

**John James Rowe**  
Department of Biology  
University of Dayton  
Telephone (937) 229-2521  
Fax (937) 229-2021  
e-mail: John.Rowe@notes.udayton.edu

**Education:**

|               |         |   |
|---------------|---------|---|
| Undergraduate | 1967    | Colorado State University<br>Department of Microbiology<br>B.S. Microbiology  |
| Graduate      | 1971    | Arizona State University<br>Department of Microbiology<br>M.S., Microbiology<br>Thesis advisor: Henry Reeves                                    |
|               | 1975    | University of Kansas<br>Department of Microbiology<br>Ph.D., Microbiology<br>Thesis advisor: Remi Amelunxen<br>Thesis co-advisor: Ivan Goldberg |
| Postdoctoral  | 1975-77 | University of Georgia<br>Department of Microbiology<br>Mentors: R. Eagon and W.J. Payne   |

**Academic Positions:**

|                     |              |   |
|---------------------|--------------|---|
| Assistant Professor | 1977-1982    | Department of Biology<br>University of Dayton |
| Associate Professor | 1983-1990    | Department of Biology<br>University of Dayton |
| Full-Professor      | 1991-present | Department of Biology<br>University of Dayton |

**Administrative Positions:**

|                              |           |   |
|------------------------------|-----------|---|
| Director of Graduate Program | 1986-1992 | Department of Biology<br>University of Dayton |
| Department Chairman          | 1992-2007 | Department of Biology<br>University of Dayton |

### Honors:

|                               |         |  |
|-------------------------------|---------|--|
| Award for Research Excellence | 1973    | University of Kansas Medical School                |
| Navy/ASEE fellowship          | 1984    | Navy Medical Research Institute<br>Bethesda, MD    |
| Listing                       | current | Who's Who in Technology Today. J. Dick Publishing, |

### Publications:

Total of 37 peer-reviewed publications and more than 70 scientific presentations.

### Professional Activities:

Member of Sigma Xi, American Society for Microbiology

Outside grant reviewer for National Science Foundation  
Manuscript review for J. Bacteriology, Applied  
And Environmental Biology, Can J. Microbiology.

### Teaching:

Advanced Microbiology, General Microbiology,  
General Biology, Senior Seminar, Sophomore  
Seminar, University Experience for Biology Majors.

### Research Interests:

Molecular Mechanisms of Toxicity  
Microbial Nitrate Respiration and Assimilation  
Denitrification

### Publications:

Maqsood Ahamed<sup>1</sup>, Michael Karns<sup>1</sup>, Michael Goodson<sup>1</sup>, **John Rowe**<sup>1</sup>, Saber Hussain<sup>2,3</sup>, John Schlager<sup>2</sup>, and Yiling Hong<sup>1,3</sup> 2008. DNA damage response to different surface chemistry of silver nanoparticles in mammalian cells. Toxicology and Applied Pharmacology (accepted with revision).

Platt MD, Schurr MJ, Sauer K, Vazquez G, Kukavica-Ibrulj I, Potvin E, Levesque RC, Fedynak A, Brinkman FS, Schurr J, Hwang SH, Lau GW, Limbach PA, **Rowe JJ**, Lieberman MA, Barraud N, Webb J, Kjelleberg S, Hunt DF, Hassett DJ. 2008 Proteomic, microarray, and signature-tagged mutagenesis analyses of anaerobic *Pseudomonas aeruginosa* at pH 6.5, likely representing chronic, late-stage cystic fibrosis airway conditions. *J Bacteriol.*;190(8):2739-58.

Noriega, Chris E., Vandana Sharma, and **John J. Rowe**. 2007. Artificial control of nitrate respiration through the lac promoter permits the assessment of oxygen mediated posttranslational regulation of the nar operon in *Pseudomonas aeruginosa*. *J. Bacteriol.* 18(17): 6501-6505.

Sharma, Vandana, Chris Noriega and **John J. Rowe**. (2006) The characterization of NarK1 and NarK2 proteins in the transport of nitrate/nitrite in denitrifying *Pseudomonas aeruginosa* PAO1. *Appl Env. Microbiol.* 72(1):695-701.

