

## **Surrogate Reservoir Modeling**

**SIGNIFICANTLY INCREASE THE RETURN ON YOUR  
SIMULATION AND MODELING INVESTMENT**

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**AN INNOVATIVE ENGINEERING TOOL TO SURPASS THE IN-  
HERENT LIMITATIONS OF STATISTICALLY-BASED PROXY**

Intelligent Solutions, Inc.

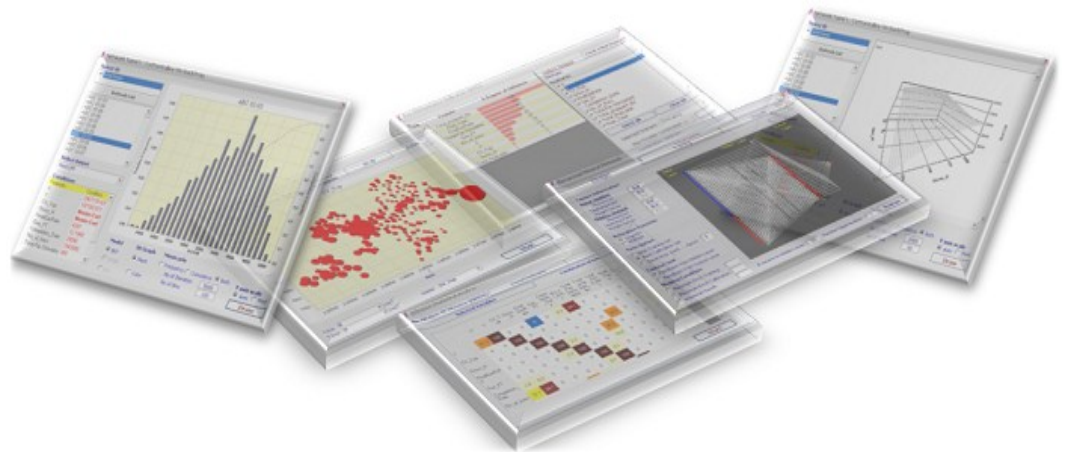
[www.IntelligentSolutionsInc.com](http://www.IntelligentSolutionsInc.com)



## **Is Your Company Taking Full Advantage of its Reservoir Simulation & Modeling Investment?**

Since a single run of the reservoir simulation models usually takes hours or days, the full potential of these models remains unrealized.

Surrogate Reservoir Models (SRM) reduce the run time of the existing reservoir simulation models to fractions of a second without compromising accuracy of the results. Without a need for super computers or computer clusters.



### **SRM's Applications:**

- **Smart Fields**
- **Real-Time Reservoir Management**
- **Quantification of Uncertainties**
- **Field Development Planning**
- **Infill Location Optimization**
- **AI-Assisted History Matching**



## KEY ADVANTAGES OF SRM

### Short Development Time:

Unlike conventional geo-statistical approaches that require hundreds of simulation runs, SRM is developed with only a few simulation runs, thanks to an innovative data assimilation and compilation technology.

### Accuracy:

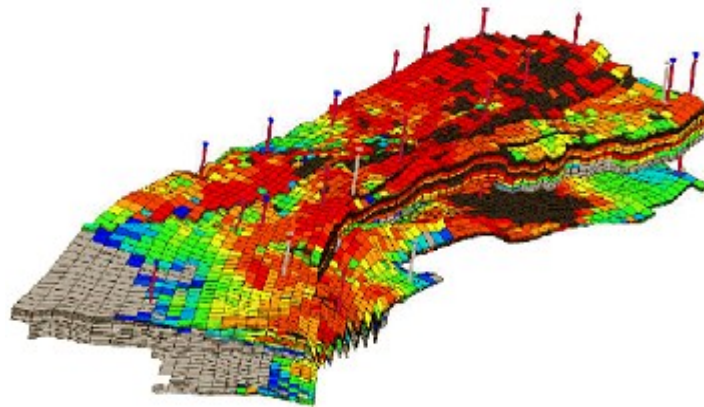
Accurately replicates the results of completely blind simulation model's run such as pressure and production profiles at each well and pressure and saturation distribution throughout the reservoir.

### Speed:

Runs and allows you to analyze the simulation models in Real-Time. Bring reservoir analyses to Smart Fields.

### Technology:

A completely new and innovative way of treating the simulation model based on ISI's pattern recognition technology that incorporates hybrid Fuzzy Set Theory and Artificial Neural Networks.



**SRM has been successfully tested on ECLIPSE™, IMEX™, GEM™, and POWERS™ with models with up to six million grid blocks.**



Maintaining Excellence in the Art and Science of  
*Artificial Intelligence & Data Mining (AI&DM)*  
as Applied to the  
*Exploration & Production Industry*



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