Plant Science Says

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Britton Joins PSPP Faculty

Jennifer Britton has accepted the position of Assistant Professor of Landscape Design. She received her Masters of Landscape Architecture with Certificate in Historic Preservation from the University of Georgia and is currently employed by the Seattle Department of Transportation in Seattle, Washington. Her first day will be July 15.

John Sherwood would like to express his appreciation to the Search Committee—Tracy Dougher (Chair), Matt Lavin, Bill Hoch, and Chris Livingston (Architecture) for all their hard work. Also thank you to everyone in the Department who aided in the process.

Luther Talbert Receives Cox Award

The Cox Faculty Award for Creative Scholarship and Teaching is an award that recognizes faculty who best combine excellence in teaching with research and creative activities. This year the award went to Dr. Luther Talbert. The Cox Award includes a plaque, a monetary stipend, and credit to select materials for the Renne Library.

A distribution of 1/3 of the annual earnings from The Winston and Helen Cox Endowment held by the Montana Community Foundation is used to recognize outstanding faculty and provide resource materials to the Renne Library in accordance with the general guidelines of the Declaration of Gift which established the endowment.

Congratulations Luther!

PSPP Graduate Reception
By Joanna Dumas

PSPP will host a reception honoring the fall 2009 and spring 2010 departmental graduates on Friday, May 7 from 3:00-5:00 pm in 108 PBB. All PSPP faculty and staff are invited to attend. Hors d'oeuvres will be served along with beer and wine. Congratulations to the graduates!

GRADUATES

Fall 2009 Graduate Students

Brekke Peterson – MS in Plant Science
Nick Reynolds– MS in Plant Science
Amber Robbins– MS in Plant Science
Peter Zuck– MS in Plant Pathology

Spring 2010 Graduate Students

Crystal Maier – MS in Entomology
Mary Lollis – MS in Plant Pathology

UNDERGRADUATES

Environmental Horticulture – Landscape Design

Ian Black
Brian Blankenship
Jennifer Hart
Peter Hiel
Wesley Kelley
Joseph Malone
Michael Randall

Environmental Horticulture – Horticulture Science

Natalie Benson
Bryce Fischer
Tara Gregorich
Tim Holland
Jace Ladenburg
Sarah Payton
Gordon Sevee
Rhiannon Spaw
Charles Szasz
Thomas Wilson

Environmental Horticulture – Landscape Design
Chelsey Gilman
Rachael Keller
Karson Lucas
Jeff Noe
Delisa Pearson
Brian Schierer
Hollie Stepleton
Kelsey Timothy
Michelle Trainor

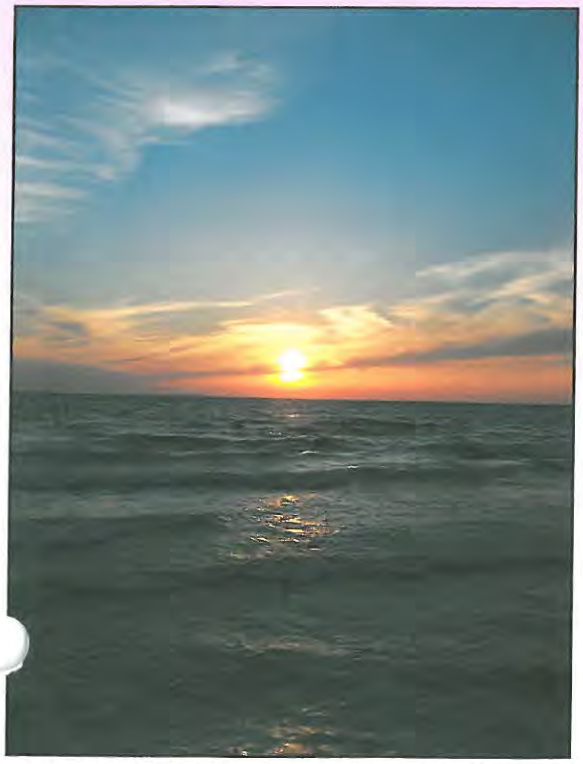
Plant Science – Plant Biology
Tamra Old Coyote

