The myelin sheath is traditionally considered to be a passive insulator whose role is to enhance the speed of action potential propagation. An exciting new finding is the dynamic communication between axons and their myelin-forming oligodendrocytes, including activity-dependent signaling from axon to myelin. The oligodendrocyte-myelin complex may in turn respond by providing metabolic support or alter subtle myelin nanostructure to modulate action potential propagation. The molecular physiology of this novel “axo-myelinic synapse” will be discussed, together with speculation on potential roles in disease states including multiple sclerosis, schizophrenia, and Alzheimer’s disease.

Note:
Prère d’aviser vos étudiants gradués et stagiaires postdoctoraux afin d’avoir la participation de tous.