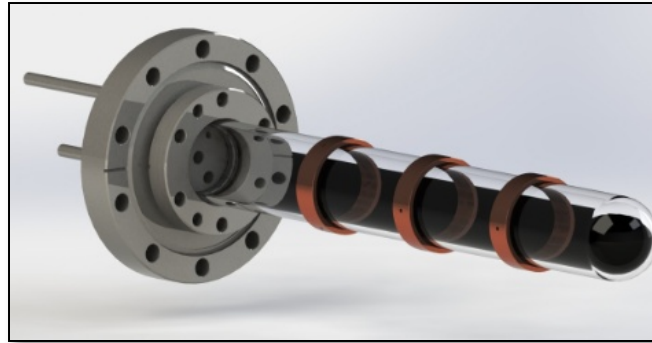
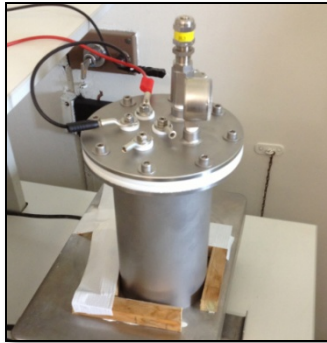


# Martin Fleischmann Memorial Project

## - Introduction and Overview -



**Bob W. Greenyer B.Eng., MFMP Chief Coordinator**  
**Tyler van Houwelingen, MFMP Development Director**

ICCF-18: University of Missouri  
July 22, 2013

**Who, what, where?**



**Tyler van Houwelingen,**  
MFMP Development Director

# MFMP is about...

- **Goal #1:** Showing the world conclusively that there is a new practical primary energy source, which we call the **New Fire**
- **Goal #2:** Improving and advancing the technology and understanding of the **New Fire** in an OPEN, non-proprietary way so everyone can benefit more rapidly
- **Goal #3:** Creating the foundation of a new inclusive and accelerated way of doing science, which we call Live Open Science (LOS)



# Why Do We Need MFMP With Leonardo, Defkalion, Brillouin, Etc?

MFMP has taken a **very different approach to commercializing LENR**, working in a entirely open fashion, publishing all LENR information, discoveries and advancements in techniques to the world.

MFMP can be thought of as the **LINUX of LENR**.

We believe the best way to **rapidly and comprehensively change the world of energy** is to create an open base for the technology to be built on freely in a collaborative fashion

**More openness and social teamwork will lead to a better understanding of the effect and broader development of products**

# MFMP is a International Non Profit Collaboration

*Mathieu Valat*  
*France*

*Bob Greenyer*  
*UK, Czech, India*



*Tyler van*  
*Houwelingen*  
*USA*

*Ryan Hunt*  
*USA*



*Global*  
*Donors*



*Julian Saunders*  
*UK*

*Robert Ellefson*  
*USA*



*Contributors*  
*&*  
*Scientists*  
*worldwide*



*Nicolas Chauvin*  
*Switzerland*

**Development labs in France, Switzerland, Minnesota & California**

# 4 Phases of MFMP

**1.Science**

**2.Validate**

**3.Market**

**4.Enhance**



# PHASE 1 – SCIENCE

**GOAL: Develop an LENR experiment and platform that conclusively demonstrates excess heat and be used for open, global development**

- Create a prototype LENR experiment
- Scalable, networked platform to run multiple tests and easily share live results
- Separate teams working initially in USA and Europe, sharing info

**Status: Based on Professor Celani's work, we have built and run multiple prototype LENR experiments. Live feed with all data and design info posted to **QuantumHeat.org****

# PHASE 2 – VALIDATE

## **GOAL: Conclusively demonstrate LENR in a prototype experiment**

- Easy to replicate with clear, scientifically measured positive excess power gain
- Low cost design, simple to manufacture
- Will demonstrate excess heat for >70% of testers

**Status:** We have begun to see hints of excess heat (about 8-12% net power gain). Hoping to achieve validation and publish robust scientific results in next couple months.



