

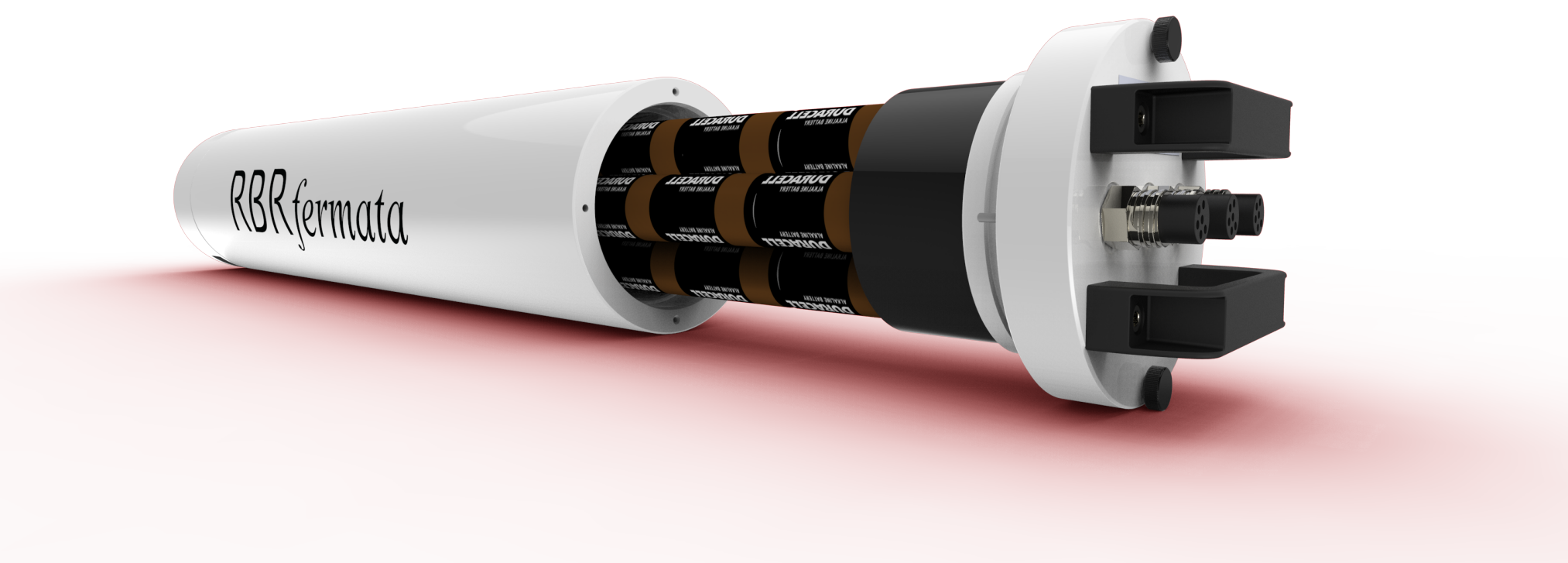
# Scripps and RBR collaborate to add ocean measurement capabilities, deployment endurance, and realtime telemetry to Wirewalker platform

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## Extending Missions

- The RBR*fermata* external battery canister contains 56 alkaline D-cells or lithium battery packs (up to 3kWh of power)
- The extra power enables extended missions:

RBR Instrument	Sample Rate	Deployment Duration
RBR <i>concerto</i> <sup>3</sup> CTD	16Hz	2+ years (alkaline)
RBR <i>maestro</i> <sup>3</sup> CTD.Chl-a.FI.ODO	16Hz	70 days (alkaline) 180 days (lithium)



## Directional Sampling

- The Wirewalker collects high-quality oceanographic data when it is ascending
- Because of the asymmetric sampling, CTD power and data can be managed by collecting data at a higher rate when ascending and a slower rate when descending
- The Directional Sampling mode in the Ruskin configuration software allows a fast sampling rate and slow sampling rate

Sampling

Mode:

Directional

Threshold (dbar):

10.0

Fast sampling direction:

Ascending

Fast sampling speed:

