Name: Julian Felix. Title: Dr.

Affiliation: Universidad de Guanajuato, Departamento de Física. Laboratorio de partículas elementales (http://laboratoriodeparticulaselementales.blogspot.mx/).

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Focus area of interest: Experimental High Energy Physics –neutrino physics, cosmic rays, instrumentation, Data acquisition systems, and data analysis-.

Biography of researchers involved (short).
Professional Degrees: BSc. Physics and Mathematics. Escuela Superior de Física y matemáticas, IPN. México. 1985. Master in Sciences (Physics). Departamento de física, CINVESTAV, IPN. México. 1986. PhD. (Physics). Universidad de Guanajuato, Mexico/Universidad de Massachusetts, USA. 1994.
Awards and Distinctions: Premio Noroeste de Física (Universidad de Sonora, Mexico) 1980. Premio Nacional de Física 1980, Mexico. Premio ensayos sobre premios Nobel (Sociedad Mexicana de Física, Mexico) 1990. **P**referente PROMEP (SEP, Mexico) 1992-2016. Fellow of sistema nacional de investigadores nivel II, Mexico 1992-2015. Scientist associated to Fermilab since 1989; http://www.fnal.gov. http://minerva.fnal.gov.
International professional experience: Member of the international experiments BNL e766, FNAL 690, FNAL 879, FNAL 938 (MINERVA). Head of the International collaboration MINERVA in México.
Human Resources: 15 BSc (physics) two in process. 7 MSc (Physics) 2 in process. 4 PhD (two in process). 150 courses in physics and mathematics delivered at BSc, Master and PhD level. More than 150 conferences of popularization of science delivered. More than 100 scientific conferences delivered all over the world. More than 100 students professionally advised.
Scientific Production: 47 high impact papers. 100 Proceedings. 32 popularization of science papers. 7 teaching papers. 15 books. 3 three book chapters. More than 600 cites. More than 30 funded grants.
Creation of infrastructure and equipment: Elementary Particles Laboratory, División de Ciencias e Ingenierías, Campus León, Universidad de Guanajuato, Mexico. Laboratory for data analysis (Three CPU clusters) for experimental high energy physics. Cosmic ray detectors.
More relevant accomplishments: Discovery of Lambda cero polarization in exclusive pp reactions. PRL paper 1996. MINERvA experiment, the experiment of the year 2011. Department of Energy, USA, 2011. Demonstration of using neutrinos for communication, 2012. MINERvA, the most influential experiment, 2013, Physics World.

Speech title: **Big Data, Big networks, Better Scientific Collaborations**

Abstract. Big Data is exploding in these days in all fields of human activities, especially in physics research performed in multinational big collaborations, which demand big data and big networks technologies to operate. This is the case of MINERvA Collaboration (http://minerva.fnal.gov) –among

others like K2K (http://neutrino.kek.jp/member.html), ATLAS (http://www.atlas.ch/)- which involves 7 countries (including Mexico and USA), 22 institutions (including Universidad de Guanajuato and Fermilab) and about 100 physicists. Physicists are collecting neutrino-nucleus data with MINERvA detector since 2010; at the end of the run, 2016, MINERvA will collect about 150 TB of raw unformatted data, and will require about 600 TB of Monte Carlo unformatted data. MINERvA collaboration details, challenges on big data and big network technologies will be presented.