

MANUMONS

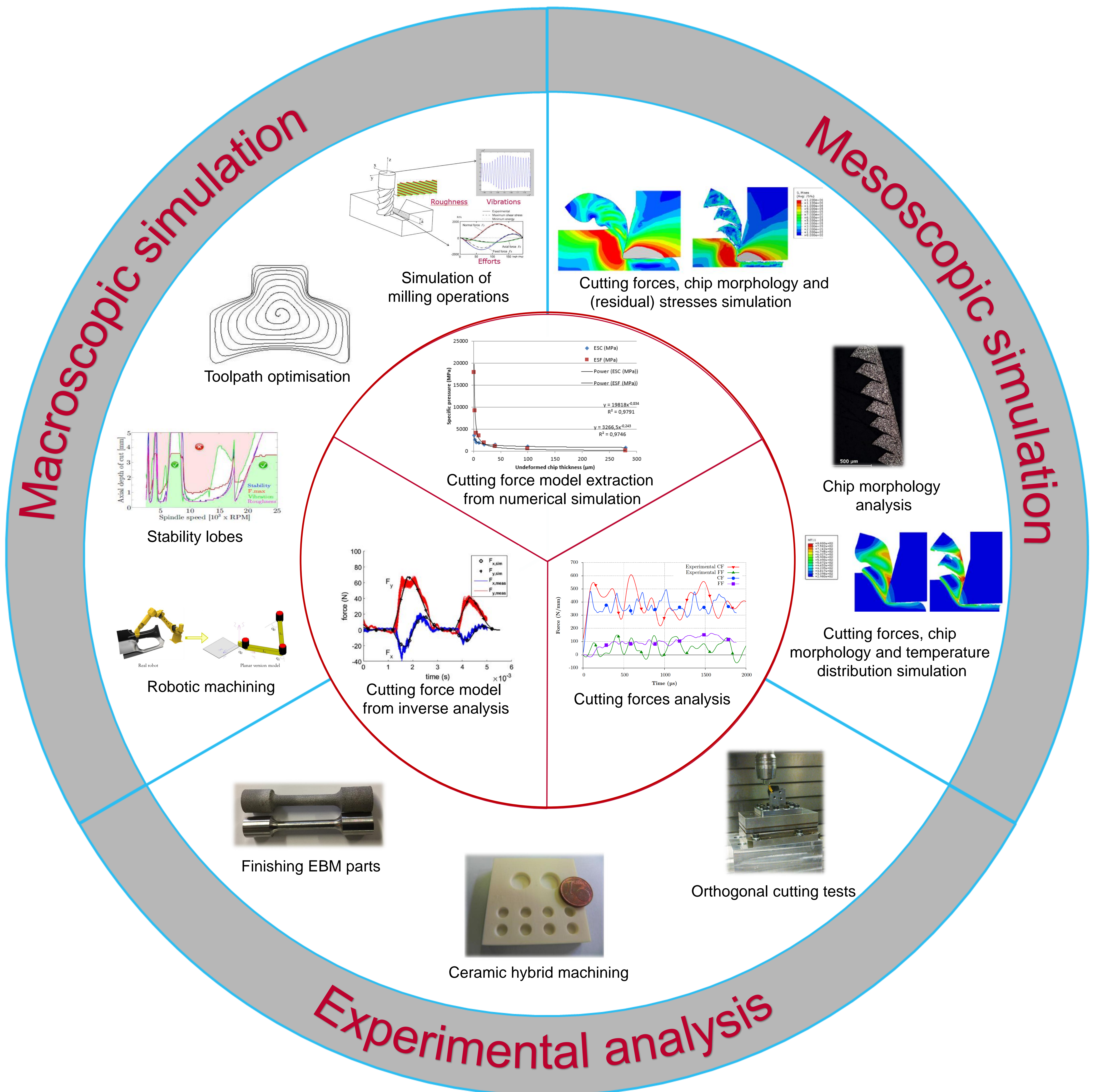
An informal research group gathering the research activities linked to the manufacturing technologies at the University of Mons

Equipment

- Sensor for dynamic measurement of cutting forces
- Dimensional metrology and surface measurement
- Vibration analysis

Open/future research projects

- Analyse of EBM process (tolerances, surface finish, residual stresses)
- Robotic machining
- Modelling of machine control
- Optimisation of toolpath for pocket milling
- Fatigue behavior of 3D printed parts
- Composite machining
- Hybrid machining of ceramic



Recent publications



- Ducobu François, Rivière Edouard, Filippi Enrico, "On the importance of the choice of the parameters of the Johnson-Cook constitutive model and their influence on the results of a Ti6Al4V orthogonal cutting model" in International Journal of Mechanical Sciences, 122, 143-155
- De Formanoir Charlotte, Brulard Alice, Vivès Solange, Guilhem Martin, Prima Frédéric, Michotte Sébastien, Rivière Edouard, Dolimont Adrien, Godet Stéphane, "A strategy to improve the workhardening behavior of Ti-6Al-4V parts produced by additive manufacturing" in Materials Research Letters (in press)
- Ducobu François, Rivière Edouard, Filippi Enrico, "Application of the Coupled Eulerian-Lagrangian (CEL) method to the modeling of orthogonal cutting" in European Journal of Mechanics A : Solids, 59, 58-66
- Rivière Edouard, Letot Christophe, Ducobu François, Dehombreux Pierre, Filippi Enrico, "Dynamic simulation of milling operations with small diameter milling cutters: effect of material heterogeneity on the cutting force model" in Meccanica, 52, 1, 35-44