



## **Dr. Le Toan Thuy**

### **Leader of the Biomass group at CESBIO**

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## **Background**

Ph.D in Atomic and Nuclear Physics in Toulouse, France.

Her research activity has been in the area of remote sensing for land applications, including experimentation and modelling of microwave interaction with terrestrial media. Her current interest is on the use of Radar Earth Observation data for applications in agriculture and forestry.

She is P.I of the ESA Biomass mission and currently Co-chair of the Biomass Mission Advisory Group. She is Co-lead of the Asia-Rice Initiative.

## **Activities in education**

- Direction of research team and supervisor of PhD students and post-doc researchers at the University Paul Sabatier, Toulouse, France (28 PhD in total).
- Lecturer of Master Courses in Remote Sensing at the French-Vietnam University of Science and Technology of Hanoi (2 x 1 week per year) (2011- )
- Invited lecturer on SAR Remote Sensing by Universities and Research organisations in Europe (Italy, Spain, Portugal), South America (Brasil, Bolivia) and Asia (Japan, Indonesia, Malaysia, Hongkong, China, Vietnam, Thailand, Lao, Manila, India).
- Lecturer of ESA Land Training courses in Europe and in China (Dragon 1-3 project)
- Co-supervisor of PhD students through international collaboration (University of Bari, Italy; University of Valencia, and University of Zaragoza, Spain; MIT in USA, Asian Institute of Technology, Thailand; University of Technology, Vietnam).
- Review board (jury) of Ph.D. Thesis in MIT (USA), University of Sheffield (UK), University of Louvain (Belgium), Chalmers University (Sweden), Royal Univ. Stockholm (Sweden); University of Bari and Politecnico di Milano (Italy), University of Jena (Germany), University of New South Wales (Australia),

University of Québec (Canada) and in France (University of Toulouse, Bordeaux, Paris, Grenoble, Nantes, Montpellier).

## Recent projects

- 2018-2021: CCI+ Above ground biomass: an ESA project aiming at mapping of forest biomass globally for different years/epochs 2010-2020.
- 2018-2019: GEORice extended: an ESA on the use of Sentinel-1 for rice monitoring in 5 countries in South East Asia.
- 2017-2019: Biomass Mission L2 product Retrieval Algorithms, funded by ESA
- 2015-2018: EoMondis, a H2020 project on Monitoring of Forest Disturbances using EO Copernicus data.
- 2015-2019: ECOPotential, a H2020 project on Earth Observation for ecosystem monitoring.
- 2015-2017: GlobBiomass, an ESA project on the production of regional and global maps of biomass.
- 2015-2016: GEORice, an ESA Innovator project, towards operational monitoring of rice fields with Sentinel-1.

## Selected recent/important publications

- Bouvet, A., Mermoz, S., **Le Toan, T.**, Villard, L., Mathieu, R., Naidoo, L., & Asner, G. P. (2018). An above-ground biomass map of African savannahs and woodlands at 25m resolution derived from ALOS PALSAR. *Remote Sensing of Environment*, 206, 156-173.
- Phan, H., **Le Toan, T.**, Bouvet, A., Lam Dao N., Pham Duy, T., & Zribi, M. (2018). Mapping of Rice Varieties and Sowing Date Using X-Band SAR Data. *Sensors*, 18(1), 316.
- Veloso, A., Mermoz, S., Bouvet, A., **Le Toan, T.**, Planells, M., Dejoux, J. F., & Ceschia, E. (2017). Understanding the temporal behavior of crops using Sentinel-1 and Sentinel-2-like data for agricultural applications. *Remote Sensing of Environment*, 199, 415-426.
- Ho Tong M.D., **T. Le Toan**, F. Rocca, S. Tebaldini, M. Mariotti D'Alessandro, and L. Villard "Relating P band SAR Tomography to Tropical Forest Biomass", *IEEE Transactions on Geoscience and Remote Sensing*, Volume 51 , Issue 10, 2013.
- **Le Toan T.**, S. Quegan, M. Davidson, H. Balzter, P. Paillou, K. Papathanassiou, S. Plummer, S. Saatchi, H. Shugart, L. Ulander (2011): 'The BIOMASS Mission : Mapping global forest biomass to better understand the terrestrial carbon cycle', *Remote Sensing of Environment*, 115(2011)2850-2860.