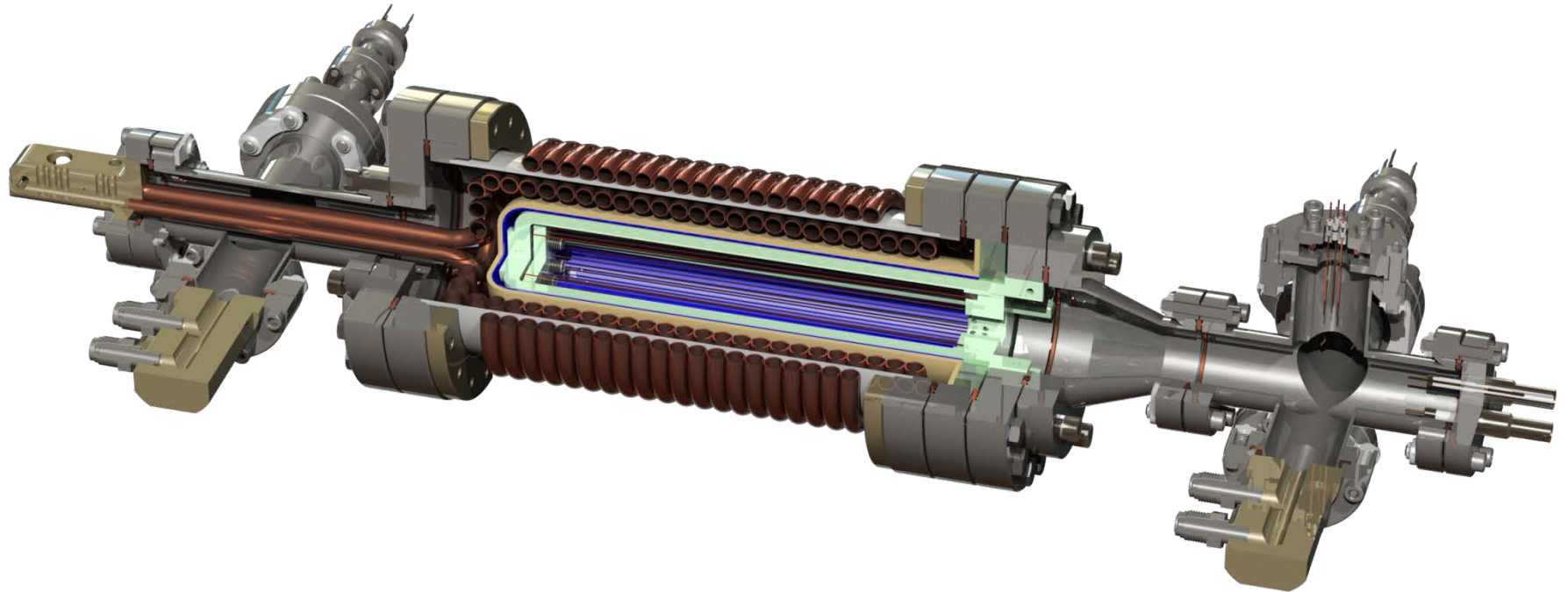
# PHASE 3 – MARKET

## **GOAL: Raise funds, build and ship a reference LENR demo/dev experiment kit**

- Preliminary designs for the Go-To-Market reactor
- Goal is to raise £150k - £320k+
  - Kickstarter planned with rewards from small (T-shirts, DVD) to a full LENR reactor & calorimetry kit.
  - Also applying for grants, e.g. Mozilla Foundation
- Distribute copies to other labs to prove repeatability

**Status:** Launching on Kickstarter in next couple months - nearly all prep work is done. Initial design for production LENR reactor has been completed.

# Experimental apparatus design



Design for a flexible, modular LENR reactor that will allow various fuel configurations, triggering mechanisms, high temperatures and flow calorimetry

# PHASE 4 – ENHANCE

**GOAL: Deliver as many experiments as possible globally and collectively enhance the design to deliver an open, safe high power LENR reactor.**

- Collaborative effort using highly customizable, standardized core LENR reactor
- Must be willing to share data results and knowledge across the community on the Internet
- Together we can quickly advance the science and the platform

