Work Report

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Research Visit to University of Salerno, Italy
(7th September 2016-30th October 2016):

The research visit to Prof. Antonio Di Nola at Department of Mathematics, University of Salerno was from 7th September to 30th October. As a part of this visit I delivered some talks on my doctoral work and some progress towards our discussions during my stay. Prof. Di Nola gave some seminars on MV algebra and some of the open problems in this area. One of the problem was "Characterisation of MV space topologically". First of all I started to read the materials on the existing literature. Secondly I tried to study MV algebra using the scheme of Vicker's notion of topological system. As a result I able to get some results in this directions. Not only that I also obtained some results on the similar problems related to Heyting algebra and intutionistic logic. During my stay I had several discussions with Prof. Lenzi, Prof. Spada, Prof. Gerla, Dr. Lapenta. As a matter of fact we generate some ideas for future collaboration. I had nice conversations with Dr. Sara Lapenta about the work done on Heyting algebra as well as MV algebra and the proposed MV-system. I had some discussions on the open problems of my PhD thesis with Prof. Giacomo Lenzi. During the conversations I gained some knowledge on monadic category and various fields related to category theory and MV algebra. Prof. Luca Spada introduces me the connections of MV algebra, Tychonoff space and rational polyhedra. One of the main aim of the discussions with Prof. Spada was to write a postdoc project and we will continue our discussions on skype. At the end of my stay I also had dis-

cussions with Prof. Grigolia (who visited the department during this period) and Prof. Di Nola about the work related to Heyting algebra and Gödel algebra. The plan is to write draft of the work done related to these areas and produce a paper in future. Lastly I would like to mention that I had some wonderful discussions with Prof. G. Gerla about possible relationships between the notions of pointless geometry and topological system. I hope to get some development in this direction in near future.