Chronicle of the co-operation between UM and MPAE Gerd K. Hartmann, October 1998

- 1983 MPAE Balloon launch for trace gas measurements in Mendoza (P. Fabian et al.)
- Begin of two DAAD fellowships by Ing .E. Puliafito und Ing. C. Puliafito from UM in the project: microwave spectroscopy of the Earth's atmosphere at MPAE (G.K. Hartmann).Fellowships were terminated with German Dr. Ing. and Dipl.Ing.
- 1986 Because of the Space Shuttle accident postponement of MAS launch by 3 years.

MAS:

- Millimeter Wave Atmospheric Sounder, from Space Shuttle, a joint German-US-Swiss experiment with the principal investigator (PI) G. K. Hartmann from MPAE. Modification of the MPAE microwave project.G. Hartmann guest professor for "filter and information theory" at UM, since then annual lectures and seminars.
- 1988 Ratification of an environmental research program (PRIDEMA) between the University
 - of Mendoza and the government of the Province Mendoza. G.K. Hartmann was appointed as its international coordinator. First planning for the ecovillage project "ECOVILLA" (Phase A1 Study). Guest professorship for G. K. Hartmann was extended by the topic: "Remote sensing for a conserving utilization of the environment"
- 1989 Bilateral cooperation contract between MPAE and UM. "Solar chimney" proposal for ECOVILLA together with the engineering bureau Schlaich et al., Stuttgart
- 1990 First contact with the international bureau (IB) of the BMBF at GKSS, in the frame of the Argentinian German Scientific Technical Cooperation (WTZ:) (Dipl. Ing. H. Bianchi. Since 1997 Dipl. Phys. M. Hermes, IB North and South America, DLR Bonn)
- 1991 (till 1998) IB sponsored project "TROPWA" ARG. ENV 4., G. Hartmann Co-PI; G: K. Hartmann appointed as honorary, external, scientific director of the UM environmental institute "IEMA" and as full professor (profesor titular) at UM for "remote sensing for a conserving utilization of the environment." He received the Dr. Luis Federico Leloir Medal for international scientific cooperation with Argentina in the field of environmental research on Dec. 12th 1991 in Buenos Aires from Prof. Dr. R.F. Matera, the Argentinian minister for science and technology
- 1992 Launch of the first NASA ATLAS Space shuttle mission with MAS as a core payload. Dr. E. Puliafito from UM participated as member of the international MAS team
- 1993 Soil sealing and recultivation proposal (SOREC) for ECOVILLA together with engineering bureau Siedek and Kügler, Essen (Dipl. Ing. J.U Kügler)
- 1994 The Rector of the University of Mendoza (UM), Prof. Ing. Salvador Puliafito, died in a car accident. Begin of the doctorate program of the engineering faculty of UM. Termination of Phase B of the ECOVILLA planning. The new rector of UM Prof. Dr. C. Menghini supports research and environmental activities much less than his predecessor. Begin of co-operation with UFZ Leipzig/Halle (W. Weissflog). Governmental support for WTZ programs has been reduced since then.
- 1997 Proposal "Local Ecovillage Development and Global Environmental Monitoring of the Earth's Atmosphere, with a development of technical basis modules for ecovillages"
- 1998 Modification of the post graduate study of the engineering faculty of UM.
- 1999 Continuation of the projects and proposals, seminars and tutoring of Ph.D. works
- 2000 The research project ARG ENV 4 (TROPWA) which dealt in context with the Argen tinian German scientific technical co-operation (WTZ) with the measurements of ozone and water vapour of the Earth Atmosphere with remote sensing methods in

the Mendoza region – G. K. Hartmann was its principal investigator – was officially ter- minated in December 1998 is still continued on the bilateral UM-MPAe basis. G. K. Hartmann was examiner of two Ph.D. examens (Dipl. Ing. C. M. Puliafito and Ing. J. Favier) and referee of a Ph.D. thesis (Ing. S. Leguizamon).

Remark: Since 1986 also annual visits with lectures and seminars at universities in Chile, especially in Santiago and Concepcion as well as seminars and discussions in Buenos Aires.