Workshop on Neural Networks Application in Astroparticle Physics and Industry

August 6-11, 2000
Nor-Amberd, Armenia

International Advisory Committee

Prof. A. Chilingarian (Armenia)
Prof. H. Gemmeke (Germany)
Prof. C. Lucas (Iran)

Local Organizing Committee

Mr. A. Derdzakian
Dr. V. Ivanov
Mr. A. Hovhannisian
Dr. A. Vardanian
Mr. H. Vardanian
Mr. A. Yessin

Agenda

August 7

Topics:

- Decision Support Systems
- Uncertainty Modeling and Financial Forecasting
- Industrial applications

Session Chair: Prof. Lucas

August 8

Topics:

- Neural methods in Extensive Air Shower data analysis
- Forecasting of the severe radiation storm using cosmic ray intensity time-series.

Session Chair: Prof. Chilingarian

August 9

- Evolutionary Strategies for Neural Net Training
- Neural Hardware
- Hybrid hard-software system*

- Fast intelligent trigger applications

Session Chair: Prof. Gemmeke.

Evening round-table sessions**

August 10

- Net training strategies
- Theoretical foundations of NN methods

August 11

- Applied aspects of Neural Information technologies

NB:
* Special session devoted to the exhibition of products/software associated with the research work.
**Sessions will be held after sightseeing trips

Presentations

August 7

- Neural Decision Support System for Tehran Stock Exchange, Dr. Caro Lucas
- Identification of Phosphorus Esters by Neural Network, Dr Shahin Rouhani
- Cognitive Action Selection with Neurocontrollers, Dr. Caro Lucas
- Sparse Temporal Pattern Generation in Syn-Fire Chain, Mr. Ehsan Arabzadeh

August 8

- Some Results and Comparisons of Astroparticle Data Analysis, Ashot Chilingarian
- EAS Analysis on Event by Event Basis, Dr. Ararat Vardanian
- ANI Software Package in Forecasting of Extreme Geomagnetic and Radiation Storms, Mr. Nerses Gevorkyan
- Demonstration of ANI Package with SAND1 hardware accelerator

August 9

- Statistical learning algorithms, Dr. Hartmut Gemmeke
- Scalable Control Systems based on SW-Components, Dr. Wolfgang Eppler
- Comparison of Different Net Training Strategies, Dr. Ararat Vardanyan
- PLN Pruning, Dr. Wolfgang Eppler

- Evolutionary algorithms, Mr. S. Chilingarian

Participants (by countries in alphabetical order)

- Dr. Ashot Chilingarian, Armenia (Cosmic Ray Division, Yerevan Physics Institute)
- Mr. Suren Chilingarian, Armenia (Cosmic Ray Division, Yerevan Physics Institute)
- Mr. Nerses Gevorkian, Armenia (Cosmic Ray Division, Yerevan Physics Institute)
- Dr. Vitali Ivanov, Armenia (Cosmic Ray Division, Yerevan Physics Institute)
- Dr. Samvel Ter-Antonian, Armenia (Cosmic Ray Division, Yerevan Physics Institute)
- Dr. Ararat Vardanyan, Armenia (Cosmic Ray Division, Yerevan Physics Institute)
- Mr. Hovhannes Vardanian, Armenia (Cosmic Ray Division, Yerevan Physics Institute)
- Dr. Wolfgang Eppler, Germany (Forschungszentrum Karlsruhe)
- Dr. Hartmut Gemmeke, Germany (Forschungszentrum Karlsruhe)
- Dr. Hossein Abbassian, Iran
- Mr. Majid Arabgol, Iran
- Mr. Ehsan Arabzadeh
- Mr. Farhad Imanfard, Iran
- Ms. Shahin Khalilpoor, Iran
- Dr. Caro Lucas, Iran
- Dr. Shahin Rouhani, Iran
- Mr. Arash Tonok Shekarnia, Iran
- Mr. Ruben Ter-Antonian, U.S.A.
- Ms. Anahid Dian Yeremian, U.S.A. (Stanford Linear Accelerator Center)