**Status:** We have already received orders for both prototype LENR demo/dev reactor and electronics

-> This is **THE NEW FIRE**



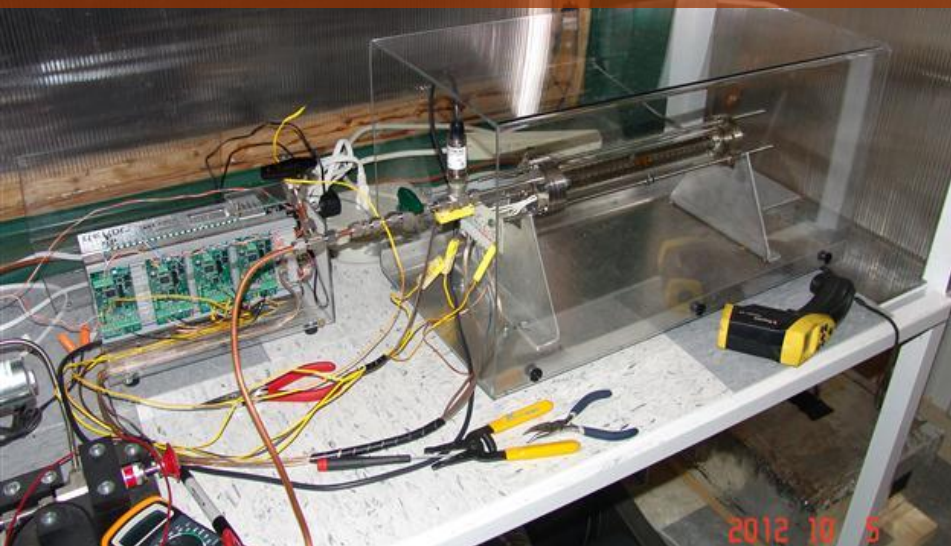
**Action, results, future?**



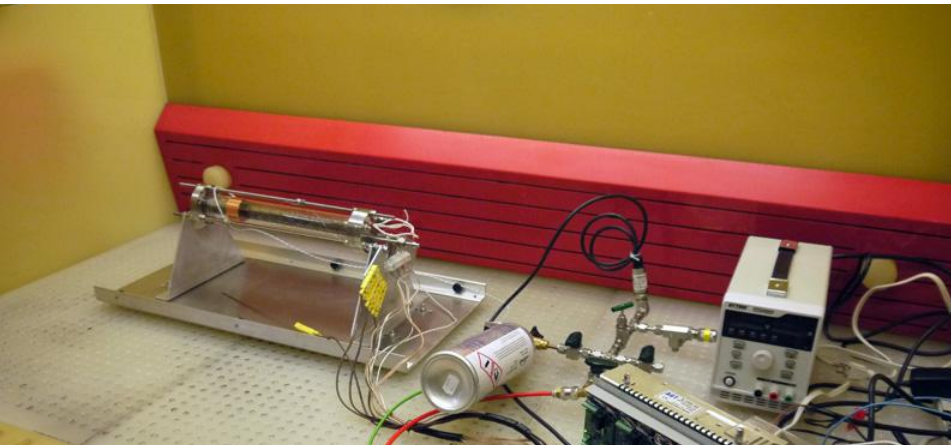
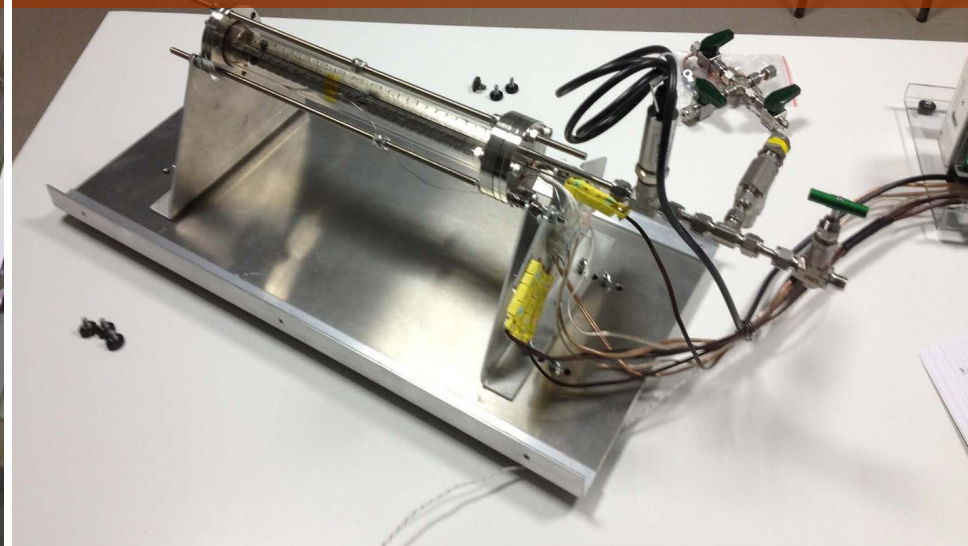
