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*"fulfils the requirement of microwave engineers to model and simulate nonlinear active and passive systems without having a thorough knowledge of analysis, and optimization methods"*

*"extremely user friendly output capabilities"*

*"once in a display environment the user-program interaction is particularly friendly"*

*"powerful data fitting algorithm"...*

*Microwave Engineering Europe, November 1992*

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Version 2.0



**HarPE™**

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***Optimization Systems Associates Inc.***

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\*On UNIX workstations. Restrictions apply. 1993 Anniversary Licenses require US \$2400 payable in advance. Send cheque or money order payable to Optimization Systems Associates Inc. 1993 Anniversary Licenses include an ASCII on-line manual and expire December 31, 1993. Regular manual \$200. Anniversary offers expire March 1, 1993. Prices and conditions subject to change without notice. OSA90/hope and HarPE are trademarks of Optimization Systems Associates Inc.



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**At DAC in Dallas, June 14-17, 1993, see us  
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**AN INVITATION  
on our 10th Anniversary:  
Celebrate with us in Atlanta**

**1993 IEEE MTT-S  
International Microwave Symposium**

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● **Workshop Presentation, June 14**

- *Critical Issues in Experimental Validation*

● **Symposium Presentations, June 16, Afternoon**

- *Minimax Microstrip Filter Design Using Direct EM Field Simulation*
- *Robustizing Circuit Optimization Using Huber Functions*
- *Multilevel Multidimensional Quadratic Modeling for Yield-Driven Electromagnetic Optimization*

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**10th ANNIVERSARY**

## **SEMINAR PRESENTATION**

# **PERFORMANCE- AND YIELD-DRIVEN DESIGN OF MICROWAVE CIRCUITS, EMPHASIZING DIRECT EM OPTIMIZATION**

- Speaker**      John W. Bandler
- Date**          Thursday, March 10, 1994
- Time**          (6:00 pm Dinner), 7:30 pm Meeting
- Place**          Harvey Mudd College, Beckman Hall
- Contact**      David Paul 909 683 1849
- Organizers**   The IEEE Foothill Section, The Joint Chapter of Antennas and Propagation/  
Microwave Theory and Techniques Societies and Student Branch at Harvey Mudd  
College.

### *Abstract*

Dr. Bandler will talk about performance- and yield-driven design features and applications of the software systems HarPE™ and OSA90/hope™. OSA90/hope is a general CAD system offering simulation, flexible modeling, statistical analysis, and performance and yield optimization for linear and nonlinear circuits. HarPE is a powerful system dedicated to nonlinear device characterization including advanced statistical modeling and parameter extraction. Recent advances in integrating EM simulations directly into the circuit design process will be described. A workstation demonstration is planned.

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