My Take Away From

Joint ICTP-IAEA School on FPGA-based SoC and its Applications for Nuclear and Related Instrumentation

25 January - 19 February 2021
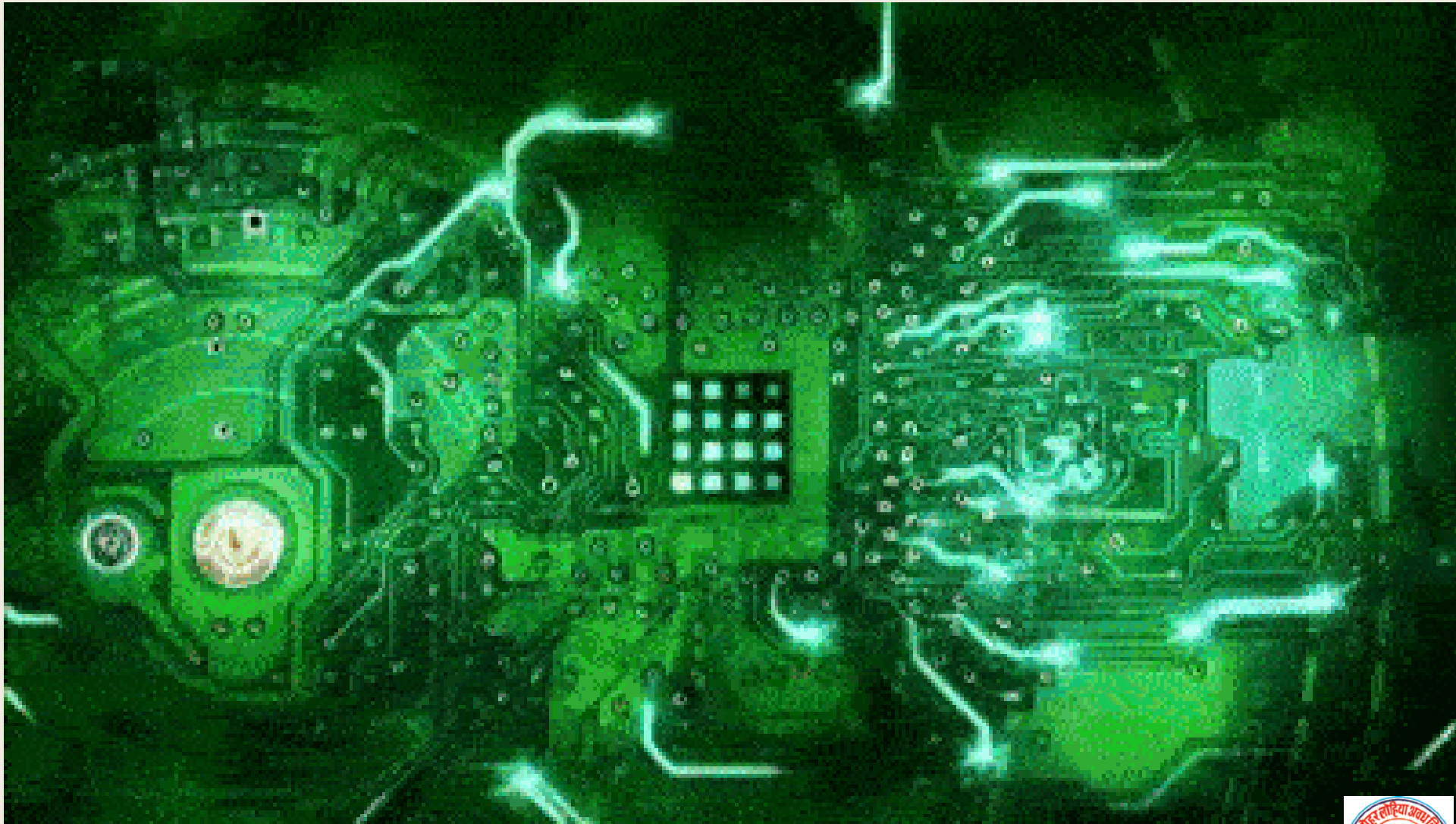An ICTP-IAEA Virtual Meeting
Trieste, Italy

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University Ayodhya

Understanding the Ecosystem