Plant Science – Crop Science
Charles Petranek

Biotechnology – Plant Systems
Harsharan Randhawa
Anna Snapp

Association for Chemoreceptor Sciences 2010 Annual Meeting
By Jean Allen

The Association for Chemoreception Sciences (AChemS), a US-based scientific organization, held its 32nd annual meeting April 21-April 25, 2010. Scientists from all over the world arrived to present their research on smell and taste. Research topics ranged from molecular biology to human psychology. The meeting was held at the TradeWinds Island Grand Hotel in St.Pete Beach, Florida. The TradeWinds was situated on a lovely stretch of beach along the Gulf of Mexico, which may unfortunately be affected by the recent oil spill. About 700 people registered for the meeting, but fewer than 700 people were in attendance due to interrupted airline travel over Europe. At least one of the European presenters was absent due to the volcanic ash cloud over Europe. I spent the first day of the conference volunteering at the registration desk. Among the travel award winners working at the desk with me were American students from Georgia, Virginia, and Tennessee, 2 Germans, and an Israeli. Throughout the meeting I met people from all over the country, and the world. There were medical students, neuroscientists, clinicians, psychologists, grant writers, and people from industry. They studied the sense of smell and taste in mammals and birds and few, like me, in insects. A veteran AChemS attendee Dr. John Hildebrand, Department Head and Professor of Neuroscience at the University of Arizona, told me that this year's program had fewer presentations regarding olfaction in insects than previous years. Unfortunately, the paucity of insect scientists was obvious. I don't know how many times I saw a cross section of the inside of a mouse's head during presentations about mammalian smell and taste. Anyway, a few presentations of particular interest to me were: "Common modes of odorant-specific signaling in insects and mammals" by Barry Ache, University of Florida, "CO_2 receptor response modifying odors; novel tools for control of mosquitoes" by Stephanie



Sunset on the Gulf of Mexico, St.Pete

Chemosensory Enterprise and Mentorship Alliance Social. TradeWinds Island Grand, St. Pete Beach, Florida.

Turner, University of California, and "RNA-i mediated dissection of olfactory behavioral response profiles of odorant binding proteins in *Drosophila melonagaster*" by Shilpa Swarup, Rockefeller Center for Behavioral Biology. Some of the best presentations I saw, even though they weren't about insects, were those by the Pollack Young Investigator Award Winners. The Pollack Awards were given to recognize innovative research at the annual conference by young investigators. My favorite talk in this series was "Nasal SCCs respond to bacterial quorum sensing molecules" by Marco Tizzano, Rocky Mountain Taste and Smell Center. The talks started at 8am and ended around 10:30pm each night, and there were 2 four-hour poster sessions per day. I presented my work in a poster entitled "Molecular characterization of accessory proteins mediating sexual selection in two *Ostrinia* species" in a poster session from 7-11pm on Friday April 23. The poster generated interest and some helpful criticism. Overall it was a good way for me to present my data, as I am typically shy and hate to speak in public! After the poster session, I was able to relax with our collaborators from the department of Molecular and Cellular Pharmacology at the Miller School of Medicine in Miami, FL. The conference ended quietly on Sunday, and after a long (but lovely) 5 days in Florida I was ready to come home. I will have my poster hanging in the third floor of the Plant Science building, and anyone wanting to find out more about the Association for Chemoreceptor Sciences can do so at www.achems.org.

Horticulture Open House and Horticulture Club Plant Sale

The Horticulture faculty and students hosted the 4th annual Horticulture Open House on April 19th. Over 400 elementary and middle school children and many community members toured the open house which included plant propagation demonstrations, capstone project presentations, senior landscape design proposals for an Irving Elementary School garden, posters on horticulture careers, greenhouse models, floral arrangements made by the Miracle Growing class, the Bozeman Youth Initiative greenhouse class, and the design/build PARKing space competition.

The Horticulture Club held their annual plant sale in conjunction with the open house. They sold annuals, hanging flower pots, tomatoes and assorted herbs.

