Schedule for online MPI course

21, 22, 28 and 29 November 2023

	Day 1
9:00	Welcome, general intro
9:10	**Lecture**: concept of parallel and MPI - Joachim
9:30	**Lecture**: Running MPI – Joachim
9:45	**Lecture**: Initialisation, Communicators – Xin
10:30	*Break*
10:45	**Demo**: Hello world – by language (C: Joachim F: Pedro P: Xin, Juan)
11:00	**Lecture**: Point-to-point - Pedro
11:45	**Exercise**: Parallel code, collecting partial results: Pi as a sum (C: Joachim F: Pedro P: Xin, Juan)
12:20	Questions and Wrap-up
12:30	*Close*

	Day 2
9:00	Recap day 1
9:10	**Lecture**: Non-blocking and deadlock - Joachim
10:00	**Demo**: Message around a ring (C: Joachim F: Pedro P: Xin, Juan)
10:45	*Break*
11:00	**Lecture**: Collectives - Pedro
11:45	**Live Coding**: 2-D integration (start from serial, do the MPI) (C: Joachim or F: Pedro P: Xin, Juan) Exercise PI using collectives
12:20	Questions and Wrap-up
12:30	*Close*

	Day 3
9:00	**Demo of DDT debugger** (use message around a ring as demo code - recap) - Joachim
9:45	Hands on DDT use DDT on your samples (C: Joachim F: Pedro P: Juan)
10:30	*Break*
10:45	Lecture: Splitting Communicators - Joachim
11:15	Exercise: Collectives in sub-groups (C: Pedro F: Tor P: Juan)
12:20	Questions and Wrap-up
12:30	*Close*

	Day 4
9:00	Recap day 3
9:10	Lecture: Derived data and user defined reductions (C, C++, Fortran) –Joachim Lecture: Transferring NumPY objects in Python – Xin
9:45	Exercise of derived data or user defined reductions (C,F) – Joachim, Pedro **Demo** Transferring NumPY objects in Python – Xin , Juan
10:30	Break
10:45	Lecture: MPI performance – Pedro
11:30	Exercise on performance (in slides) (C: Joachim F: Pedro P: Xin, Juan)
12:15	Wrap up/Questions
12:30	*Close*