



**PIRM-V'2015**  
**5<sup>th</sup> International Congress on Physics of Radiation-Matter Interactions**  
**Faculty of Sciences, Chouaib Doukkali University**  
**El Jadida, MOROCCO, May 5-7, 2015.**



**PROGRAM**

<b>Time</b>	<b>Tuesday 5<sup>th</sup> May 2015</b>	<b>Code</b>
8:30-9:30	<b>REGISTRATION</b>	
9:30-10:00	<b>OPENING CEREMONY</b>	
10:00-10:30	<b>TEA BREAK</b>	
10:30-11:10	1st PLENARY CONFERENCE, Chairman: Prof. Pierre DEFRANCE  <b>Atomic Molecular and Optics Physics Applied to Chemical and Biological Threats Surveillance and Crisis Management</b> Samir AL MOUSSALAMI, PhD. <i>President of pDevices Inc., Quebec, CANADA</i>	PC 1
	<b>SESSION I: OPTICS, PHOTONICS, LASERS, QUANTUM INFORMATION &amp; NUCLEAR, ATOMIC, MOLECULAR AND PLASMA PHYSICS</b> Chairman: Prof. Osman ATABEK	
11:10-11:30	Prof. Mohammad AL AMRI <b>Can information be communicated without a courier?</b> <i>King Abdulaziz City for Science and Technology, SAUDI ARABIA</i>	OC1
11:30-11:50	Prof. Pierre DEFRANCE <b>Electron-Impact Dissociative Excitation and Ionization of Molecular Ions</b> <i>University Catholic of Louvain, BELGIUM</i>	OC2
	Chairman: Prof. Abdelmajid BELAFHAL	
11:50-12:10	Prof. Ali MISDAQ <b>Development of New Dosimetric Models for Determining Radiation Doses to Individuals from the Inhalation of Air, and the Ingestion and Cutaneous Application of Various Products</b> <i>Cadi Ayyad University, MOROCCO</i>	OC3
12:10-12:30	Prof. Osman ATABEK <b>Intense Laser Induced Electronic and Nuclear Rescattering Mechanisms in Molecular Dynamics</b> <i>Paris-Sud XI University, FRANCE</i>	OC4
12:30-12:50	Prof. Alyen ABAHAZEM <b>Electrical and Optical Analysis of Pulsed Positive Multipoint Corona Discharges in Air at Atmospheric Pressure</b> <i>Ibn Zohr University, MOROCCO</i>	OC5
13:00-14:50	<b>DHUHR PRAYER &amp; LUNCH</b>	



Time	Thursday 7 <sup>th</sup> May 2015	Code
	4th PLENARY CONFERENCE, Chairman: Prof. Mohammadi BENHMIDA	
8:30-9:10	<b>Overview of PV Technologies : Technology, Prices and Markets Situation</b> Prof. Amin BENNOUNA <i>Cadi Ayyad University, MOROCCO</i>	PC4
	<b>SESSION VII : RENEWABLE ENERGIES</b> <b>Chairman: Prof. Mohamed Zehaf</b>	
09:10-09:30	Prof. El Mahdi ASSAID <b>Spectral Response and Quantum Efficiency of Crystalline Homojunction Solar Cells</b> <i>Chouaïb Doukkali University, MOROCCO</i>	OC37
09:30-09:50	Prof. Hikmat HILAL <b>Highly Efficient Metal Chalcogenide Nano-Film Electrodes in Solar Energy Processes</b> <i>An-Najah National University, PALESTINE</i>	OC38
09:50-10:05	Abdellah BOULAL, PhDs <b>The Influence of The Enhanced Greenhouse Effect on a Solar Still</b> <i>Hassan 1st University, MOROCCO</i>	OC39
10:05-10:20	Abderrahim BENACEUR, PhDs <b>Solar Drying of Foodstuff</b> <i>ENSET - Mohamed V University, MOROCCO</i>	OC40
10:20-10:35	Imane BOUMANCHAR, PhDs <b>Calorific Value Study of Biomass by-Products, Industrial Wastes and Their Mixtures</b> <i>Chouaïb Doukkali University, MOROCCO</i>	OC41
10:35-11:00	<b>TEA BREAK &amp; POSTER SESSION IV</b>	
	<b>SESSION VIII: CONTROL, DEVELOPMENT, CHARACTERIZATION AND ANALYSIS PROCESSES</b> <b>Chairman: Prof. Hikmat HILAL</b>	
11:00-11:20	Prof. Saadia AIT LYAZIDI <b>Environmental Application of Total Excitation-Emission and Total Synchronous Fluorescence: Direct, Rapid and Low Cost Analysis of Fluorescent Pesticides in Soils and Neighboring Waters</b> <i>Moulay Ismail University, MOROCCO</i>	OC42
11:20-11:40	Abderrahman EDDAZY, PhDs <b>The Infrared Thermography Applied to The Detection of Cracks in Metal Structures</b> <i>Cadi Ayyad University, MOROCCO</i>	OC43
11:40-12:00	Ir. Asia EL AMIRI <b>Simulation of Determining the Liquid Type in a Pipeline From Thermographic Data</b> <i>Chouaïb Doukkali University, MOROCCO</i>	OC44
	<b>Chairman: Prof. Sougrati BELATTAR</b>	
12:00-12:20	Prof. Mohssin AOUTOUL <b>A Novel interconnection technique using zero-degree phase shifting TL for RF QFN Package at S-band</b> <i>Chouaïb Doukkali University, MOROCCO</i>	OC45
12:20-12:40	Prof. Vesna K. Hristova <b>Estimating Dairy Productions Viscosity With Artificial Neural Networking (ANN) Model</b>	OC46