**Bob W. Greenyer B. Eng.**

MFMP Chief Coordinator

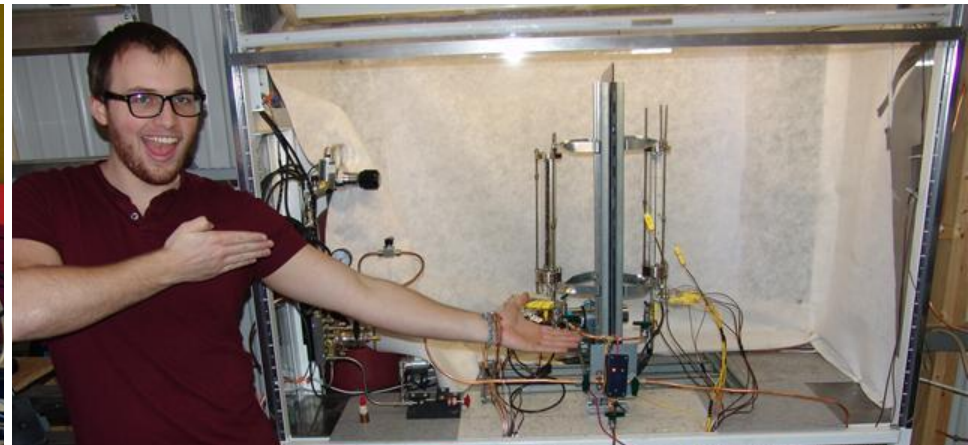
**US cell Oct 2012** - Loading success  
- Burnt active wire



**EU cell 12/12/12** - Loading success  
- 6W on 48W



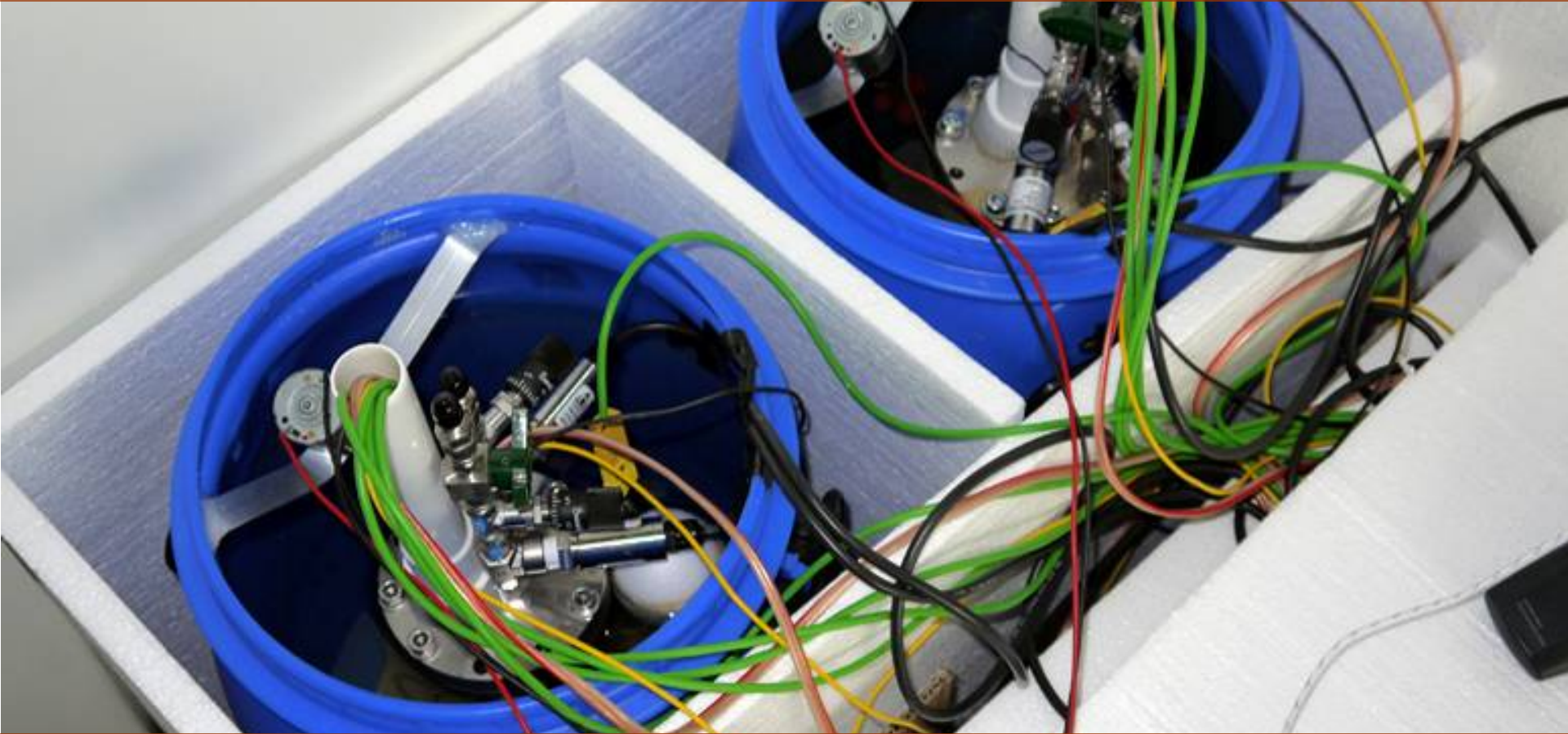
**EU cell Dec 2012** - Loading success  
- output drop after  
active wire removal



