

Like humans bacteria remember (if only for 4 seconds), says researcher

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The bacterium *Escherichia coli* (*E. coli*) has a rudimentary molecular "memory" that allows it to swim toward the richest sources of food. MU biochemistry professor Gerald Hazelbauer's continuing discoveries about how bacteria do this could shed light on human and animal sensory, memory and response systems.

"My doctoral work was with Julius Adler, the first scientist to study the molecules behind bacterial behavior. His work led to the discovery that [bacteria](#) have a molecular 'memory' system that allows them to 'remember' the past, compare it to the present and thus move toward the area that is most favorable," Hazelbauer said. "When I began my work as a researcher in the late 1960s, studying bacterial behavior was a curiosity and its significance unclear. Now, decades later, the research done by my group and others has grown into a body of knowledge about the fundamental processes used by all living things to recognize, remember and respond to changes in their environments."

The National Institute of General Medical Sciences (NIGMS) recently recognized and rewarded Hazelbauer's scientific contributions by granting him a "Method to Extend Research in Time" (MERIT) Award. The award, which is worth at least \$5.5 million over 10 years, will allow him to continue his research without re-applying for funding. Hazelbauer joins only 11 other MU researchers who have received the MERIT award, including his wife, Linda Randall, who is also a biochemistry professor.

MERIT awards are intended to foster creativity and allow researchers to take more time to develop new techniques. The awards are given only to scientists who have proven themselves by succeeding in at least 10 years of previous NIGMS-funded research and who seem likely to continue making valuable contributions to their field.

Hazelbauer is professor and chair/director of biochemistry, a department/division jointly administered by the University of Missouri's School of Medicine and College of Agriculture, Food and Natural Resources. Linda Randall is the Wurdack Professor of Biological Chemistry in that unit.

Provided by University of Missouri-Columbia

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