Curriculum Vitae
Jean-Claude Nédélec

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1 Curriculum Vitae

1.1 Vitae

NEDELEC Jean-Claude François Joseph
Born: 30 of January 1943 at **Briec de l'Odet** (Finistère)(France)
French citizen
Private address:
3, Place de Bretagne
91430 Igny (France)
Professional address:
Centre de Mathématiques Appliquées
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1.2 Education

Ingénieur Ecole Polytechnique: 1963-1966
Licence in Mathematics, Sorbonne University, Paris: 1966
Thèse d'état in Mathematics, Adviser: J.L. LIONS,
Sorbonne University, Paris 1970

1.3 Employment

Ingenior at E.D.F., Etudes et Recherches: 1966-1969
Université of Rennes, Professor: 1969-1974
Ecole Polytechnique, Palaiseau:
Director of the Center for Applied Mathematics: 1974-1996
"Directeur de Recherches" at the Center for Applied Mathematics; Ecole Polytechnique (Palaiseau) (UMR 7641 from the CNRS) 1974 - January 2008.
Professor of Mathematics at University of Rennes
(IRMAR UMR 6625 - CNRS) February 2008 - August 2008.
Professor Emeritus from September 2008-

2 Some Responsabilities and prices

Member of the C.N.U. and C.S.U. (National committee for Universities) (1972-1976, 1984-1986)
President of the C.N.U. in mathematics (1991-1999)
President of S.M.A.I. (French Society for Applied and Industrial Mathematics) (1987-1990)
Member of the editorial board of "SIAM Numerical Analysis" (1988-1995)
Member of the editorial board of "Mathematical Methods in the Applied Sciences" (1977-2007)

Member of the program committee of CICIAM95
Member of the price committee of CICIAM99
Prix Jacques Louis Lions de l'Académie des Sciences, Paris (2005)
Chaire M. Dassault, Centro de Modelamiento Matemático
Universidad de Chile (2005-2006)
Prix "Frank Rizzo Medal" From the IABEM association (2011)

3 Research Interests

Optimization and control theory

Works on the approximation of the Riccati equation
Results on duality in optimization and variational inequalities

Finite element methods

Introduction of two families of edge and face finite element
in two and three space dimension
Application to Stokes and Maxwell equations and to plate problems
Coupling between finite element and integral equations.

Integral equations

Introduction of coercive variational formulations and
approximations using finite element
Application to:
- Laplace Equation and simple layer potential
- Eddy currents
- Stokes Equation and elastic problems

Introduction of coercive variational formulations to treat
the hyper singular kernels in the following case:
- Laplace Equation and double layer potential
- Helmholtz Equation
- Elastic waves equation
- Piezo-elastic waves devices

Non linear hyperbolic equations

Result of existence and uniqueness for a first order equation
with boundary conditions

Theoretical results and numerical techniques for Maxwell equations in electromagnetic problems

Study of integral equations. Use of the Helmholtz decomposition
Study of approximated boundary conditions
Study of chiral media
Study of diffraction by arrays
Low frequency analysis
Resonant frequencies in a grating
Preconditionners