**2 modified US cells Jan/Feb 2013**  
- Loading success  
- various outputs  
with plenty of doubts

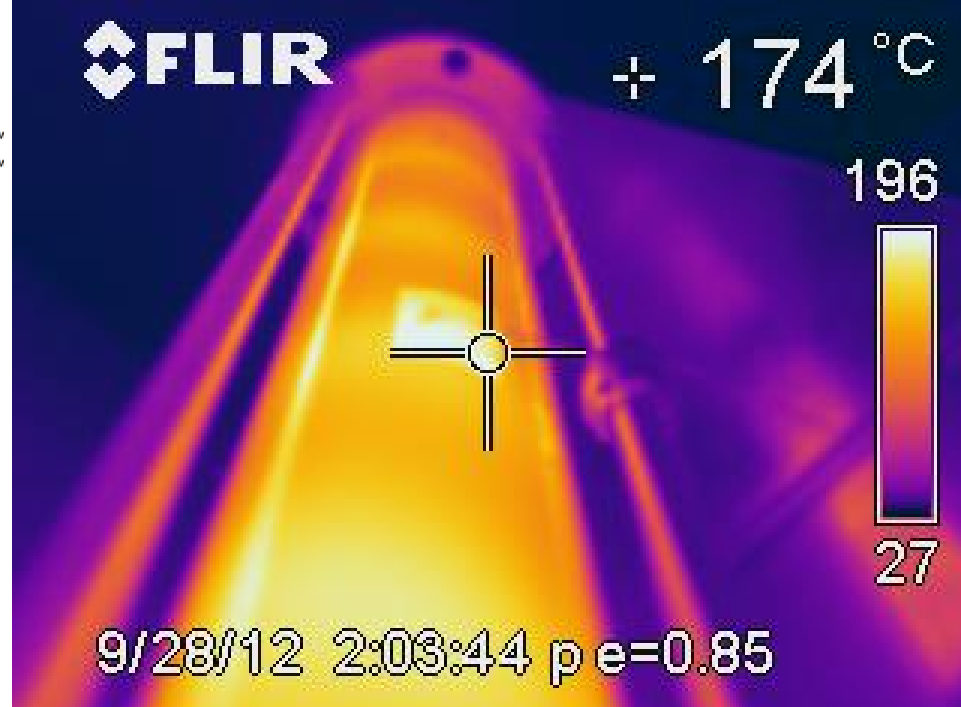
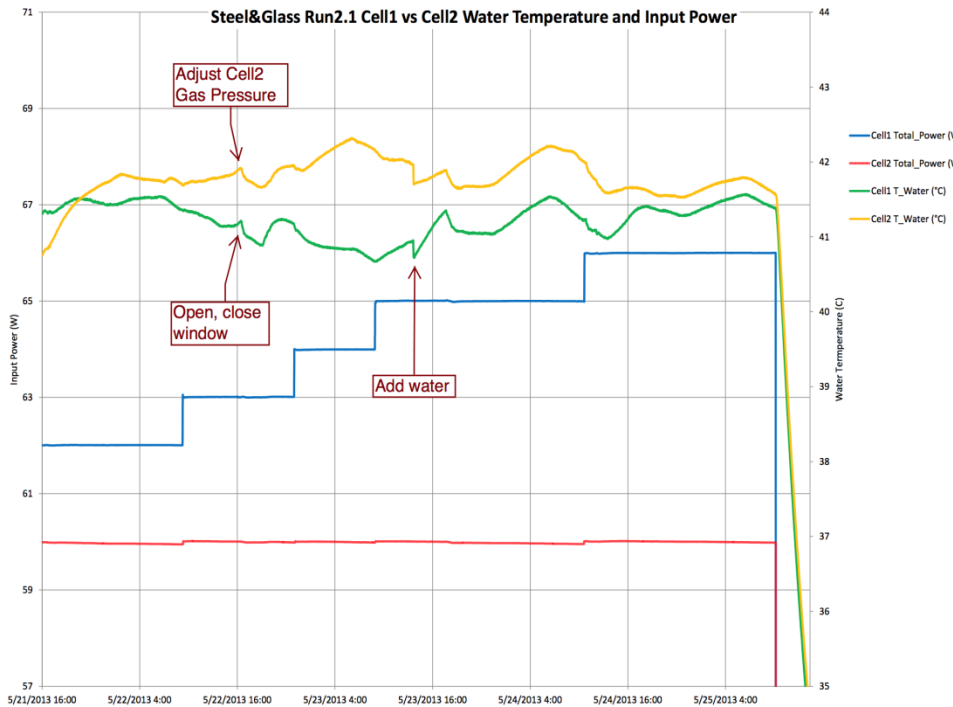
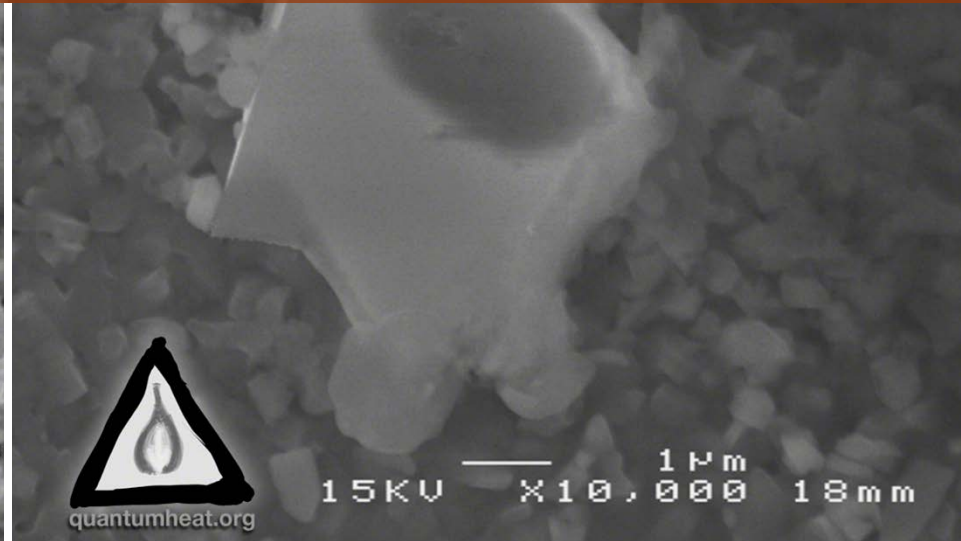
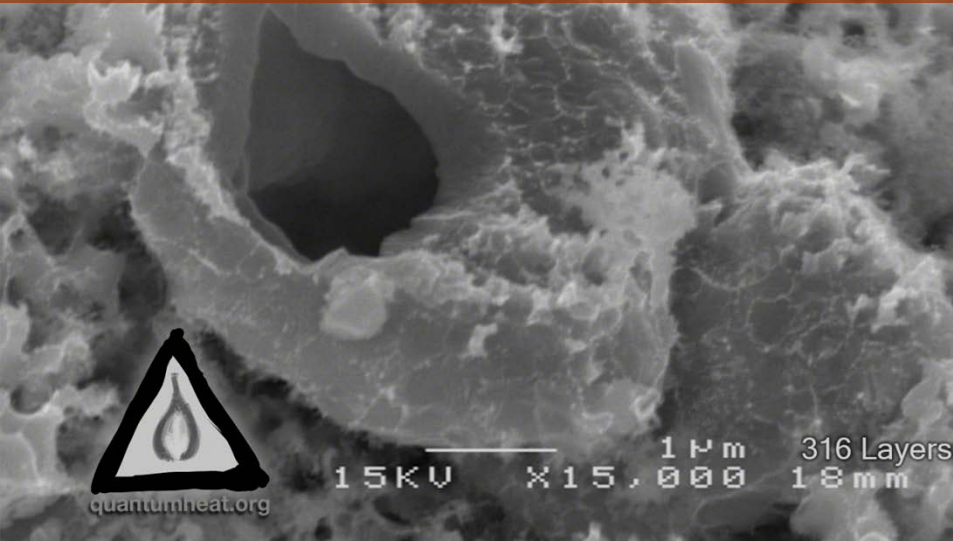
# Steel & Glass differential cells

