

# Program

Day 1: Dec 8 (Tuesday)

## *Tribute to Daniel Gogny*

### **09:15 - 10:00 Registration, welcome coffee**

10:00 - 10:05 D. Vanderhaegen (CEA, DAM, DIF).  
*Opening of the conference by the CEA/DAM simulation program director.*

10:05 - 10:30 J. Lachkar (CEA, DEN, Saclay, France)  
*L'œuvre scientifique de Daniel Gogny relatée par son ami et collaborateur.  
The scientific work of Daniel Gogny told by his friend and collaborator.*

10:30 - 10:55 Jordan Gogny (Livermore, USA)  
*My father's philosophy.*

### **10:55 - 11:10 Coffee break**

11:10 - 11:25 F. Geleznikoff (CEA, DAM, France)  
*Address by the CEA military application director.*

11:25 - 11:40 D. Verwaerde (CEA, France)  
*Address by the CEA general administrator.*

#### **Session 1**

Chair : J.-P. Delaroche (CEA, DAM, DIF, France)

11:40 - 12:05 M. Girod (CEA, DAM, DIF, France)  
*The Gogny team @ Bruyères.*

12:05 - 12:25 B. Grammaticos (CNRS IMNC, France)  
*How I learned to stop worrying and love the nuclear (Gogny) force.*

12:25 - 12:45 J.-P. Blaizot (CEA Saclay, France)  
*The RPA, from nuclei to supersymmetric cold atom systems.*

### **12:45 - 14:15 Lunch Buffet at TGCC**

#### **Session 2**

Chair : J. Lachkar (CEA, DEN, Saclay, France)

14:15 - 14:40 W. Younes (Lawrence Livermore National Laboratory, USA)  
*Daniel Gogny's vision for a microscopic theory of fission.*

- 14:40 - 15:00 F. Mariotte (CEA, Fontenay-aux-Roses)  
*Modelling electromagnetic properties of chiral composite materials:  
Daniel's contribution.*
- 15:00 - 15:10 Ph. Guimbal (CEA, Cadarache, France)  
*Mister Gogny goes for microwaves.*
- 15:10 - 15:30 D. Bouche (CEA, DAM, DIF, France)  
*Daniel Gogny and electromagnetic theory.*
- 15:30 - 15:50 P.-L. Lions (Collège de France)  
*On Mean Field Games.*
- 15:50 - 16:10 D. Iracane / P. Chaix (CEA, Saclay)  
*Detours may (sometime) be the best way, views from former physicists.*

**16:10 - 16:30 Coffee break**

**Session 3**

- Chair : J.-P. Blaizot (CEA, Saclay, France)
- 16:30 - 16:50 G. Gosselin (CEA, DAM, DIF, France)  
*Was Daniel Gogny a NEET guy ?  
(Nuclear Excitation by Electron Transition in plasma)*
- 16:50 - 17:10 B. Frois (CEA, Saclay, France)  
*Probing mean field theory in the nuclear interior.*
- 17:10 - 17:20 B. Bonin (CEA, Saclay, France)  
*Réponse des noyaux à une forte excitation :  
les résonances géantes multipolaires existent-elles ?  
Nuclei response to a strong excitation :  
do multipolar giant resonances exist ?*
- 17:20 - 17:40 L. Robledo (Universidad Autónoma de Madrid, Spain)  
*The Gogny force at Madrid: an adventure of more than thirty years.*
- 17:40 - 18:05 J. Vary (Iowa State University, USA)  
*Nuclear Matter and Finite Nuclei with a Realistic Soft Non-Local  
Interaction.*

**18:30 Departure for the conference dinner in Golf de Marivaux :  
bus at TGCC front door.**

**18:45-22:15 Dinner**

**22:15 Bus departure for Massy Palaiseau train station.**

# Day 2: Dec 9 (Wednesday)

09:15 - 09:40 N. Pillet / M. Dupuis (CEA, DAM, DIF, France)  
*Introduction*

## Session 1

Chair : M. Grasso (IPN, Orsay, France)

