

## Exit report on FUSTIPEN-supported visit to GANIL

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I participated in the FUSTIPEN meeting held in January 2012 at GANIL, and hosted by M. Ploszajczak and H. Goutte. I presented a talk on “A Quantum Mechanical Theory of Fission”, which afforded me the opportunity to present the ongoing LLNL fission-theory efforts to an international audience of specialists in the field. The topic of the meeting was directly relevant to my work, and led to excellent and fruitful discussions on state-of-the-art developments in the theoretical description of nuclear fission using a variety of approaches.

The presentation at the meeting by H. Goutte on the coupling between collective and intrinsic degrees of freedom during fission was especially relevant to the LLNL effort. This work had already produced a joint publication in Physical Review C through a collaboration between the Bruyères-le-Châtel, GANIL, and LLNL laboratories. The meeting was also a timely opportunity to meet with our collaborators, N. Dubray and H. Goutte, and discuss our ongoing fission work. In addition, N. Schunck and I were able to establish a new collaboration with C. Schmitt, whose work on the Langevin approach to fission dynamics is well-aligned with our LLNL efforts. I also found the daily informal breakout sessions held after the talks very informative. The presentation on the importance of uncertainty quantification in microscopic fission calculations was especially interesting. There is a growing trend in the field to make uncertainty quantification a critical part of fission-theory calculations, and the discussions on this topic were very useful.

After the meeting, I remained at GANIL for an additional 4 days to have further discussions with H. Goutte. The outcome of these discussions was a list of fission-theory topics of common interest to GANIL and LLNL that could form the basis of future joint publications between the French and U.S. laboratories. I am very grateful for the FUSTIPEN support that made my trip possible, and for the opportunity to present my work, to engage in lively and fruitful discussions with the participants, and to meet with collaborators, both old and new.