

## **Collaboration in Air Quality Monitoring and Environmental Modeling**

Gregory Shahnovsky, President of Modcon Systems (<http://www.modcon-systems.com/>), and Vladimir Agranat, PhD, President & Senior CFD Consultant of Applied Computational Fluid Dynamics Analysis (ACFDA, [www.acfda.org](http://www.acfda.org)), have decided to start professional collaboration in the field of predictive monitoring to ensure environmental safety.

The impetus for this event was a visit of the representatives of the Canadian company, ACFDA, to the main office of Modcon in Akko, Israel. During the visit, the ACFDA specialists presented their innovative developments in the field of advanced Computational Fluid Dynamics (CFD) modeling of various scenarios of negative impact of human activity on the environment and evaluated the advantages of unique Modcon's equipment used for continuous automatic monitoring of pollutant emissions/discharges. Also, it was demonstrated that CFD technology is a robust innovative tool of air quality and environmental safety assessments.

It was concluded that the direct and inverse environmental CFD modeling methods are very important and perspective directions of activity of both companies. In particular, direct CFD modeling technology requires multi-vector data base about ecosystem components (INPUT) and it enables to predict the dynamics of pollutant cloud in time and space (OUTPUT). Modcon and ACFDA can start representing these services and would be able to provide appropriate ecological models as required.

ACFDA has been involved in this work for more than 15 years. In particular, over the last two years, Ontario Ministry of the Environment and Climate Change and National Resources Canada have purchased from ACFDA the CFD software and training services for their analyses.

Modcon has more than 45 years of successful experience in process analysis, control and optimization and ecological monitoring for production of high-value and on-specification products.

Collaboration between ACFDA and Modcon Systems in the area of air/water quality analyses and environmental/fire safety assessments has started. Advanced customized CFD models ([http://www.acfda.org/results/2014\\_ASSE-MEC\\_CFD.pdf](http://www.acfda.org/results/2014_ASSE-MEC_CFD.pdf), [http://www.acfda.org/results/5IFBFC\\_Paper\\_2016.pdf](http://www.acfda.org/results/5IFBFC_Paper_2016.pdf), etc.) will be used for predictive assessments and comparisons with measured data.

The cooperation of the two leaders in their industries can become effective and long-awaited for customers.