



Valaire YATAT-DJEUMEN is currently a Senior Lecturer and researcher at National Advanced School of Engineering of Yaoundé, Yaoundé, Cameroon. Working on Mathematical Ecology, Mathematical Biology, he is interested in long-term tree vs. grass fire-mediated interactions, Pattern vegetation formation and dynamics using minimalistic and mathematical tractable models.

**Email:** [yatat.valaire@gmail.com](mailto:yatat.valaire@gmail.com)

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Salle 201, Bâtiment PS2, CIRAD-UMR AMAP ;  
**Zoom :** <https://umontpellier-fr.zoom.us/j/94980092476>

## Applying tree-grass interaction models to the dynamics of forest-savanna landscape in Central Africa

*presented by*

**Dr. I. Valaire YATAT-DJEUMEN**

National Advanced School of Engineering of Yaoundé, University of Yaoundé 1

### **ABSTRACT**

Forest extension over savannas is widely observed, notably over tropical Africa. Understanding forest extension is necessary to forecast its consequences for biodiversity, carbon stocks and livelihoods. We build here from a general model aiming at recovering, as dynamical outcomes of fire-mediated tree–grass interactions, the wide range of vegetation physiognomies observable in the savanna biome along rainfall gradients at regional/continental scales (Yatat et al., 2021 Ecol. Mod.). We refined the model parametrization of this model with respect to the context of forest-savanna mosaic landscapes in Central Cameroon. Versions adding spatial terms to this temporal model were also designed and qualitatively analyzed (Tega et al., 2022 AMM). Models results are compared to landscape dynamics observed from historical series of satellite images (Sagang et al., P&RS in press). Close form results approximating afforestation pace are proposed.

### **KEY WORDS**

Forest-savanna ecotone, aboveground grass and woody biomass, fire, natural afforestation, ordinary and partial differential equations

**Invited and animated by:**

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Research results

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c/o CIRAD – TA A-51/PS2 – Boulevard de la Lironde – 34398 Montpellier Cedex 5