The Horticulture Club also recognized Tracy Dougher as Horticulture Club Professor of the Year.

Allen Steckmest and Agatha Frisby, horticulture students, teaching elementary students

Sarah Payton helping customers choose geraniums.

Landscape Design Student Work
By Page Huyette

The Landscape Design Program continues its commitment to working with the community. This semester during PSPP336 Landscape Construction, students worked with FOR Parks (Friends of Regional Parks) and Gallatin County Conservation & Parks to produce AutoCAD construction details for a park standards reference book, working on items such as pedestrian and ADA accessible trails. In addi-

tion, students designed and detailed concepts for a new entry to the Gallatin County Regional Park on Oak Street (see page 8).

World Food Conference Explores Edible Insects as Alternative Foods for World Hunger
By Florence Dunkel

Auburn University, lead university of the 115 Universities Fighting World Hunger, gathered experts in edible insects from four continents. The two-day conference was sponsored by the United Nations World Food Programme, Auburn University, and Tuskegee University. Dr. Florence Dunkel presented the keynote entitled, "Why the Western Attitude Matters."

Dunkel posed the hypothesis that U.S. entomologists, along with other professionals involved in teaching or cooperative research with those in material resource poor countries, have contributed to world hunger with their "Western Attitude,"-- aversion to edible insects. She traced the 170-year documented history of this aversion. Dunkel suggested to the audience that Euro-American and European entomologists and other scientists have contributed to world hunger by the choices they make on grant panels, foundation boards, as professors designing topics to teach the new generation of world leaders, and as senior research scientists. Another example she posed is the national organizations in the U.S. (USAID), France (PRIFAS), Germany (GTZ), and England (Grasshopper and Locust Control Programme) whose mission is to eliminate or severely reduce food insect populations.

Later in the conference, Dunkel presented a detailed analysis of the role food insects play in child nutrition in the Malian village where she has collaborated in research and teaching with villagers and Montana State undergraduates and graduate students for 11 years. In 2005, undergrads, Abdoulaye Camara, Dunkel and other mentors determined "hunger" (translated protein malnutrition) was the villager's second most important concern. Dunkel linked the 23% of young children at risk from or diagnosed with protein deficiency (Kwashiorkor) with marginal complete proteins for young children. Dunkel described the gap between complete proteins available in the village, socially acceptable children's food, and parents' understanding of childrens' protein/amino acid requirements. Traditional snacks for kids in this village are peanuts, roasted chicken intestines, and roasted grasshoppers/locusts. There, edible insects are one very important source of childen's health.

Concluding the conference was a cooperative cooking event and extensive buffet dinner featuring many of the documented 1500 edible insect species flown in from China and Mexico.

The conference was held on the 176-acre site in Lineville, Alabama that trains leaders and teams going to work in material resource poor countries/communities world wide. Universities Fighting World Hunger includes most Land Grant universities as well as Yale, Harvard, and Johns Hopkins Universities.

Dunkel and Dr. Julieta Ramos-Elorduy, professor of Entomology at Universidad Nacional autonoma de Mexico, Mexico City Mexico, author of 150 edible insect research articles/ books, share food insect preparation techniques at World Food Conference in Alabama.

Departmental History
By Matt Lavin

The history of our Plant Sciences and Plant Pathology Department has some of its roots in the Department of Botany, Microbiology, and Plant Pathology (BM & PP), which existed something like 30 years ago.

The photo of the lab coat patch that was worn by members of this Department was given to me by Jack Rumely, a retired MSU professor who used to teach in the BM & PP department. Jack says we have truly evolved for the better with our current name.
See the following website for additional information on the history of Plant Pathology at MSU:
http://plantsciences.montana.edu/department/plp/History.pdf.

Promotion and Tenure
Alan Dyer was recently awarded promotion to Associate Professor with tenure and Li Huang was granted retention. Congratulations Alan and Li!

Grants
Wanner, K. 2010-2012. "Role of sex pheromones as reproductive barriers during moth speciation" MJ Murdock Charitable Trust. 15,000.

