EPISODE DATE: 7/01/11

EPISODE NAME: UVM Classics Professor John Franklin’s Ancient Music, and a video feature “Around the Garden”

Today on Across the Fence, a UVM-engineered race car that is quick, and clean. And we’ll visit with a classics professor whose music you won’t find on your I-Pod. Good afternoon … and thanks for joining us I’m Judy Simpson. There is classical music and then there is music that is classic. To begin, Keith Silva tells us about some music that’s been 2-thousand years in the making:

[Music playing]
The cables, cords, and wires running from one computer to the next give John Franklin’s studio a very modern look. The music, on the other hand – well let’s just say that that goes back a few years …

JF: “Things become too recent for me after about 400 B.C.”

Franklin plays and records “ancient music” … a term referring to music that is over two thousand years old.

[Music]

When it comes to music … the Greeks invented everything. The words melody, rhythm, and harmony … were all invented by Greeks to describe music. Even the word “music” itself meaning “the art of the muses” is a Greek word. Archeologists have recovered approximately 60 fragments of ancient music that were either inscribed in stone or written down in the manuscript tradition, first on papyrus and later on parchment.

Keith Silva // Across the Fence
The ability to interpret these ancient texts is a different story altogether. To be understood and played, music requires a key – the tone or pitch that a song is played in. In order to understand ancient music, scholars needed another kind of “key.” Otherwise this music would have remained “all Greek” to modern listeners.

John Franklin // UVM Professor, Classics
JF: We’re able to decipher these documents because a late fifth century, 4th century AD writer preserved for us the key, he said the notes on this scale are these notation symbols and he gave us the entire scale system and all the equivalents and if it weren’t for that one document we wouldn’t be able to read anything. [18]

Nat. Snd. [Franklin teaching class]
Franklin has been teaching in the classics department at the University of Vermont since 2006. A graduate of the New England conservatory of music, Franklin spent several years performing in bands and busking as a street musician. In 1993, a lifelong love of Latin led him to pursue a PhD in Classics. It was only a matter of time before he began mixing his two passions.

JF: It made sense when I was specializing for my research [which you have to do for your PhD.] to look at ancient music because it was a way I could sneak some time away for one of my other interests. And I quickly found that there was quite a bit of work to do in this area and also that there were quite a few people that were involved in it. So I quickly developed a little community of colleagues and sort of a sub-culture of this ancient music.

In 2007 Franklin produced The Cyprosyrian Girl, a collection of the ancient music from writers like Sappho and Euripides. While sticking with the classics, Franklin also gave some of these real “golden oldies” a more modern spin.

JF: I started mixing this ancient material the melodies and rhythms together with the more electronic music I’m interested in so combining loops and samples and beats and things that people use for popular music and mixing them in with the ancient pieces … Usually you use a loop of something from another pop song to reference it in a hip hop tune will use a loop and you’ll say oh I know what that original song is, but I’ve taken field recordings collected by ethno-musicologists from different parts of the world … and taken interesting bits of drumming or jaw harp or other things like that and used those as my source material … to come up with a kind of a more realistic impression of the music, but something that still we couldn’t do just with a couple of scholars and a couple of replicas.

To create this music Franklin built a computer program he calls “the virtual lyre.” A friend built a replica of a lyre based on archeological evidence. Franklin recorded the individual notes being played by the instrument into his computer. Using software commonly used to create dance music, he was able to reproduce the ancient tunings, tones, and scales. Taking it one step further and to get as close to what “ancient music” might have sounded like, Franklin uses the earliest known recordings of Greek musicians gathered over 70 years ago.

The effect of this is it’s like taking an ancient lyre, because I have the sample of the replica that my colleague built, tuning it up to an ancient tuning that’s documented from ancient writers and handing it to this traditional Greek musician as though he were born to play it and he’s essentially playing his piece … on an ancient lyre in an ancient tuning … my goal is to remove my own voice, I don’t want to want to make any choices on notes or rhythms myself I want to put different material in dialogue and come up with something new that way.

Another word invented by the Greeks, is “critic” meaning “able to discern.” So, how does Franklin think the ancient Greeks would critique what he’s done with their music?

JF: In the big picture I think they’d be delighted … We can’t pretend that we’re really recovering exactly what it sounded like, but to make an homage to it and to celebrate it in any way we can I think they would be quite pleased by it.

