

Fuel for the fire

A burst of brain energy depends more on a unique molecular cycle than on blood flow variation **BY MICHAEL PURDY**

A CENTURY-OLD MYSTERY is taking place in your head as you read these words. Blood vessels in regions of your brain are widening, bathing cells in an increased blood flow.

Scientists have known for more than 100 years that these changes take place when areas of the brain become activated or when any cell, such as a muscle involved in an exercise routine, increases its workload. They once assumed that the change occurs to supply cells with more of the glucose and oxygen that they needed to fuel their increased workload. Thanks in large part to researchers at Washington University in St. Louis, though, that old explanation has fallen away.

Left in its place is a puzzle: If increased blood flow isn't needed to supply cells with more fuel, then what exactly is it providing? Researchers Joseph Williamson and Mark Mintun don't have the full answer yet, but with a pair of papers published early this year in the *Proceedings of the National Academy of Sciences (PNAS)*, they moved the scientific community a major step closer to it.