Jacobsen, B., K. Wanner, F. Menalled, J. Mangold, M. Burrows. 2010-2013. Montana's Extension IPM Coordination Project. Extension Integrated Pest Management. $409,515.

Burrows, M., D. Weaver, F. Menalled. 2010-2011. Wheat pest calendar, 2011. Montana Wheat and Barley Committee. $4,751.

Burrows, M. 2010-2011. Susceptibility of Montana cereal crops to Wheat streak mosaic virus and Triticum mosaic virus, and on-farm early season fungicide trials. Montana Wheat and Barley Committee. $20,771.

Bob's Byte
By Bob Johnston
Free software applications that may be of interest to you
KeePass Password Safe 2.10
http://keepass.info
Windows | Portable

You have a lot of passwords. They're not all the same. And your memory is like a sieve with particularly large holes in it. KeePass is your software vault. It uses AES and Twofish algorithms to encrypt all the passwords (and everything else) it holds for you. And it's portable, so you can put it on a USB flash drive and take it with you anywhere, storing nothing locally. If you suck at making passwords, it'll generate strong ones you can use.
PrinterShare
http://www.printershare.com
Windows | Mac | Mobile
Install PrinterShare on a PC with attached printer. Have all your friends and family do the same. Then you can print to any of them, anytime (if the PC is connect to the Internet), and everyone you know can print to your personal printer as well. All you or they need is the PrinterShare ID of the printer in question to send the job. Even iPhones and Android-based phones can print this way.
IrfanView 4.25
http://www.irfanview.com/
Windows
A true classic, IrfanView (pronounced ear-fan-view) is all about viewing and converting graphics files, covering just about any graphic format you can conceive of. It even has some editing and annotation capabilities, all in a tiny 1.3MB download.
PrimoPDF
http://www.primopdf.com/index.aspx
Windows
Nitro Software's PrimoPDF makes PDF files. It's that simple. Thing is, it does it fast via drag and drop of popular formats, including Microsoft Office (over 300 file types total).
Nuance PDF Reader 6
http://www.nuance.com/imaging/products/pdf-reader.asp
Windows
While PDF-Xchange crams a lot of power into a convoluted, multi-button interface, Nuance attempts similar features in a better-looking package. It loads extremely fast (at 18MB vs. Adobe Reader's 200MB, that's almost a given). Nuance will also play back embedded media in a PDF file and convert files to Word, RFT, or Excel formats.
Picasa 3.6
http://picasa.google.com/
Windows | Web
Google's Picasa doubles as an image editor and master manager of images and video that is extremely simple to use, even though it looks like nothing else you've seen. It works directly with digital cameras to download images to the master image collection; it even supports images in RAW format. Picasa's Web Albums give you an online repository for shar-

ing your favorite pics with the world. Picasa is our PCMag Editors' Choice for consumer image organization and editing.

Google Maps

http://maps.google.com/

Web | Mobile

There isn't much left you can't mash-up with a Google Map, or that Google hasn't mashed up itself (the latest: Google Maps Biking Directions). It's available as a free app on most smartphones, too—naturally, it's big on Android phones where it powers the GPS navigation and offers real-time traffic reports.

Google Earth 5.0

http://earth.google.com/

Windows | Mac | Linux

This is so much more than just Google Maps in a desktop app. Earth is a virtual exploration app that lets you explore not just the surface of the planet, but also the ocean floor and the sky. Google Earth can even take you on a quick trip to Mars, or back in time via historical satellite images.

Thanks to PC Magazine for this information - rhj

Garden Huckleberries
By Toby Day

There I am sitting on the set of Montana Ag Live! and Don Mathre asks me a question about garden huckleberries. He went on to talk about how he saw them in Iowa and that they weren't real huckleberries. He also recalled that that they were bigger but didn't taste very good. My only response: "I don't know what grows in Iowa." Yes, I said it live. *"I don't know what grows in Iowa."*

I'm more embarrassed about what I said live than not knowing what the heck a garden huckleberry is. Shoot, there are a lot of plants that I don't know the foggiest thing about – I have lived in Montana my whole life. However, I figured that if I don't know what a garden huckleberry is, there are a lot of other folks that don't know either. So here is what I dug up on the ol' garden huckleberry.

