

women in higher education management (WHEM)

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The Women in Higher Education Management (WHEM) Network is an international research consortium. Its vision is to analyse the challenges for women in university management and to develop comparative studies about women in senior management roles. Participating countries are: Australia, Ireland, New Zealand, Portugal, South Africa, Sweden, Turkey and the United Kingdom.

The Network's first research project was published by Palgrave Macmillan in April 2011 as *Gender, Power and Management: a Cross Culture Analysis of Higher Education*, edited by Barbara Bagilhole and Kate White. It is the first multi-country study to examine the dynamics of men and women working together in higher education senior management teams within a broader organizational context. It is based on interviews with women and men in

university senior management in the participating countries. It explores pathways into senior management, perceptions of how women and men regard each other's performance in top management jobs, and their influence on universities. It questions where women fit in university senior management, whether or not women can and do make a distinctive contribution to university decision-making, and the impact of organizational cultures on their effectiveness as managers and leaders.



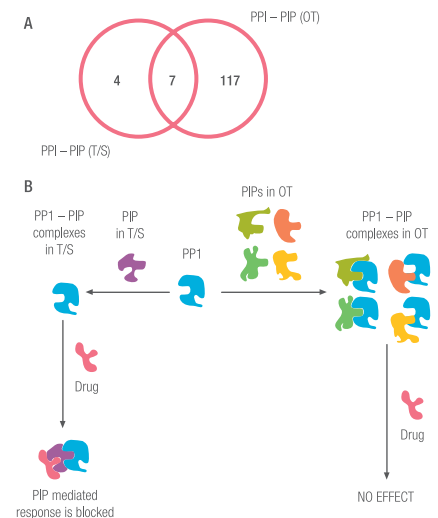
modulating sperm motility

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Infertility is a growing concern in modern society, with 30% of cases being due to male factors, namely reduced sperm concentration, decreased motility and abnormal morphology. Sperm cells are highly compartmentalized, almost devoid of transcription and translation, consequently processes such as protein phosphorylation provide a key general mechanism for regulating vital cellular functions, more so than for undifferentiated cells. Reversible protein phosphorylation is the principal mechanism regulating most physiological processes in eukaryotic cells. To date, hundreds of protein kinases have been identified, but significantly fewer

phosphatases (PPs) are responsible for counteracting their action. This discrepancy can be explained, in part, by the mechanism used to control phosphatase activity, which is based on regulatory interacting proteins. This is particularly true for PP1, a major serine/threonine – PP, for which two hundred interactors (PP1 interacting proteins – PIPs) have been identified that control its activity, subcellular location and substrate specificity. For PP1, several isoforms have been described, among them PP1 γ 2, a testis/sperm-enriched PP1 isoform. Recent findings support our hypothesis that PP1 γ 2 is involved in the regulation of sperm motility.