Integration with FPGA
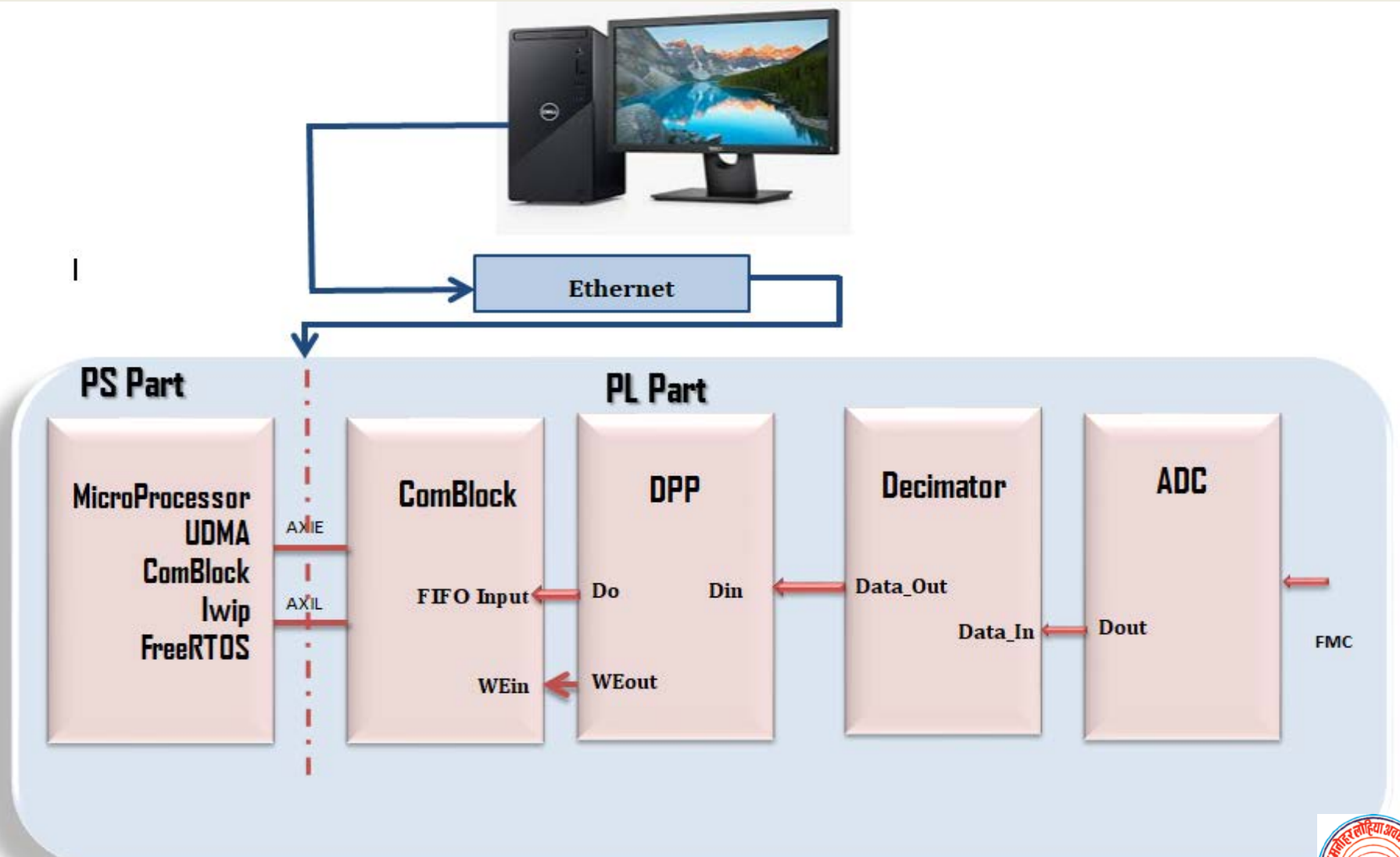
Geetika Srivastava, Dr. RMLAU Ayodhya
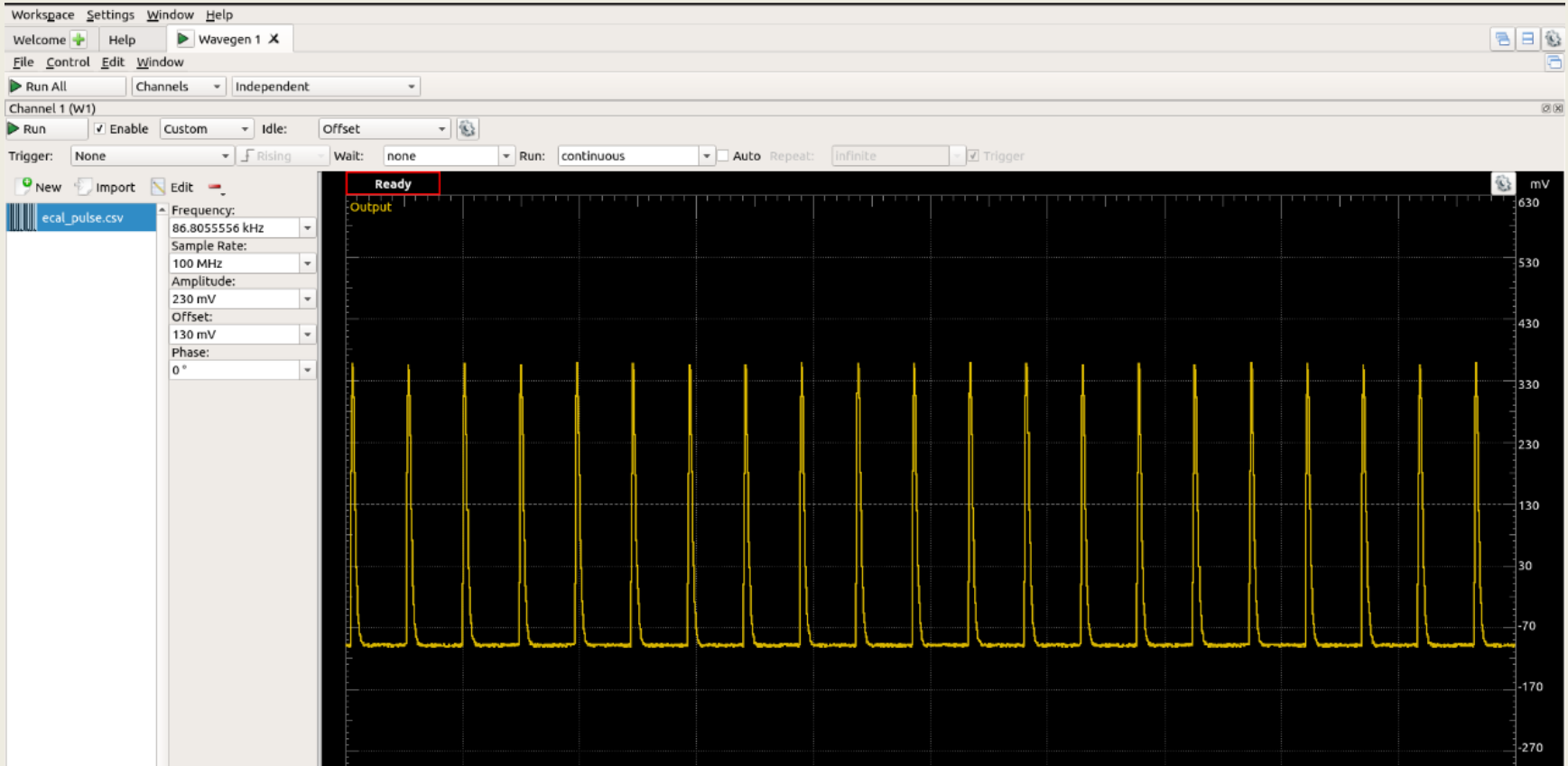
Purpose of Attending