Funded by donations and team contributions  
Very simple to understand experiment



**Switzerland May 2013** - Following loading and iterative process, it took 8 to 10% more power to maintain same control cell bath water volume, at close to the temperature of the active cell. **Planning to run Live Test with better wires.**

# Real science, open and inclusive to all



# Concentric Calorimeter

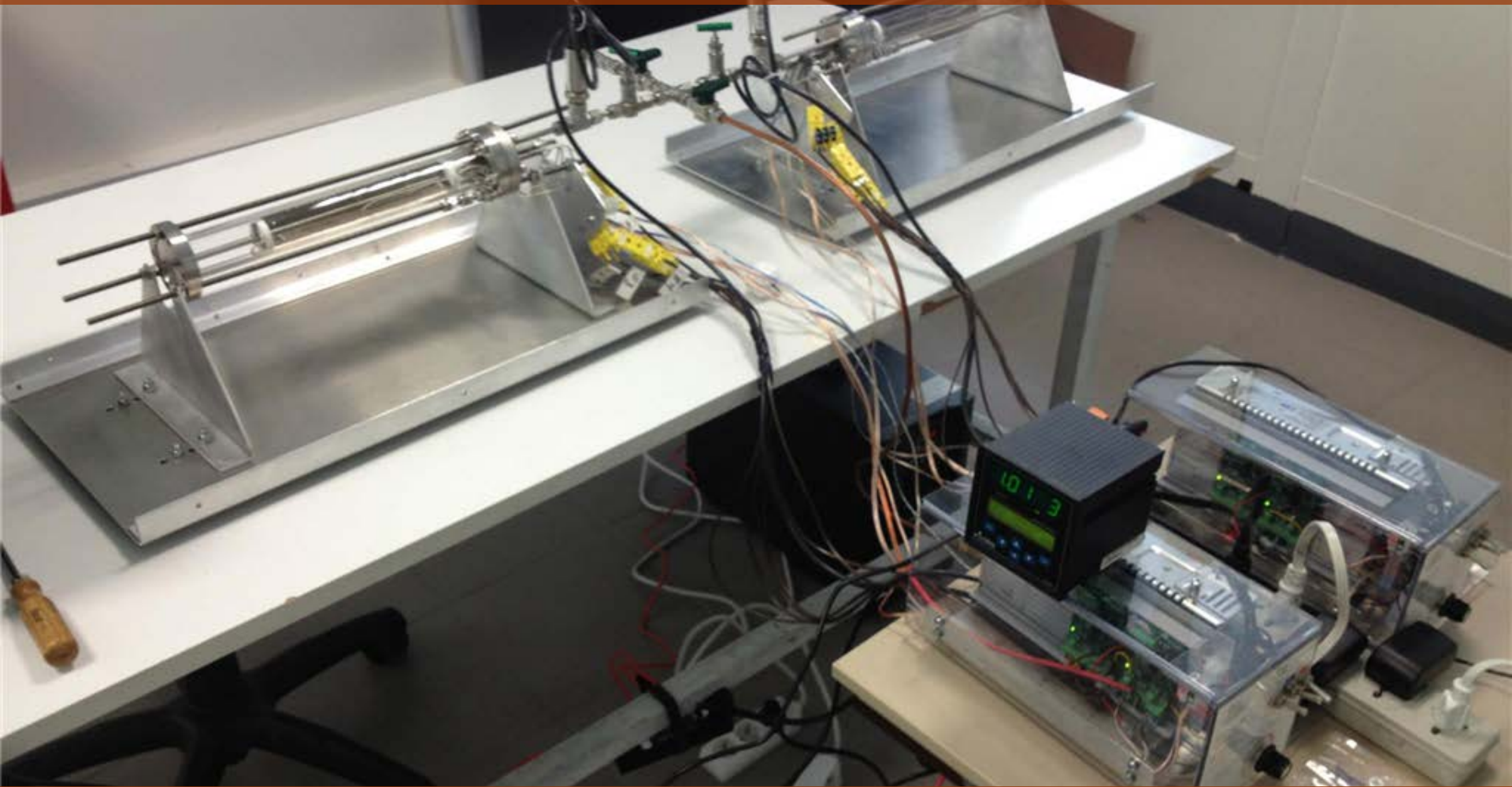
Designed, funded and built by Hunt Utilities Group  
Small accurate calorimeter designed for high temperatures



**LIVE** – Testing 50m of untreated constantan in high pressure (10 bar) and high temperature regimes (to 500°C +), some interesting behavior, minor apparent resistance changes but no apparent excess.



# EU differential cells



**LIVE** – After the movement of a key thermocouple, its original protocol had to be abandoned due to ICCF18 pressures. It is currently running a novel differential experiment – something that will be explored further after the conference.