First of all, the garden huckleberry isn't even a close relative of the huckleberry. In fact, it is more related to a tomato or potato. Garden Huckleberry (*solanum melanocerasum*) is in the nightshade family and produces many small black or purple fruit about ½" in size on a 12"-24" shrub. Most of the information I found alluded to edible fruit, although I also saw reports that it is poisonous when the fruit is green. Interestingly, a guide from University of Florida Extension says it "appears to be relatively safe." I can't say that "appears to be" instills a whole lot of confidence in me. Regardless, I don't think that the garden huckleberry tastes like much. I read quite a bit online how it should be cooked, sweetened and added to other fruits like apples, lemons or grapes. Some information made it sound like it tasted like a bitter tomato. I think I'll stick with chokecherries.

Recently, I have been teaching in my Master Gardener class about binomial nomenclature and that we use scientific names because many plants have several common names. A great example is the garden huckleberry. Other common names for *Solanum melanocerasum* is quonderberry, sunberry, morale, petty morel, solanberry, black berried nightshade, houndsberry and even wonderberry. However, there is another *Solanum* that is sometimes called garden huckleberry but often called wonderberry that is *supposedly* different than the garden huckleberry.

Wonderberry (Solanum burbankii) is supposed to have superior flavor to the garden huckleberry. Wonderberry fruit has been described as edible, although poisonous when unripe and should be cooked first. After favorably comparing them to garden huckleberries, one online website stated that "they don't taste like much." How could I resist that? Either way, garden huckleberry or wonderberry doesn't sound as wonderful as it sounds.

So, now that I have enticed you into trying the garden huckleberry and all-of-its bitter tomato flavor or wonderberry that doesn't taste like much, you will be happy to know that if you find the seed that you can grow it much like a

tomato or an eggplant and it should produce fruit in about 2-3 months.

Recipe of the Month

Recipe for Four Fruit Crisp

Contributed by Robert Antibus to one of the April Friday coffees
Source: Simply in Season Cookbook
Authors: Cathleen Hockman-Wert and Mary Beth Lind
The idea is to use fruits in season. I often make this in Bluffton when the mulberries are ripe but that means also throwing in frozen fruits as well.

Filling: One can use anything that seems to go together. These would include apples, blackberries, blueberries, boysenberries, cherries (sour), huckleberries, mulberries, peaches, or pears. Although the authors avoid mangoes I sometimes use frozen mangoes.

For the basic recipe you will need 1½ cups of each of four fruits. If frozen, I thaw these first. If raw, like apple slices, I usually partially cook them in hot water with a bit of brown sugar. Mix the ingredients in a bowl. Depending on the mix a small amount of cane sugar or brown sugar can be added to taste. Add two tablespoons of corn starch to thicken and place mix in a 10 inch square pan.

Topping: Here you will need: ¾ cup of flour, ¾ cup of rolled oats (not the minute kind), 3 tablespoons of butter, 2 tablespoons of oil, ¾ cup brown sugar and optionally chopped nuts and/or maple syrup. Mix these ingredients until thoroughly moist and layer over the fruit. Maple syrup (the real stuff) isn't part of the original recipe but I like to add it to the mix or drizzle it over the top as the dish is almost done.

Bake: Preheat the oven to 375 F. Place uncovered pan on middle shelf and bake for 30 minutes, fruit should bubble up into crust. If fruit was frozen to begin with cooking time will be longer.