09:40 - 10:05 N. Van Giai (IPN, Orsay, France)  
*The making of the Skyrme and Gogny interactions.*

10:05 - 10:30 F. Chappert (CEA, DAM, DIF, France)  
*The D2 Gogny interaction.*

10:30 - 10:55 T. Otsuka (University of Tokyo, Japan)  
*Shell evolution and nuclear forces.*

**10:55 - 11:15 Coffee break**

## Session 2

Chair : T. Otsuka (University of Tokyo, Japan)

11:15 - 11:40 M. Anguiano (Universidad de Granada, Spain)  
*Gogny interactions with tensor terms.*

11:40 - 12:05 A. Rios (University of Surrey, Guilford, UK)  
*The Gogny interaction in infinite matter.*

12:05 - 12:30 D. Lacroix (IPN, Orsay, France)  
*Removing the density dependent term in EDF with a simplified 3-body finite-range interaction.*

**12:30 - 14:00 Lunch Salle Club CA3**

## Session 3

Chair : D. Lacroix (IPN, Orsay, France)

14:00 - 14:25 M. Baldo (INFN, Catania, Italy)  
*Microscopically Based Effective Interactions - Ground State and Single Particle States.*

14:25 - 14:50 H. Nakada (Chiba University, Japan)  
*Can Realistic Interaction be useful for Nuclear Mean-Field Approaches ?*

- 14:50 - 15:15 L. Robledo (Universidad Autónoma de Madrid, Spain)  
*Lights and shadows on the implementation of beyond mean field approaches with the Gogny force.*
- 15:15 - 15:40 C. Robin / N. Pillet (Western Michigan University, USA / CEA, DAM, DIF, France)  
*Multiparticle-multihole configuration mixing approach to the nuclear many-body problem.*

**15:40 - 16:00 Coffee break**

**Session 3**

Chair : D. Gambacurta (ELI-NP, Bucharest, Romania)

- 16:00 - 16:25 P. Schuck (IPN, Orsay, France)  
*Alpha particle condensation in nuclear systems.*
- 16:25 - 16:50 S. Goriely / S. Hilaire (Université Libre de Bruxelles, Belgium / CEA, DAM, DIF, France)  
*Nuclear mass models within the Gogny-HFB framework.*
- 16:50 - 17:15 J. Libert (CEA, DAM, DIF, France)  
*Five dimensional Collective Hamiltonian (5DCH) with the D1S Gogny Force. A collection of spectroscopic predictions produced during four decades, and some prospects.*
- 17:15 - 17:40 M. Martini (ESNT, CEA-Saclay, France)  
*Gamow-Teller strength and beta decay in deformed nuclei within self-consistent pnQRPA with the Gogny force.*

# Day 3: Dec 10 (Thursday)

## Session 1

Chair : V. Somà (CEA, Saclay, SPhN, France)

- 09:15 - 09:45 P. Navrátil (TRIUMF, Vancouver, Canada)  
*Nuclear Structure and Reactions from Chiral Interactions.*
- 09:45 - 10:10 G. Hupin (CEA, DAM, DIF, France)  
*Ab Initio Structure and Reactions of Light Nuclei with Effective Nuclear Interactions.*
- 10:10 - 10:35 G. Blanchon (CEA, DAM, DIF, France)  
*Gogny interaction from a reaction point of view.*
- 10:35 - 11:00 H. Arellano (University of Chile / CEA, DAM, DIF, France)  
*Di-nucleon structures in homogeneous nuclear matter based on two- and three-nucleon interactions.*

## 11:00 - 11:15 Coffee break

## Session 2

Chair : M. Anguiano (Universidad de Granada, Spain)