Preferred topic  
(Techniques and Instrumentation / Emerging Markets)

Preferred contribution  
(Oral)

## ESTIMATING DAIRY PRODUCT'S VISCOSITY WITH ARTIFICIAL NEURAL NETWORKING (ANN) MODEL

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Viscosity of dairy fluids is an important physical property and controlling many industrial dairy operations. Data on viscosity of some milk products are available. Some effect of heat treatment, chemical composition of the raw milk, processing conditions, and storage conditions on viscosity of fermented dairy products have special attention in daily life. In the present research work an attempt has been made to obtain some important facts for the viscous properties i.e. viscosity in the set-style yogurt produced from cow's milk. The samples were collected from one dairy industry in Pelagonia region, Republic of Macedonia, in the period of 3 months. We have used artificial neural networking (ANN) model and artificial Intelligence (IA) technique for the prediction of the viscosity and quality properties of yogurt samples. The findings of ANN model and IA techniques are found to be in good agreement with the samples collected from dairy industry lab.

A typical multilayer neural network (N-N) programming model is represented in "Fig. 1". It consists of an input layer and an output layer with various numbers of nodes, so called neurons in each layer. In the present work, we use the multilayer perceptron program developed in the MATLAB. Here, we have applied three input parameters, measured directly from the raw milk of Holstein-Friesian cow's in our dairy farms: milk fat, protein and pH values of milk. After the completion of computer programming, we get one output parameter that is simulated values of the various factors corresponding to the experimental data.

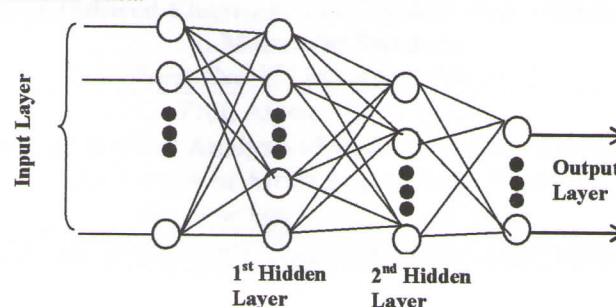


Fig. 1:- A sketch of multilayer Neural Network (N-N) Model.

### References

- [1] Vesna K. Hristova, M. Ayaz Ahmad, Julijana Tomovska, Biljana Bogdanova Popov, Inter. J. of Enhanced Res. Tech. and Engg. (IJERSTE), Vol. 3 (3), 522-529, (2014).
- [2] Vesna K. Hristova, Julijana Tomovska, Georgi Bonev, Stanimir Dimitrov, M. Ayaz Ahmad, Asian Academic Research Journal of Multidisciplinary, Vol. 1(22), 246-260, (2014).

**Key words:** Viscosity, dairy industry, artificial Intelligence (IA) technique and ANN model.