

Mass Flow Sensing for the Masses and Other Tales of Citizen Science Instrumentation

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HEAVY METAL

How Sensing for the
Masses and Other Tales of
Citizen Science Instrumentation

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HEAVY METAL

How **VS** raising for the
Masses and Other Tales of
Citizen Science Instrumentation

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HEAVY METAL VS PUNK

Masses and Other
Citizen Science Instrumentation

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HEAVY METAL LOW VS HIGH Masses and Other PUNK SENSING

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Origins

- Heavy Metal: wanted to sound like Hendrix
- Punk: wanted to be heard like Hendrix

HEAVY METAL

- Artistic virtuosity
- Quality over quantity
- Message sometimes lost in the image
- Highly exclusive
- Reverence for form over function
- “Aristocratic meritocracy”
- \$\$\$ First
- Characterized by excess



PUNK



- Artistic proclivity
- Quantity over quality
- Image conveys message
- Highly inclusive
- Reverence for function and accessibility
- “Democratic meritocracy”
- 🎵 first
- Characterized by relative poverty

SENSING

HEAVY METAL

PUNK

SENSING



HEAVY METAL



PUNK

SENSING

- Water Quality Labs
- USGS
- Academic Labs
- Pretty much anyone in A2LA
- Citizen Science Groups
- Hackerspaces/Makerspaces
- Non-hydrological Academic Labs
- Public Lab
- **ANDY WICKERT**

HEAVY METAL

PUNK

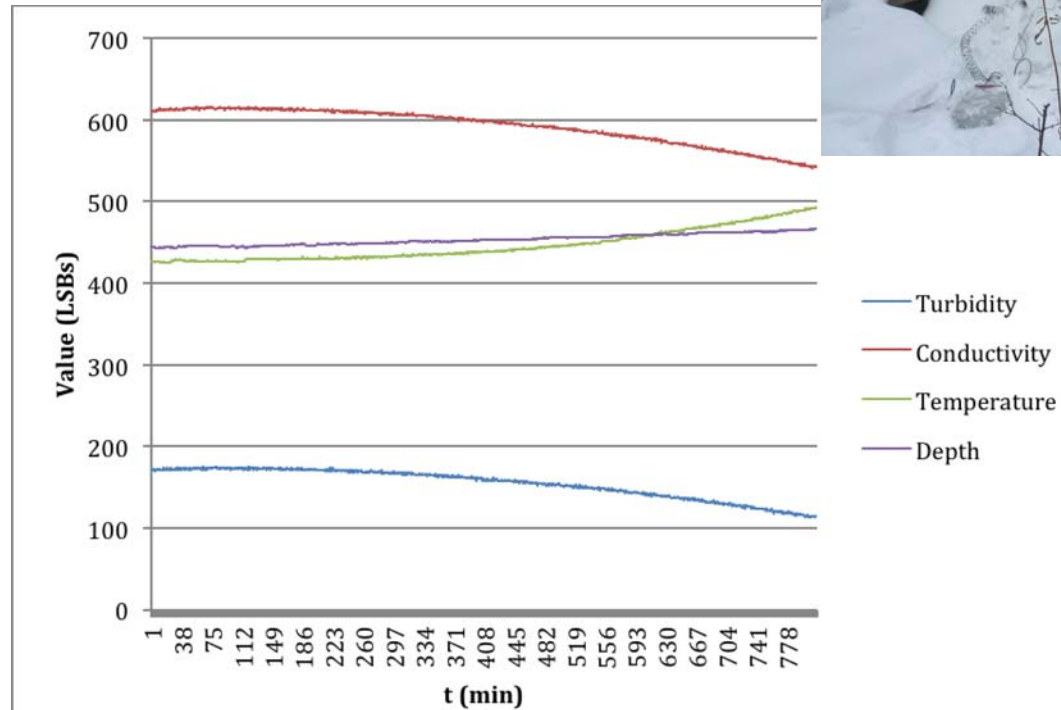
SENSING

- \$15,000 Depth Gauging Stations
- Expensive Sampling Campaigns
- GC/LC-MS Analysis
- Anything by ISCO
- Proprietary
- ALog
- \$400 4-parameter Gauging Stations
- Riffle
- \$500 Autosamplers
- Open Source

HEAVY METAL

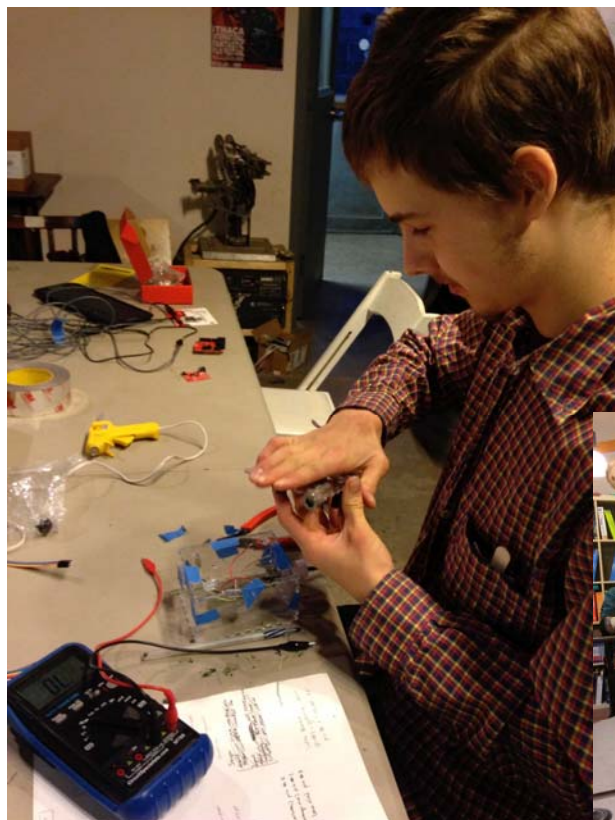
PUNK

Currently



SENDING

Cu



SENSING

On the Horizon



SENSING

**ANY
QUESTIONS?**

PUNK

AS

CENSORED

- **ROLF HUT AND ANDY WICKERT**
- **SHAH SELBE AND CONSERVIFY**
- **CORNELL SOIL AND WATER LAB**
- **TOMPKINS COUNTY 4-H2O CLUB**
- **THE HOMESTEAD SCHOOL**

AND TOTALLY

METAL