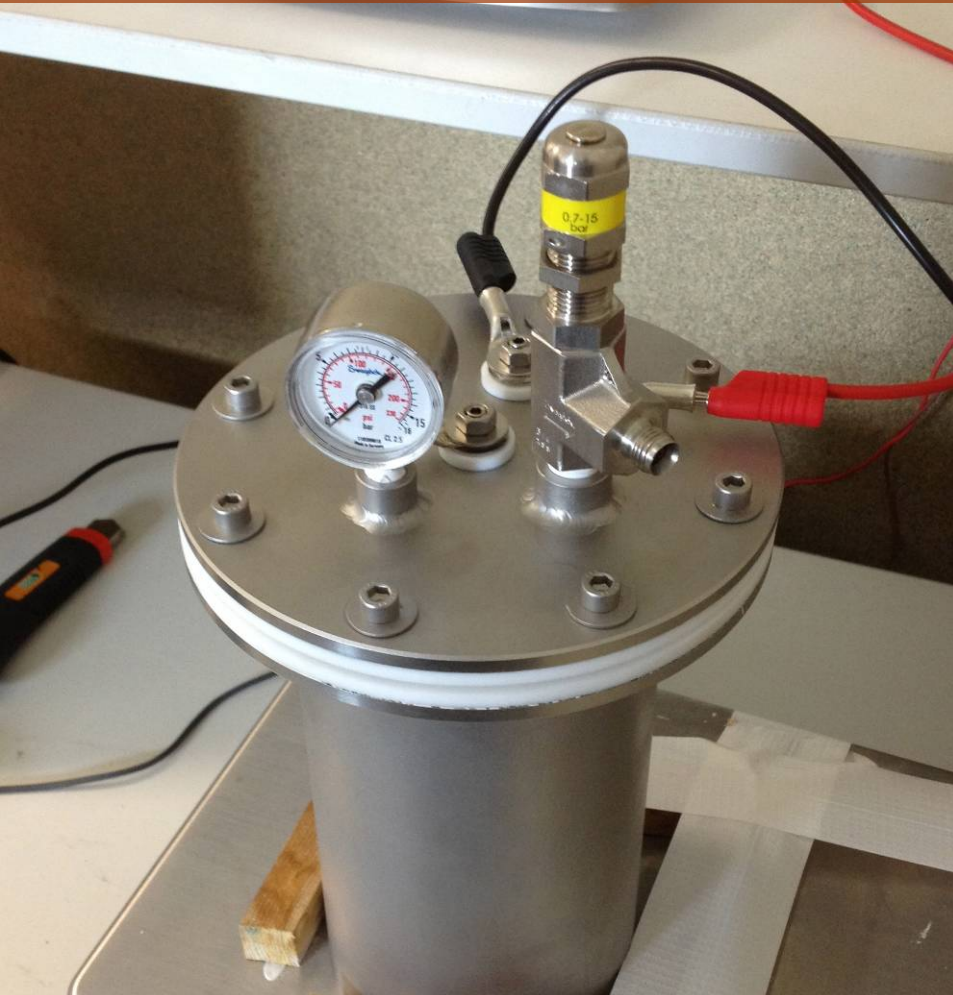
# US differential cells



2013 / 4 / 16

**LIVE** – Continues to provide rich data and promising excess above 95% confidence.

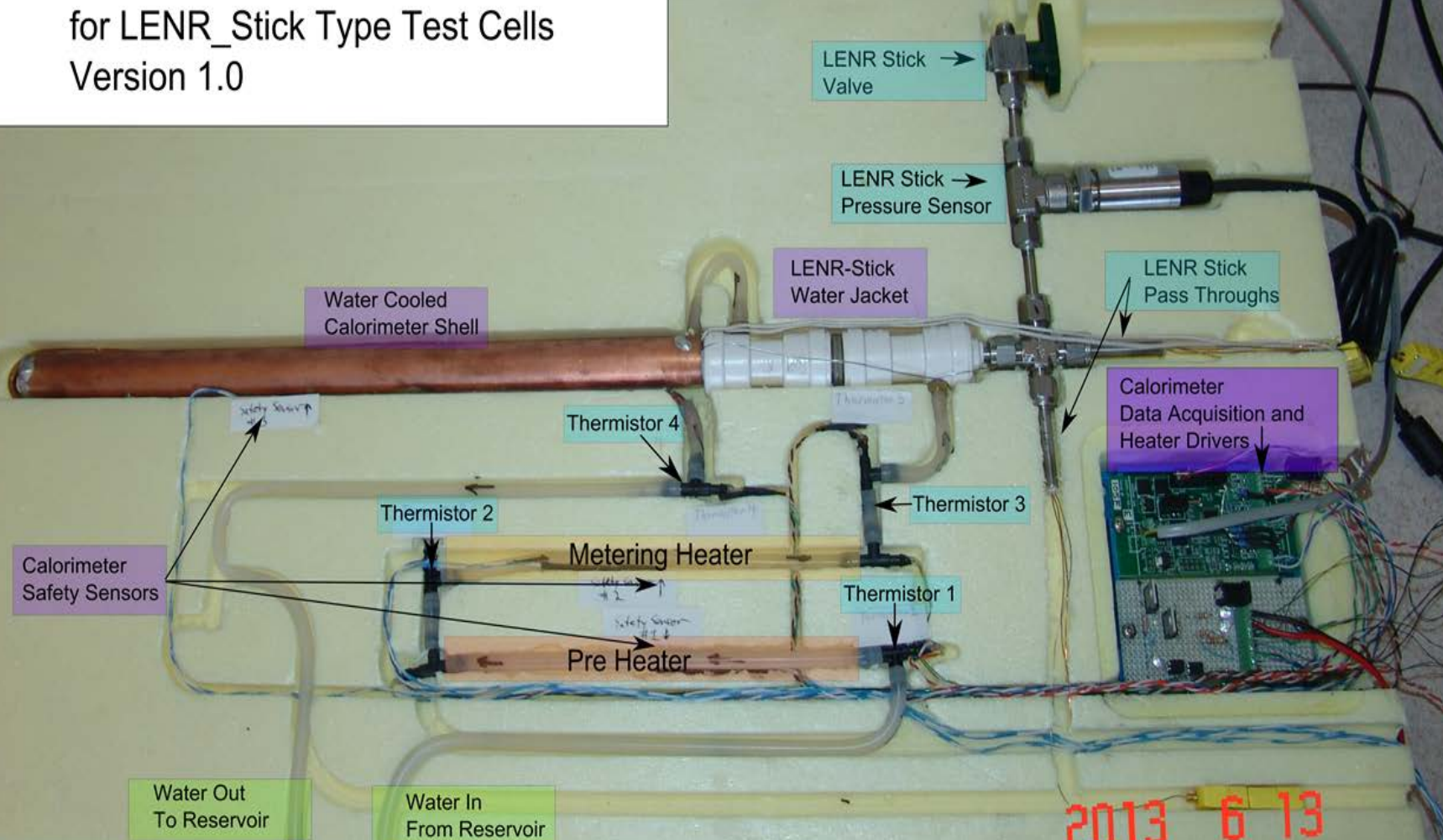
# Other experimental directions



The collaborating teams have also been exploring other LENR experiments, funded by third parties or internally. Some of this work has been published through QuantumHeat.org like the high pressure Mizuno and Powder cells above. We hope to see more groups taking up the opportunity to realise their work in a more open way.

# Up and coming experiments

HUG Water Flow Calorimeter  
for LENR\_Stick Type Test Cells  
Version 1.0



After ICCF18, HUG will be upping the **signal to noise** ratio and running a large number of Celani wires through the above as might Mathieu in France in a differential test.



# Live Open Science (LOS)

- LOS is MFMP DNA; publishing designs, protocols and data as they happen, making them open to scrutiny
- Drawing insight and qualified critique from experts and enthusiasts all over the world to accelerate research and development for all
- Making science engaging and inclusive and bringing recognition and exposure to the field
- Making every donation work harder by leveraging the social multiplier

**Join us all at our poster session**

# Inspiring new hardware and software

## Infra Red (IR) camera software

Follower Davey Van Nes programmed IR thermal imaging camera software for modified off the shelf webcams.