Noriega, Chris, Daniel J. Hassett, and John **J. Rowe**. (2005) The *mobA* gene is required for assimilatory and respiratory nitrate reduction but not for xanthine dehydrogenase activity in *Pseudomonas aeruginosa*. *Curr. Microbiol.* 6:419-24.

Hassett Daniel J, SV Lymar, **John J. Rowe**, Michael Schurr, Luciano Passador, Andrew Herr, Geoffrey Winsor, Fiona Brinkman, Sang Sun Yoon, Gee Lau and Sung Hei Hwang. (2004) Anaerobic metabolism by *Pseudomonas aeruginosa* in cystic fibrosis airway biofilms: role of nitric oxide, quorum sensing and alginate production. (Chapter 4) In M. Nakano and Peter Zuber (ed), *Strict and facultative anaerobes: medical and environmental aspects*. Horizon Scientific Press, Norwich, U.K.

Hassett DJ, Cuppoletti J, Trapnell B, Lymar SV, **Rowe JJ**, Yoon SS, Hilliard GM, Parvatiyar K, Kamani MC, Wozniak DJ, Hwang SH, McDermott TR, Ochsner UA. 2002. Anaerobic metabolism and quorum sensing by *Pseudomonas aeruginosa* biofilms in chronically infected cystic fibrosis airways: rethinking antibiotic treatment strategies and drug targets. *Adv Drug Deliv Rev.* Dec 5;54(11):1425-43.

Yoon SS, Hennigan RF, Hilliard GM, Ochsner UA, Parvatiyar K, Kamani MC, Allen HL, DeKievit TR, Gardner PR, Schwab U, **Rowe JJ**, Iglewski BH, McDermott TR, Mason RP, Wozniak DJ, Hancock RE, Parsek MR, Noah TL, Boucher RC, Hassett DJ. 2002. *Pseudomonas aeruginosa* anaerobic respiration in biofilms: relationships to cystic fibrosis pathogenesis. *Dev Cell.* Oct;3(4):593-603.

Kerschen EJ, Irani VR, Hassett DJ, **Rowe JJ** (2001). *snr-1* gene is required for nitrate reduction in *Pseudomonas aeruginosa* PAO1. *J Bacteriol.* Mar;183(6):2125-31.

Irani VR, **JJ Rowe**. 1997. *Snr*, new genetic loci common to the nitrate reduction systems of *Pseudomonas aeruginosa* PAO1. *Curr Microbiol* 35(1), 9-13.

Irani VR, **JJ Rowe** .1997. Enhancement of transformation in *Pseudomonas aeruginosa* PAO1 by Mg<sup>2+</sup> and heat. *Biotechniques* 22(1), 54-56.

**Rowe JJ**, T Ubbink-Kok, D Molenaar, WN Konings, AJM Driessen. 1994. NarK is a nitrite extrusion system involved in anaerobic nitrate respiration by *Escherichia coli*. *Mol Microbiol* 12(4), 579-586.

Hernandez D, FM Dias, **JJ Rowe**. 1991. Nitrate transport and its regulation by O<sub>2</sub> in *Pseudomonas aeruginosa*. *Arch Biochem Biophys* 286(1), 159-163.

Denis KS, FM Dias, **JJ Rowe**.1990 . Oxygen regulation of nitrate transport by diversion of electron flow in Escherichia coli. J Biol Chem 265(30), 18095-18097.

Dias FM, RM Ventullo, **JJ Rowe**.1990. Regulation and energization of nitrate transport in a halophilic Pseudomonas stutzeri. Biochem Biophys Res Commun 166(1), 424-430 (1990)

Baron S, G Terranova, **JJ Rowe**. 1989. Molecular mechanism of the antimicrobial action of pyocyanin. Curr Microbiol 18,223-230.

Hernandez D, **JJ Rowe**. 1988 . Oxygen inhibition of nitrate uptake is a general regulatory mechanism in nitrate respiration. J Biol Chem 263(17), 7937-7939

Hernandez D, **JJ Rowe**.1987. Oxygen regulation of nitrate uptake in denitrifying Pseudomonas aeruginosa. Appl Environ Microbiol 53(4), 745-750.