- 11:15 - 11:40 T.R. Rodríguez (Universidad Autónoma de Madrid, Spain)  
*Precise description of nuclear spectra with Gogny energy density functional methods.*
- 11:40 - 12:05 L. Egido (Universidad Autónoma de Madrid, Spain)  
*State of the art of beyond mean field theories with the Gogny force with applications to exotic nuclei.*
- 12:05 - 12:30 K. Pomorski (Maria Curie-Skłodowska University, Lublin, Poland)  
*Remarks on the Nuclear Shell-Correction Method.*

## 12:30 - 14:00 Lunch Salle Club CA3

## Session 3

Chair : P. Navrátil (TRIUMF, Vancouver, Canada)

- 14:00 - 14:25 M. Grasso (IPN, Orsay, France)  
*Tailoring new interactions in the nuclear many-body problem for beyond-mean-field models.*

- 14:25 - 14:50 D. Peña-Arteaga (Université Libre de Bruxelles, Belgium)  
*Towards a Relativistic Mean Field mass model for astrophysical applications.*
- 14:50 - 15:15 C. Robin (Western Michigan University, USA)  
*Nuclear response theory for isospin transfer modes in a relativistic framework.*
- 15:15 - 15:40 P. Ring (Technische Universität München, Garching, Germany)  
*Gogny's Pairing Forces in Covariant Density Functional Theory.*

**15:40 - 16:00 Coffee break**

**Session 4**

Chair : W. Younes (Lawrence Livermore National Laboratory, USA)

- 16:00 - 16:25 M. Warda (Maria Curie-Skłodowska University, Lublin, Poland)  
*Fission barriers in super-heavy nuclei calculated with the Gogny force.*
- 16:25 - 16:50 R. Bernard (Universidad Autónoma de Madrid, Spain)  
*Couplings between intrinsic excitations and collective modes in the fission process: the Schrödinger Collective Intrinsic Model.*
- 16:50 - 17:15 N. Dubray (CEA, DAM, DIF, France)  
*Microscopic description of the fission: automatic production of continuous potential energy surfaces.*
- 17:15 - 17:40 D. Regnier (CEA, DAM, DIF, France)  
*Microscopic description of fission dynamics: solving the time dependent GCM equation with the finite element method.*

# Day 4: Dec 11 (Friday)

## Session 1

- Chair : L. Robledo (Universidad Autónoma de Madrid, Spain)
- 09:15 - 09:40 H. Goutte (CEA, SPhN, Saclay, France)  
*Fission studies with Daniel Gogny.*
- 09:40 - 10:05 D. Gambacurta (ELI-NP, Bucharest, Romania)  
*Second RPA calculations with the Skyrme and Gogny interactions.*
- 10:05 - 10:30 S. Péru (CEA, DAM, DIF, France)  
*QRPA with the Gogny force applied to spherical and deformed nuclei.*
- 10:30 - 10:45 Coffee break**
- 10:45 - 11:10 G. Co' (Universita del Salento, Lecce, Italy)  
*Continuum RPA calculations with Gogny interaction.*
- 11:10 - 11:35 E. Bauge (CEA, DAM, DIF, France)  
*From finite-range nuclear effective interaction to applied nuclear data: a journey made possible by HPC.*
- 11:35 - 12:45 Visit TGCC**
- 12:45 - 14:00 Lunch Buffet TGCC**

## Session 2

- Chair : G. Co' (Universita del Salento, Lecce, Italy)
- 14:00 - 14:25 F. Lechaftois (CEA, DAM, DIF, France)  
*Introduction of a valence space in QRPA: impact on vibrational mass parameters and spectroscopic properties.*
- 14:25 - 14:50 J.-P. Ebran (CEA, DAM, DIF, France)  
*Relativistic approaches to the nuclear many-body problem.*
- 14:50 - 15:15 S. Hilaire (CEA, DAM, DIF, France)  
*Nuclear reaction input based on a Gogny interaction.*
- 15:15 - 15:40 M. Dupuis (CEA, DAM, DIF, France)  
*Modeling nucleon induced direct reactions from a nuclear structure description based on the Gogny force.*
- 15:40 - 16:00 **Conclusions**

