

# **A tribute to Bach-Lien Hua**

Patrick Vincent

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# A tribute to Bach-Lien Hua

- The tribute I'll give will not be a scientific one:
  - All other speakers in the session will do that far better than I
- What could then I try telling you as a tribute to Lien?
  - **Open your minds to international cooperation and to side topics**
  - **Keep enthusiastic and smiling**
  - **Be very demanding as far as science quality is concerned**

# A tribute to Bach-Lien Hua

- A few science keywords:
  - Bach-Lien Hua
    - Large and mesoscale interactions in the ocean
    - Meso and sub-mesoscale turbulence
    - Stirring and mixing
    - Equatorial interacting scales
    - Ocean layering and seismic observations
- An ambitious programme mirroring Lien's contributions and breakthroughs

# A tribute to Bach-Lien Hua

- **A highly international symposium mirroring Lien's willingness to develop international science**
  - Many thanks to our foreign friends and colleagues to be today in Brest
  - Many thanks also to the so-called « Labex Mer » and, above all, to P. Klein who first thought about holding such a symposium and told me about it so enthusiastically

# A tribute to Bach-Lien Hua

- Woods Hole Oceanographic Institution, NCAR in Boulder, University of Hawaii, University of California at Santa Cruz, JAMSTEC
  - An **international science career** not only at her own benefit, but also at the benefit of LPO, Ifremer, french and international oceanographic science
  - More than one third of Lien's papers have at least a foreign colleague as a co-author

# A tribute to Bach-Lien Hua

- It's up to all of you to make these two days an enthusiastic forum in continuation of the enthusiasm Lien deployed in her work and life and in contrast with the so sad day when we learnt she passed away
- The symposium:
  - Should not be only a state of the art of science
  - **Has to be a starting point opportunity to develop new ideas and make Lien's science heritage live**

# A tribute to Bach-Lien Hua

- Lien was enthusiastic and widely deployed her capability to share her ideas, results and questions
  - I can remember a number of exchanges I had with Lien and Patrice when arriving at Ifremer to lead the ocean science theme including the LPO lab activities
  - I can also remember the discussions we had in view of continuing and developing the successful collaboration with JAMSTEC that J.F. Minster initiated.

# A tribute to Bach-Lien Hua

- During the discussions I had with Lien, I obviously benefited from the teaching experience she gathered and from her ability to have students developing research questions in the frame of docs or post-docs



# The ocean scale interactions Symposium

- OBSERVE, UNDERSTAND AND MODEL, ANALYZE AND FORECAST
- Lien was of course an international reference in understanding the ocean geophysical fluid dynamics;
  - Moreover, her work using original seismic observations demonstrates that she was indeed also an « **integrated oceanography** » science reference

# A tribute to Bach-Lien Hua

- As is promoted to introduce the objectives of the symposium, Lien advocated the **analysis of very high resolution data** obtained from in situ measurements and high performance computers – using a geophysical fluid dynamics approach as a method to address the scientific questions that build the logics of the symposium programme.

# A tribute to Bach-Lien Hua

- Let me have four suggestions, each of them supposing very demanding high quality science contributions :
  - 1. **Continue developing the Very High Resolution data analysis method from in situ observations and modelling**
  - 2. **Strengthen and extend international cooperation** with teams involved in demonstrating the science benefit of very high resolution space altimetry missions such as **SWOT and COMPIRA**

# A tribute to Bach-Lien Hua

- **3. At Brest and national scales, consider such a method and associated science questions in the prospective analysis presently conducted by F. Ardhuin in terms of future ocean dynamics developments**
- 4. Hopefully, the present symposium is a start:
  - Lien's heritage, the science topics to be addressed and the ideas you will be developing in the future surely deserve a continuation ...