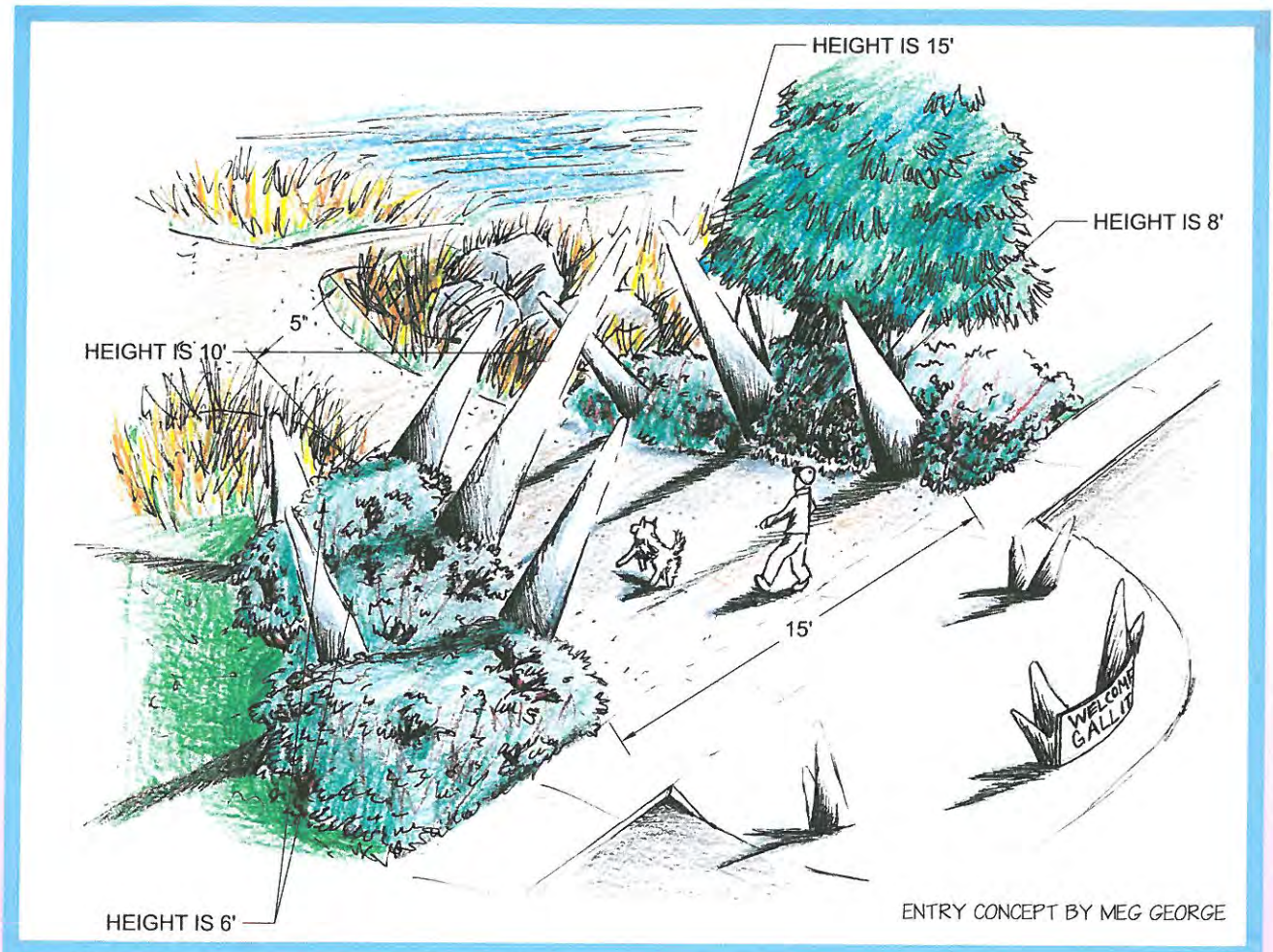
http://www.worldcommunitycookbook.org/season/index.html