Hernandez D, **JJ Rowe**. 1985. Gas chromatographic assay for in vitro complementation of Pseudomonas aeruginosa mutants deficient in nitrate reduction. Appl Environ Microbiol 49(1), 24-27.

**Rowe JJ**, RD Lemmon , GJ Tritz.1985 . Nicotinic acid transport in Escherichia coli. Microbiol 44(179-180), 169-184.

Goldflam M, **JJ Rowe**. 1983 . Evidence for gene sharing in the nitrate reduction systems of Pseudomonas aeruginosa. J Bacteriol 155(3), 1446-1449.

Kerr TJ, MV Williams, **JJ Rowe**,GJ Tritz, CJ Walsham. 1983. Detection and characterization of a nicotinic-acid-replacing substance in vitamin-free acid hydrolyzed casein. J Dairy Sci 66,743-749.

Ventullo RM, **JJ Rowe**. 1982. Denitrification potential of epilithic communities in a lotic environment. Curr Microbiol. 7,29-34.

Baron SS, **JJ, Rowe** 1981. Antibiotic action of pyocyanin. Antimicrob Agents Chemother 20(6), 814-820.

Payne, WJ, **JJ Rowe**, BF Sherr. 1980. Denitrification: a plea for attention, pp 29-42 IN WF Newton , WH Orme-Johnson (eds) Nitrogen Fixation vol 1.

Lemmon, R, **JJ Rowe**, G Tritz. 1980. Isolation and characterization of mutants of E. Coli defective in pyridine nucleotide cycle enzymes. Curr Microbiol. 4,31-35.

Myerson A, **JJ Rowe**. 1979. Mechanism of bacterial attack on sulfide minerals, pp. 549 554. IN D Nichols, R Servais, R Rolinski (eds) Energy and the Environment, vol 6.

**Rowe, JJ**, JM Yarbrough, JB Rake and RG Eagon. 1979. Nitrite inhibition of aerobic bacteria. *Curr Microbiol* 2, 51-54.

Williams DR, **JJ Rowe**, JJ Romero, RG Eagon. 1978 . Denitrifying *Pseudomonas aeruginosa*: some parameters of growth and active transport. *Appl Environ Microbiol* 36(2), 257-263.

**Rowe JJ**, RG Eagon. 1978 . A cytochrome b-like pigment with a peak at 567 nm in *Pseudomonas aeruginosa*. *Can J Microbiol* 24(4), 490-492.

Rowe JJ, BF Sherr, WJ Payne , RG Eagon.1977. A unique nitric oxide-binding complex formed by denitrifying *Pseudomonas aeruginosa*. *Biochem Biophys Res Commun* 77(1), 253-258.

Balderston WL, **JJ Rowe**, WJ Payne. 1977. Decrease in nitrate reductase activity in extracts of *Trichoderma viride* Incubated with chlorides. *J Bacteriol* 129(3), 1657-1658.

Eagon RG, BD Gitter, **JJ Rowe**. 1977. The inhibitory effect of the artificial electron donor system, phenazine methosulfate-ascorbate, on bacterial transport mechanisms. *J Supramol Struct* 7(1), 49-59.

Williams, MV, **JJ Rowe**, TJ Kerr, GJ Tritz. 1977. Studies on the modes of action of Azaserine in *Escherichia coli*. Mechanism of resistance to azaserine. *Microbiol.* 19(77 78)181-190.

**Rowe JJ**, ID Goldberg, RE Amelunxen. 1976. Characteristics of *Bacillus stearothermophilus* mutants blocked in catabolic function. *J Bacteriol* 126(1), 520-523.

**Rowe JJ**, ID Goldberg, RE Amelunxen. 1975 . Development of defined and minimal media for the growth of *Bacillus stearothermophilus*. *J Bacteriol* 124(1), 279-284.

**Rowe JJ**, ID Goldberg, RE Amelunxen.1973. Isolation of mutants of *Bacillus stearothermophilus* blocked in catabolic function. *Can J Microbiol* 19(12), 1521-1523.

**Rowe JJ**, HC Reeves.1971. Electrophoretic heterogeneity of bacterial nicotinamide adenine dinucleotide phosphate-specific isocitrate dehydrogenases. *J Bacteriol* 108(2), 824-827.