☒ Rate

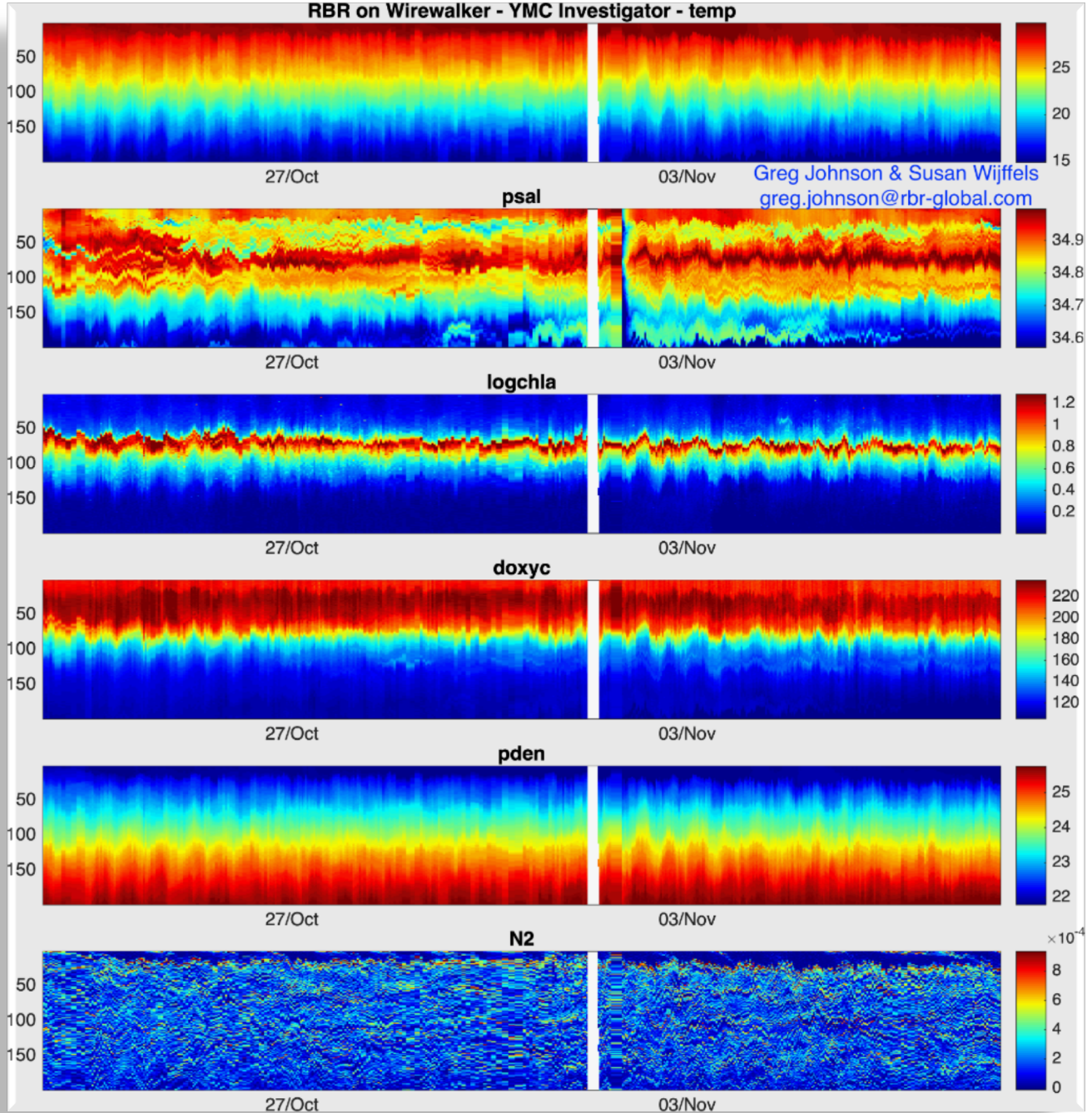
16Hz

Slow sampling speed:

☐ Rate

00:00:05

## Wirewalker Profile Data



# Collaboration has enabled longer autonomous missions, realtime telemetry, and hosted data from the Wirewalker profiling platform



## Realtime Telemetry

### Buoy (surface)

- The RBR*cervello* receives the realtime data from the RBR logger via a remote ferrite holder mounted around the top of the mooring wire
- The RBR*cervello* logs the data to memory and sends the oceanographic data and GPS position to the hosted RBR server via Iridium or GSM service
- The RBR*cervello* is powered by internal alkaline or lithium battery packs



### Wirewalker (subsurface)

- The RBR logger sends realtime data using the RBRssm (subsurface inductive modem)
- The RBRssm remote ferrite holder is positioned around the jacketed steel wire allowing the Wirewalker to ascend/descend the mooring wire
- Data is telemetered from the Wirewalker to the RBRcervello in the surface buoy using RBR inductive modem technology
- Data telemetry is two-way allowing the user to change the sampling configuration of the logger

## Hosted Data

- Realtime oceanographic data is hosted on the secure RBR server
- Data can be polled and downloaded by using the getcsvdata.sh script by defining a start and end time period
- The host site displays all data collected as time series and contour plots as well as engineering data and GPS position