It’s the sound of the ancient world played through modern technology and echoing across human history. In Burlington, I’m Keith Silva with Across the Fence.
Thank you, Keith. Our next story involves a test drive in a vehicle unlike anything you’ve ever seen. It’s quick– and clean – and designed by students at the University of Vermont. Rebecca Gollin tells us more:

Tucked away in a small room on the University of Vermont campus students are working together to solve complex problems for a big project. What’s unusual is that these students aren’t getting any credit for their work.

Mike Rogals, uvm class of 2011, electrical engineer major for me this is a labor of love, I guess. It’s not helping my grades all that much

Brian leach UVM senior, mechanical engineering
we don’t get paid, there’s no direct return for what we do, it’s just really enjoyable to pursue a design that you believe in, and actually see it come together and rip around the racetrack

The students are part of the UVM Alternative Energy Racing Organization, known as AERO, and their project is to build a competition worthy hybrid race car. They’ve succeeded.

Brian leach just to give you some perspective on how fun this thing is to drive it has 150 foot lbs. of torque, which is basically what you’d get in a small 4 door sedan. It has 80 peak horsepower, it has all wheel drive so it has tremendous traction – the vehicle itself weighs 550 lbs. It’s really the size of a golf cart with the power of a small sedan, so it’s a lot of fun to drive

Brian Leach was one of the founding members of the team in 2006. Since then, the group has won a number of awards for their innovative first prototype.

Brian leach - we really design them from the bottom up it starts with an idea in our heads and it gets steadily refined into a more concrete image, and then we start ordering parts, reverse engineering them, bringing them all together…it really is a tremendous design and engineering effort to get this thing made Rogals a lot of the innovations we see in cars in terms of safety, performance, everything, comes from racing.. these competitions are great for the advancement of technology in the entire industry, so if we can start getting gout racecars a little bit more efficient, passenger cars will start getting more efficient, and you know, that’ll lead to good things

Now working on the second generation of their vehicle, GreenSpeed 2, the UVM AERO team has high expectations for the formula hybrid competition they are preparing for.

Jeff Frolik UVM aero club advisor,
even from our first year at the competition, (how) our design was really based on principles versus trying to come up with something that would satisfy the functional requirements of the competition, so we went in with a concept of having regenerative braking, and to have a parallel hybrid design, and there was no other the first year, and to my knowledge, no other club last year that had anything close to what we have.

What makes the AERO car so unique is the emphasis the team has placed on their vehicle’s efficiency as both a racecar and a hybrid.

Mike Rogals the green part is very important, because resources aren’t doing so hot right now, and I, personally, I like the standpoint of this car, where we make it go fast, but we recover a ton of energy, and to do that we try to go with low power consumption components and everything just so we can have the most efficient car we can and still make it go really fast.

Leach it has a top speed of 62 miles an hour, so it really is designed to accelerate - 0 to 60 in less than 4 seconds we believe these vehicles and systems should be designed a certain way, and that’s the focus on achieving a set standard of performance, while minimizing your actual impact on the environment and your resources. And that’s really what this project is all about.

While producing a high performance hybrid vehicle is the goal, working with team members across disciplines is a big part of the experience.

Frolik we have students from electrical engineering, mechanical engineering - the original founding president was an engineering management major. We’ve had English majors, we’ve had business majors,
and we’ve had chemistry majors, all working on this vehicle. And these are all kids who are interested in doing better things for the environment, and using technology to make that happen.

Leach an incredible amount of effort, the machining, fabrication that go into the fabrication of the car, not just the drive train, but the chassis itself, this is a fully custom designed chassis, fully designed in CAD and we built it all ourselves – that requires a team of engineering students to make that happen. Not only do you have to be skilled at designing, but you have to be able to do the welding, and do the machining, so it requires people who have varied skills.

As they gear up for the competition, the AERO team members are spending hours every day working on the car, making adjustments, and taking test drives in the UVM parking lots.

Leach - when we drive it around the parking lot, it’s really quiet, and whenever something is quiet, it’s usually a good sign from an engineering standpoint.

Rogals - it’s just awesome to see the thing run to just see it go around corners and doing all sorts of awesome stuff, and you’re like, I did that. You know. That was me. Well, at least partially me.

Coming together in the name of innovation, and racing into the future.

Frolik I think the judges are going to be pretty impressed.

. The Aero team is almost ready to go. At UVM I’m Rebecca Gollin with Across the Fence.

To close out today’s program, we look through the lens of photographer Keith Silva who was recently in the garden to capture some fun and engaging pictures. Enjoy – and we’ll see you again next time on Across the Fence.