**Plan:** To release current code and update for Raspberry Pi

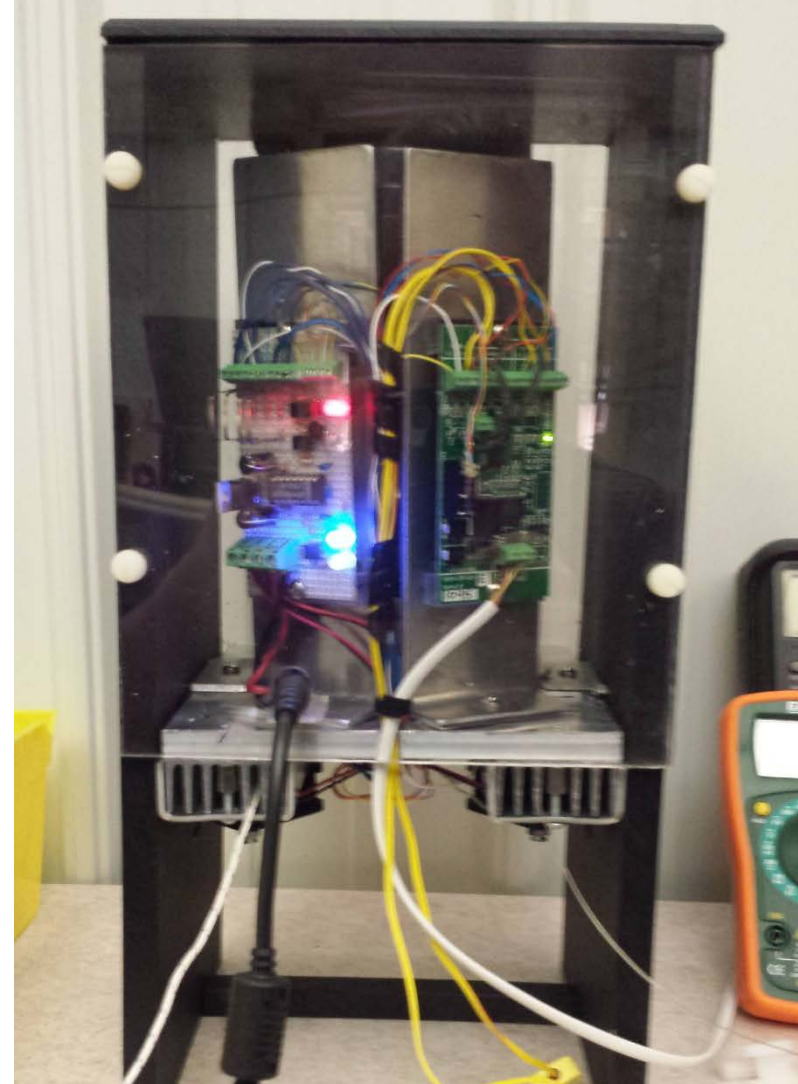
## Ground breaking web data visualizer

HUG developed LIVE data viewer enhanced by crowd feedback.

**Plan:** To develop this into an open system for wider scientific application

## Control and monitoring hard/software

Affordable solutions are being developed to control experiments and LIVE broadcast the results



HUGs new "Thermos Calorimeter"

See the MEMB display table

# Momentum... why don't you jump aboard?



- 4 new teams on 4 continents poised to join our collaborative effort
- Skilled new team members & scientists joining and growing our capability
- Increasing interest in pledging for MFMP experiments and equipment
- Indian nuclear authority ready to test experiment when we are ready

# Thanks and respect

- **Celani**, for his courage, humility and support
- **Our donors** for their faith and patience
- **Our followers** for their suggestions and analysis
- **The facilitating team** for their great sacrifices
- **The large number of scientists** from inside and outside this field of research, for their advice and support
- **National Instruments** for a very significant equipment donation to the project
- **Hunt Utilities Group** for their very significant donation of man hours, expertise and capital



# How you can help

- **Knowledge:** Suggest highly compelling experiments or improvements to our work
  - **Time:** Become a collaborating researcher/lab – hook up one of our experimental kits and help accelerate development directly
  - **Capital:** We are raising \$500K - even small donations help us significantly and reap huge returns through the social multiplier
- + **Follow us, challenge us ... Let's light the New Fire together!**

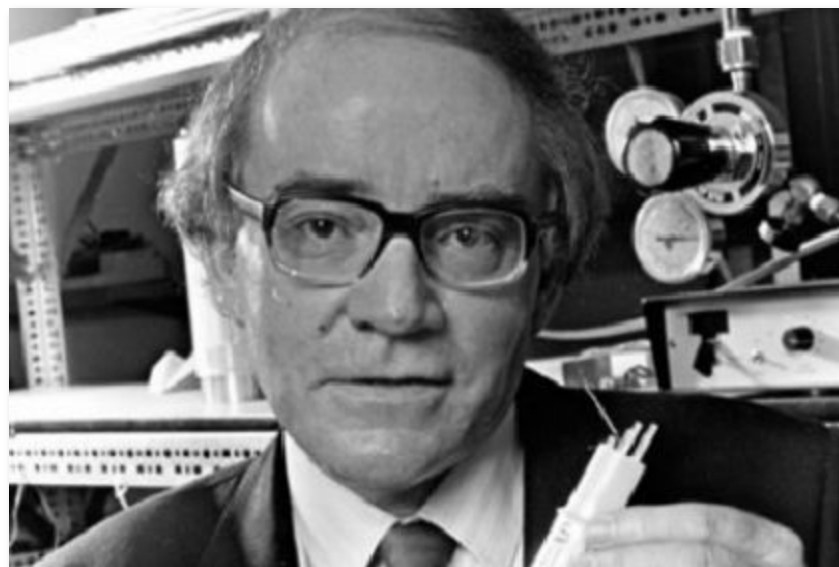
[www.QuantumHeat.org](http://www.QuantumHeat.org)

Martin Fleischmann Memorial Project

Let's light the **New Fire** together



This work is dedicated in memoriam  
to the great British electrochemist  
**Professor Martin Fleischmann**



**March 29, 1927 - August 3, 2012**

# The **New Fire** is Coming! QuantumHeat.org



- OPEN Q&A -