DVF Visit – Dr André Grahl Pereira

During the visit, we organized two seminars, one master class, and many research meetings. The first seminar, titled "SICSA DVF Seminar - Understanding Neuro-Symbolic Planning" took place at the University of St. Andrews on 20/01, hosted by Prof. Alice Toniolo. After the seminar, there were discussions with university researchers, and we identified mutual research interests with Lecturer Joan Espasa Arxer. Arxer has experience with classical planning compilations for SAT. The second seminar, also titled "SICSA DVF Seminar - Understanding Neuro-Symbolic Planning" took place at Heriot-Watt University on 27/01, hosted by Prof. Ron Petrick. After and before the seminar, we discussed with Prof. Petrick, and his graduate students, planning models, including fully observable non-deterministic (FOND) planning, hierarchical task network (HTN) planning, and epistemic planning. We discussed how learning-based heuristic functions could be used in different planning models. Finally, the last public event occurred at the University of Aberdeen as a full-day master class hosted by Prof. Felipe Meneguzzi, titled "SICSA DVF Master Class - Heuristic Search Planning" on 30/01. The first part of the master class discussed planning formalisms, search algorithms, and heuristic functions. The second part focused on planning technology, presenting the Planning Domain Definition Lanangue (PDDL) as well as a brief tutorial on the use of the Fast Downward planning system, the standard framework of the community. During the visit, there were several research activities, including discussions about papers still being written about the application of IP/LP models to solve artificial intelligence problems. We briefly interacted with the Lecturer of the University of Aberdeen, Rafael Cardoso. We also started new research during the visit, which focused and included the graduate master's student of the University of Aberdeen, Cael Milne. His master's research is directed at the use of novelty to guide search algorithms to solve HTN tasks. During the visit, it was already possible to produce very positive results that indicate the feasibility of this research project.