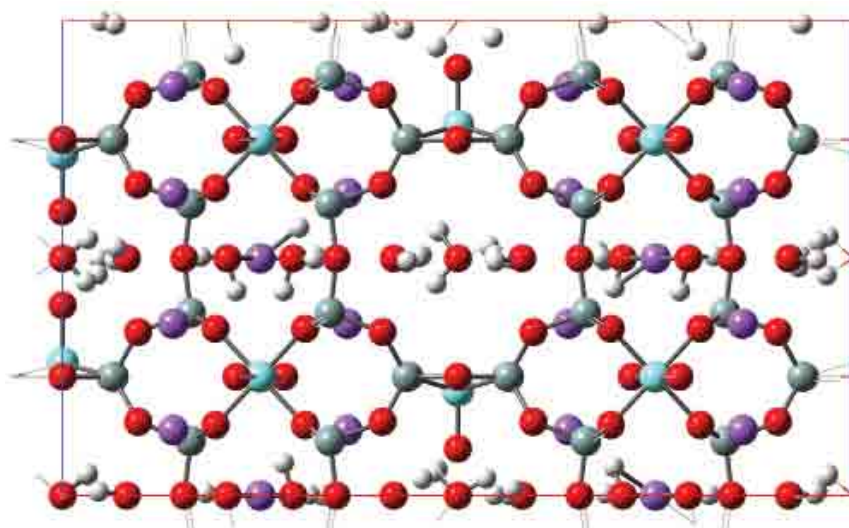


slow release of NO by microporous titanosilicate ETS-4

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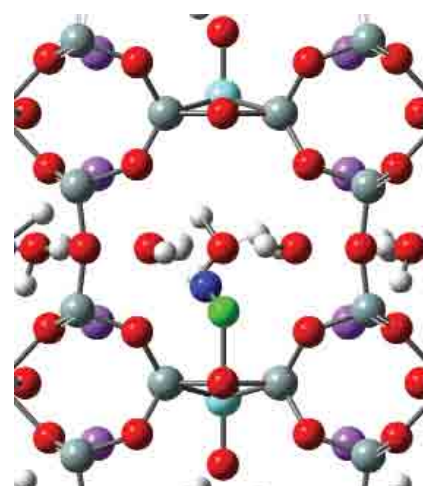
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Nitric oxide (NO) acts as an important agent in the body for expanding blood vessels (its role in Viagra and related medicines for erectile dysfunction), preventing the formation of blood clots, aiding nerve signals, and repairing wounds. NO's multipurpose role makes it an exciting prospect for new drug development, but current NO delivery

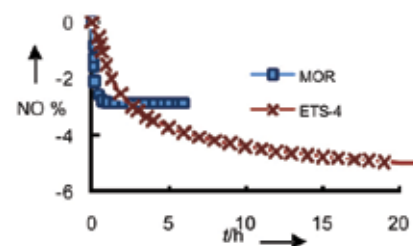


systems sometimes cause undesirable side effects. Besides good NO adsorption capacity, materials must also present an appropriate releasing kinetics, to maintain a given concentration in the surrounding milieu. Often, a slow releasing kinetics is preferred because it allows for easier and safer control of the NO concentration, for longer periods. Clearly, new materials and technologies are needed to store and target-deliver NO in biological amounts. A novel approach to design nitric oxide storage and releasing microporous agents based on very stable, zeolite-type silicates possessing framework unsaturated (e.g., pentacoordinated Ti^{4+}) transition-metal centers has been proposed (*Journal of*

the American Chemical Society, 2011, vol. 133, p. 6396). This idea has been illustrated with ETS-4 [$Na_9Si_{12}Ti_5O_{38}(OH) \cdot xH_2O$], a titanosilicate which displays excellent NO adsorption capacity and a slow releasing kinetics. The performance of these materials has been compared with the performance of titanosilicate ETS-10, [$(Na,K)_2Si_5TiO_{13} \cdot xH_2O$], of benchmark zeolites mordenite and CaA, and of natural and pillared clays. DFT periodic calculations have shown that the presence of water in the pores of ETS-4 promotes the NO adsorption at the unsaturated (pentacoordinated) Ti^{4+} framework ions. The ability of ETS-4 to release biologically relevant NO amounts was tested using the



oxyhemoglobin method, which is based on the principal reaction of oxyhemoglobin with NO to form methemoglobin and nitrate. This reaction also accounts for the inhibitory effect of hemoglobin on the biological effects of endogenous formed or exogenous applied NO.



human-related factors regulate the spatial ecology of domestic cats in sensitive areas for conservation

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Domestic cats ranging freely in natural areas are a conservation concern due to competition, predation, disease transmission or hybridization with wildcats. In order to improve our ability to design effective control policies, the factors affecting their numbers and space use in natural areas of continental Europe were investigated. We describe the patterns of cat presence, abundance and space use and analyse the associated environmental and human constraints in a well-preserved Mediterranean natural area with small scattered local

farms. We failed in detecting cats in areas away from human settlements (trapping effort above 4000 trap-nights), while we captured 30 individuals near inhabited farms. We identified 130 cats, all of them in farms still in use by people (30% of 128 farms). All cats were free-ranging and very wary of people. The main factor explaining the presence of cats was the presence of people, while the number of cats per farm was mostly affected by the occasional food provisioning with human refuse and the presence of people. The home ranges of eight radio tagged cats were

centred at inhabited farms. Males went furthest away from the farms during the mating season (3.8 km on average, maximum 6.3 km), using inhabited farms as stepping-stones in their mating displacements (2.2 km of maximum inter-farm distance moved). In their daily movements, cats notably avoided entering in areas with high fox density. The presence, abundance and space use of cats were heavily dependent on human settlements. Any strategy aiming at reducing their impact in areas of conservation concern should aim at the presence of settlements and their