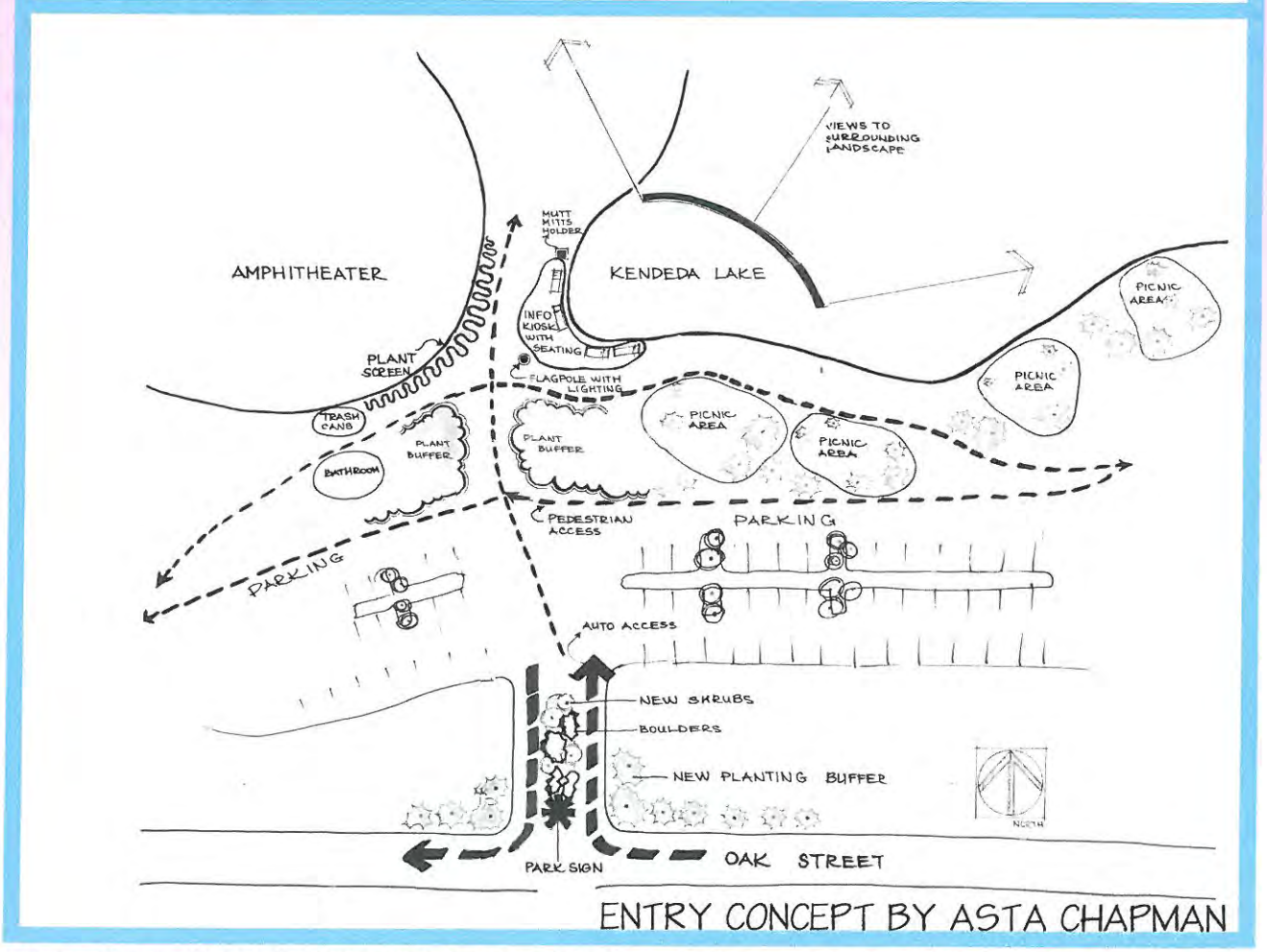
May Birthdays

Heather Rimel	12
Matthew Moffet	14
Robyn Klein	15
Chaofu Lu	16
Mareike Johnston	22
Kim Prosek	22
Tom Blake	24
Gene Ford	29
Bob Johnston	29
Deanna Nash	31

Mathre Courtyard

Thank you to Alan Dyer for planting hundreds of Kikonachi yellow tulips, Siberian squill, and snow crocus in the Mathre Courtyard last fall! The tulips are blooming and it is beautiful. Also thank you to Jeff Johnston for the following pictures.





New entry to the Gallatin County Regional Park on Oak Street designed by Landscape Design students