

## **Jocelyne Erhel**

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### **Academic background :**

Habilitation à Diriger des Recherches, computer science, university of Rennes, 1992  
Ph-D, applied maths, university of Paris 6, 1982  
Agrégation de mathématiques, 1979  
École Normale Supérieure de Fontenay-aux-Roses, 1976-1980

### **Professional activities:**

2016-: Member of the FLUMINANCE team  
1997-2015: Scientific leader of the SAGE team (previously ALADIN team)  
Since 1982: Research Scientist at INRIA (Rocquencourt until 1987 then Rennes)  
Research fellow, University of Queensland, Australia, 6 months, 1996 and 1993  
Scientific visitor of ETA Systems, Minneapolis, USA, 5 months, 1986

### **Research interests:**

Numerical analysis and computational science  
High performance computing  
Applications to geophysical problems, mainly for environment and energy

### **Publications:**

53 papers in journals (SISC, SIMAX, JCP, JCAM, ETNA, WRR, AWR, TSI, etc)  
Edition of 2 books and co-author of 2 books  
54 book chapters or conference proceedings (PARCO, LNCS, LNCSE, etc)  
11 Plenary invited talks (Pareng'2013, Canum'2012, Pareng'2011, Mamern'2009, etc)  
75 international conference talks (46 invited and 29 accepted abstracts)

### **Software and grants:**

Co-author of software in scientific and high performance computing (H2OLab, GRT3D, etc)  
Coordination of national grants (ANR, ANDRA, IFPEN, CNES, IFREMER, etc)  
Participation in international projects (with Europe, Africa, Australia, USA)

### **Boards and committees:**

Editorial board of journals (ETNA, ESAIM Proceedings & Surveys)  
Member of scientific council of IFPEN  
Referee of scientific papers, of Ph-D and HdR, of submitted projects, jury service  
Organization of several conferences (CMWR'2018, DD21'2012, NumCoop'2009, etc)  
Organization of mini-symposia and workshops (SIAM GS, CMWR, etc)  
Program and scientific committees (MAMERN, PARENG, Parallel CFD, CARI, etc)  
Member of Gdr MANU, organization of a workshop in 2015 and 2017 with IFPEN  
Corresponding member of AMIES <http://www.agence-maths-entreprises.fr/>

### **Supervision and teaching:**

Director of 20 Ph-D students (18 defended, 2 in progress) and 41 Master students  
Supervision of 6 post-doctoral fellows and 7 engineers  
Teaching at master level; lecture notes on the web <http://www.irisa.fr/sage/jocelyne/cours.html>

### **Public dissemination:**

Scientific leader of interstices website <https://interstices.info/>  
Talks and papers for general audience <http://www.irisa.fr/sage/jocelyne/mediation.html>

**Book, journal and proceedings papers (2015-2016-2017):**

1. Nassif, N.; Erhel, J. & Philippe, B. (2015), *introduction to computational linear algebra*, CRC Press, Taylor and Francis group.
2. Erhel, J.; Mghazli, Z. & Oumouni, M. (2015), 'An adaptive sparse grid method for elliptic PDE with stochastic coefficients', *Computer Methods in Applied Mechanics and Engineering* 297, 392-407.
3. Jocelyne Erhel, Souhila Sabit (2017). Analysis of a global reactive transport model and results for the MoMaS benchmark, *Mathematics and Computers in Simulation* 137, 286-298.
4. J. Marçais, J.-R. de Dreuzy, J. Erhel (2017). Dynamic coupling of subsurface and seepage flows solved within a regularized partition formulation, *Advances in Water Resources*, 109, 94-105.
5. D. Imberti and J. Erhel (2017). Vary the s in Your s-step GMRES, ETNA.
6. Erhel, J. & Sabit, S. (2015), A global reactive transport model applied to the MoMaS benchmark, in B. Amaziane; E. Ahusborde; D. Barrera; J. Ibañez-Pérez; R. Romero-Zaliz & D. Sbibi, ed., 'Proceedings of the 6th International Conference on Approximation Methods and Numerical Modelling in Environment and Natural Resources MAMERN'15', EUG, pp. 303-326.
7. Pierre-Marie Gibert and Patrick Panciatici and Damien Tromeur-Dervout and François Beade and Pengbo Wang and Jocelyne Erhel (2017). A Generic Customized Predictor Corrector Approach for accelerating EMTP-like simulations. 12th IEEE PES PowerTech Conference, IEEE Xplore.
8. Maëlle Nodet & Jocelyne Erhel (2015), Modéliser et simuler la fonte des calottes polaires, interstices.
9. Maëlle Nodet & Jocelyne Erhel (2015), Des outils mathématiques pour prévoir la fonte des calottes polaires, interstices.
10. Jocelyne Erhel & Christine Leininger & Antoine Rousseau (2015). Quiz : 10 questions à propos de la COP21, interstices.