# Team Meeting

**1st DECEMBER 2022** / 9:00 AM / Zoom

## Attendees

Pete Schwartz, Orion, Andrew Mayanja,Adam Camarena, Ajay Patel, Kevin Georgiev, Merlyn Manoj, Simon Batchelor, Shazil, Peter Keller, Emmanuel Otoo, Bismark, Crevan

## Agenda

### Collaborator Check Ins

- ➔ Pete Schwartz
  - ◆ Tested the aluminum thermal storage ISEC during the workshop in Togo
  - ◆ Ordered more pots at the aluminum foundry in Togo
  - ◆ Collaborators in Accra Ghana (Otto and Bismark) have access to aluminum foundries as well hence can make the same pots
  - ◆ The cement concrete top that held the aluminum pot offered good insulation and was easy to clean during usage
  - ◆ Having a pot with the aluminum block all casted as one with a metal-metal interface to the heater offered the best thermal connection during cooking
  - ◆ Tried cooking with the aluminum block joined by a metal-metal interface to the cooking pot but it did not provide better heat to the food as compared to having them joined
  - ◆ For slow cooking, another cook pot can be inserted in the aluminum block pot creating a metal-metal interface or lifting the cook pot with wires away from the aluminum block pot
  - ◆ Fiberglass has good insulative capabilities and can withstand very high temperatures without burning incase the thermal storage block reaches very high temperatures
  - ◆ Women at the workshop did not mind using a cookpot with an aluminum block as compared to using a cook pot with wires hanging out
- ➔ Simon Batchelor
  - ◆ Asked whether the key innovation was a pot with thermal block all joined as one
  - ◆ Suggested using a lock to fix the block to the cooking pot when needed making it easy to carry the cook pot after cooking
- ➔ Crevan
  - ◆ Asked how fast the aluminum block lost heat during usage
  - ◆ Inquired whether the thermal storage ISEC was capable of slow cooking foods

- Kevin Georgiev
  - Making an aluminum block is expensive
  - Currently using software to analyze heat flow in an aluminum block, 3 inch thick, 8 inch diameter
  - Estimated heat source used in the analysis is 400 degrees celsius
- Bismark
  - Had a fantastic workshop in Togo
  - Developed 3 ISECs with different designs while at the workshop and cooked foods such as rice with ISECs
- Emmanuel
  - Had a fantastic workshop ISEC training in Togo
  - Storing energy inform of heat is important
  - Thermal storage is important because of different cooking trends in different areas
  - Lead acid batteries are cheap but have a limited depth of discharge while lithium batteries are expensive hence making thermal storage a good replacement
  - Boiled water for 1 minute and fried carrots and onions with the ISEC developed
  - Thermal storage block ISEC allows for less panels needed, used 100W panel compared to 200W solar panels used without the thermal block
  - Will use modeling software to improve the aesthetics of the ISECs developed in the workshop
  - Already developing cookers in Ghana hence will incorporate lessons learnt from the ISEC workshop in Togo during cooker development
  - Customers/Users will need sensitization on the thermal storage ISEC usage

## Action Items

1. Collaborators working on the thermal storage continue developing and testing the ISECs
2. Kevin will reach out to Orion to get feedback on the thermal storage ISEC Orion built