- Applied Aspects Real Time Application Development

- ML algorithm implementation

- My research wants lower latency so computation over the edge than cloud

Final Day Project

The Final Project

Final Day Project

Few new learning out of many..

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Decimator, ILA, ComBlock, AXI Interface
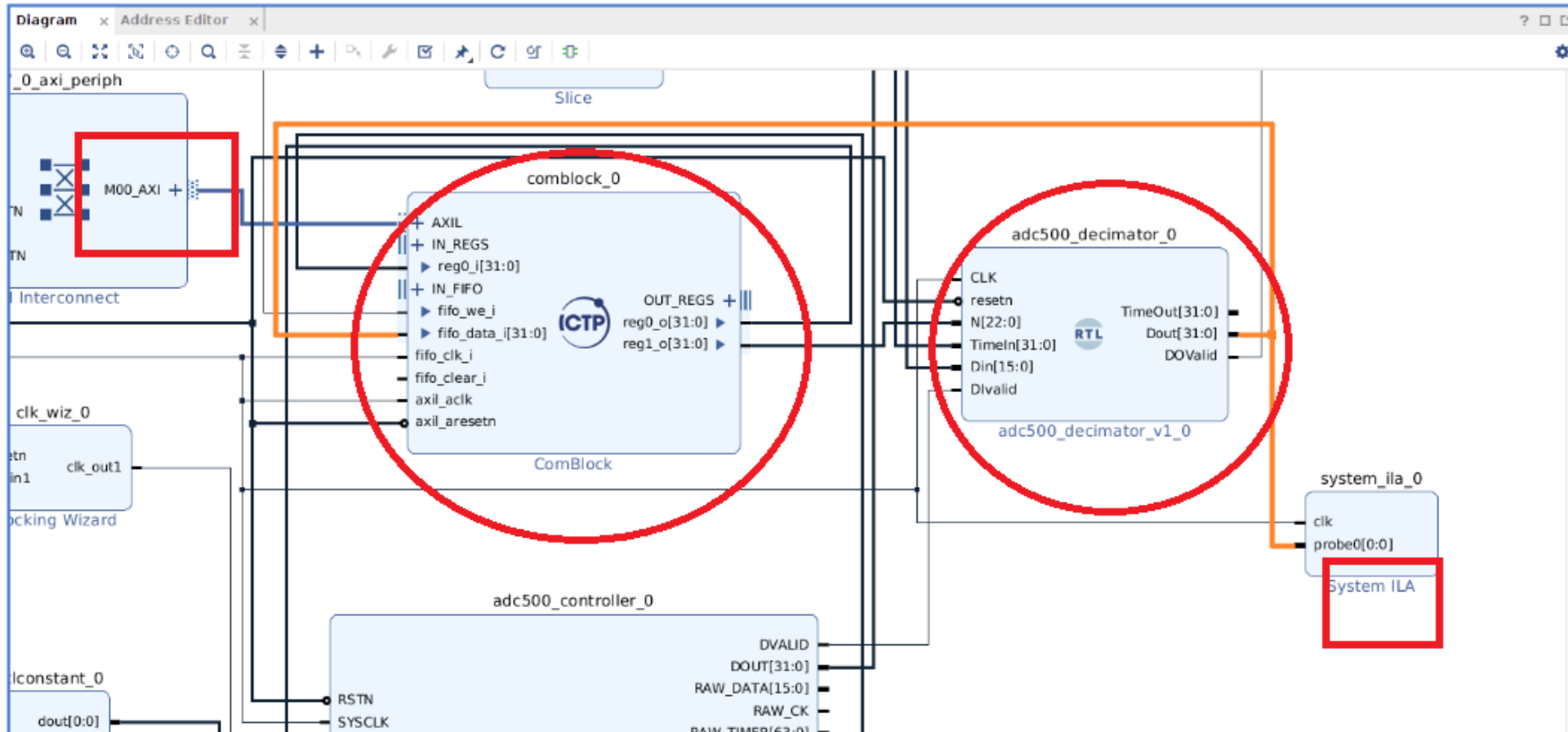
Flexibility

- Communication between module

- Buses to output and to input

- Bare metal Application development

- Application on Free RTOS

- I preferred MCUs but I guess I Need To Rethink: After this School

Lovable things about this School

- Use what is best, System performance
- This online Lab is far better than offline as we got very personalized attention
- Shred screen let us know probable problems and their solution before hand
- So actually we did programs X times

- Accessed **System of IAEA** from **System of ICTP** from **My system**

- Thanks to all the technical support

Xilinx SDK environment

- Using a stand-alone BSP

- Using a FreeRTOS BSP without having to include the FreeRTOS source files as part of the application that references the BSP library.

Interesting Tasks we did..

- Registers
- File Reading
- Assigning file saved values to the hardware
- Kernel programming
- Scheduler Programing(Round Robin)
- Setting Filter Parameters I think I need to work more on it
- Above all working with "git" and interesting git-ignore

Challenges

- So the program every day started at 3:30 IST
- And our University is open
- Talks Exams Inspections, Camp, University Activities use to start from 8 am IST
- Multiple time just survived on coffee
- But after all it was just worth it…

 Geetika Srivastava, Dr. RMLAU Ayodhya

Thanks

- Dr. Liz
- Dr. Andreas
- Vladamir
- Bruno
- Molina
- Luis
- Werner
- Dr. Cristian
- Rodrigo Melo
- Team IAEA
- And all those involved in organizing this event…
- Not the least my Breakout room partners Saleh, Shamsiah, Giesel