, then add the cream. Keep cooking until the liquid is reduced to a good sauce consistency. Season and serve over the cooked ravioli.

If you are an MSSF member who likes to cook and dine with mushrooming friends, join the Culinary Group. Members volunteer to help with the cooking at least once a season by preparing one of the courses. Diners not on the crew that night bring an appetizer to share. We always welcome new members and have plenty of experience and expertise to share with our cooks. Check the website for more information. - Pat

## Hospitality Committee Thanks Paul Lufkin

The Hospitality Committee thanks guest chef Paul Lufkin for his excellent array of appetizers preceding the January 21 general meeting. Paul prepared mushroom pupusas and bean and cheese pupusas, which were paired with salsa and cole slaw. As an additional treat, Paul served "Mother Knows Best" Candy Cap Kombucha as a beverage, which was greatly enjoyed by all.

YOU TOO can be a guest chef at a hospitality function at some point of your choosing in the future. Just email one of your Hospitality co-chairs:

Eric: [mullew@comcast.net](mailto:mullew@comcast.net)

George: [gwillis2@mac.com](mailto:gwillis2@mac.com)

to let us know of your interest.



### Mushroom Pupusa ingredients:

homemade flour tortillas, hedgehog mushrooms (*Hydnum rapundum*), button mushrooms (*Agaricus bosporus*), Salvadoran queso blanco, cilantro, salt and pepper.

## INTRODUCING BAY AREA RADICAL MYCOLOGY

Mino de Angelis & Joe Soeller

Perhaps you've already seen us at the MSSF Fair and other events. We're a fairly new group in a fairly new field, with a membership made up of what we like to call "mushroom permacultural environmentalists" who feel that fungi can make a difference to ecological threats we now face. Bay Area Radical Mycology (BARM) was formed in November 2011 by folks who responded to an invitation posted on various user group lists by Maya Elson. Each of the twenty members who attended the first meeting wanted to create a Mobile Response Team to pursue the "mycoremediation of hazardous materials." Fortunately, we haven't had to test that skill



Sewing up the bunker spawn bags



Mixing wood chips and mycelium for bunker spawn

yet. We are, however, learning to apply our favorite terrestrial life form to address other local concerns. We began by meeting monthly and formed various committees: Education, Outreach, Research, and Cultivation. We booth information tables at various environmental events, offer cultivation seminars, and tackle hands-on restoration projects. Since establishing, we've been fortunate to partner with the East Bay Municipal Utility District (EBMUD), which has allowed us opportunities to apply our theories in practical situations on the watershed. There is also a MSSF connection in our relationship with EBMUD. Mino first met Scott Hill, Land Manager of the Orinda Watershed, while collecting mushrooms for the 2009 MSSF Fungus Fair and kept him informed of the latest research in mycological restoration. Thanks to the formation of BARM, we found an opportunity to collaborate.

For our initial project with EBMUD, BARM inoculated fifty live oak seedlings with mycorrhizal fungi collected from the Orinda Watershed and planted them with the assistance of elementary school children. This project gave the children both a science lesson and a hands-on taste of community volunteering. It was also a very popular field trip.



Monterey Pine logs prepped for inoculation

Since then we've engaged in two additional projects, both in their second year. First, EBMUD proposed a project that would accelerate decay of felled Monterey Pine. Because their watershed is particularly vulnerable to fire, EBMUD's standard for fire suppression is to remove fallen trees from the land, which deprives the landscape of beneficial nutrients that could be unlocked through decomposition. Our solution utilizes wood-rotting fungi. By inoculating the downed trees with *Pleurotus pulmonarius* (oyster mushroom) plug spawn from Fungi Perfecti and a native strain of sawdust spawn from Far West Fungi, we hoped to accelerate decomposition of the fallen trees, lock fire-repellent moisture within the wood, and save EBMUD the cost of hauling out the logs. We monitored the site throughout the year and recently observed oyster mushrooms fruiting not only from zones of inoculation, but also from positions along the log distant from those zones. The mycelium is running!



*S. rugoso-annulata* mycelium growing between bags

EBMUD then asked us to continue the project on a larger scale. We have since inoculated another twenty-five trees with spawn from Far West Fungi's spent blocks and native saprobes left over from this year's MSSF Fair. Despite this year's drought, the *Pleurotus* has already fruited. Our hope is that other land agencies will incorporate this technique into their best management practices.

For our next project, we cultivated "bunker spawn" -- burlap bags stuffed with wood chips and straw, and inoculated with mycelium -- using *Strophar-*



Examining bunker spawn mycelium

been running well! We expect this method of filtration to be a beneficial option for small landholders who need for inexpensive natural remedies.

Future projects may entail lead remediation and creating a self-sustaining “bio-retention filter” that incorporates plants and mycorrhizal fungi. We are



Oyster mushrooms growing from inoculated logs

*ia rugoso-annulata* (garden giant, wine caps). We used this method of myco-filtration to detoxify the watershed of fecal *E. coli* spread by cattle. In our first year we installed bunker spawn in a creek bed that drained a meadow. Although the bunker spawn showed good resistance to the physical stress of the site, we realized that positioning the bunker spawn more astutely could achieve longer term results. We situated our second year's installations above a stream bank in swales that drained a cattle holding pen. This position provided a wider area of filtration and lower impact to the spawn due to slower flow rates of water. We once again used *S. rugoso-annulata* on one portion of the site, and utilized spent *Pleurotus ostreatus* mushroom spawn provided by Far West Fungi on the other.

Despite the recent dryness, the mycelium has been running well! We expect this method of filtration to be a beneficial option for small landholders who need for inexpensive natural remedies. Future projects may entail lead remediation and creating a self-sustaining “bio-retention filter” that incorporates plants and mycorrhizal fungi. We are also interested in collaborating with other mycological-related studies and ventures, both private and academic. And, of course, we're still getting our Mobile Response Team in place.



Mino de Angelis looking at emerging oysters

For more information, see Paul Stamet's “Mycelium Running” and Leila Darwish's “Earth Repair: a Grassroots Guide to Healing Toxic and Damaged Landscapes.” Our Radical Mycology Facebook page and Google group will keep you up to date with our local projects. Become a Myco-Activist.

To join the BARM Facebook group, go to <http://goo.gl/mMH3sO>

To join the Google Discussion group, email Mino or Joe:

[deangelismino@gmail.com](mailto:deangelismino@gmail.com)

[joe@mushroomjoe.com](mailto:joe@mushroomjoe.com)

## Free BioBlitz Diversity Festival 2014: March 28-29

The Mycological Society of San Francisco will be participating in the free BioBlitz Biodiversity Festival sponsored by the National Geographic Magazine, the National Park Service, the Parks Conservancy, and The Presidio Trust on Friday, March 28 from 9am to 6pm and Saturday, March 29 from 9am to 4pm at San Francisco's Crissy Field: 1199 East Beach along the bayshore of the Presidio National Park.

On Friday, the Festival focuses on public school student field trips until early afternoon, followed by a teachers' event from 4-6. Saturday the focus is on the general public. The MSSF will share a booth with Bay Area Radical Mycology, a group working on mycoremediation projects with East Bay MUD. We'll have literature, mushroom displays, and hands-on activities such as stuffing of straw spawn kits and making spore seed balls.

If you would like to volunteer to promote mushrooms and the MSSF, help with the activities, or assist with setup on Thursday or take down on Saturday, including transport of materials, please contact [bioblitz@mssf.org](mailto:bioblitz@mssf.org). The more staffers we have, the easier it is to trade off, spot each other, and also visit the rest of the festival. We welcome help for morning and afternoon shifts, or all day each day as you wish.

Some links for more info about the BioBlitz and the Biodiversity Festival:

<http://www.parksconservancy.org/events/park-interp/bioblitz-2014-and-biodiversity-festival.html>

<http://www.nationalgeographic.com/explorers/projects/bioblitz/golden-gate-california-2014/>

[http://ggnpc.convio.net/site/PageNavigator/BioBlitz\\_2014\\_Event\\_Details.html](http://ggnpc.convio.net/site/PageNavigator/BioBlitz_2014_Event_Details.html)

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"A World of Wonder at Your Feet"

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## MSSF Calendar March 2014

**Monday, March 3, 7 p.m. - Culinary Group Dinner**  
County Fair Building, Golden Gate Pk., 9th & Lincoln, S.F.  
"Japanese New Year." Pre-registration required for attendance. See calendar section at [www.mssf.org](http://www.mssf.org). Email [culinary@mssf.org](mailto:culinary@mssf.org) to volunteer. Next culinary dinner April 7.

**Tuesday, March 11, 7:30 p.m. - MSSF Council Meeting**

**Tuesday, March 18, 7 p.m. - MSSF General Meeting**  
Randall Museum, 199 Museum Way, San Francisco.  
7 p.m. - Mushroom identification and refreshments.  
8 p.m. - Speaker: Phil Ross

**Friday, March 28 and Saturday March 29 - BioBlitz Diversity Festival**

**Monday, April 7, 7p.m. - Culinary Group Dinner**  
County Fair Building, Golden Gate Pk, 9th & Lincoln, S.F.

**Tuesday, April 8, 7:30 p.m. - MSSF Council Meeting**

**Tuesday, April 18, 7 p.m. - MSSF General Meeting**  
Randall Museum, 199 Museum Way, San Francisco.  
7 p.m. - Mushroom identification and refreshments.  
8 p.m. - Speaker: Dimitar Bojantchev

## MSSF Volunteers Needed

Join the Council leadership, learn the inner workings of the MSSF and help make decisions that shape the future of the society. Do your part by contributing your time to a 100% volunteer organization!

To learn more about all council and committee positions, go to: [www.mssf.org](http://www.mssf.org) members-only area, file archives, council member position descriptions. Or email: [President@MSSF.org](mailto:President@MSSF.org)

Remember, our great ALL-VOLUNTEER organization would not survive without volunteers! Volunteering to serve on the council is a great way to learn the inner workings of the society, further your education in the world of fungi, and receive the special benefits of being a council member. Please, do not hesitate to contact me if you would be interested in filling one of these important volunteer positions on the council of the MSSF.

Curt Haney [President@MSSF.org](mailto:President@MSSF.org) 415-333-8820

Check the MSSF online calendar at:  
<http://www.mssf.org/calendar/index.php>  
for full details, latest updates  
and schedule changes.

The submission deadline for the April 2014  
issue of Mycena News is March 15th.  
Send all articles, calendar items and other information  
to: [mycenanews@mssf.org](mailto:mycenanews@mssf.org)