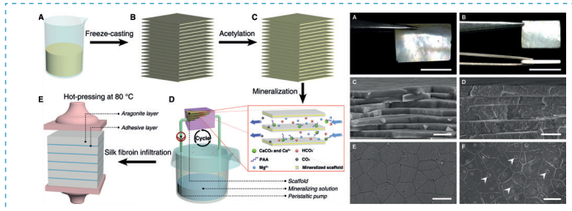
## Yu Shuhong, University of Science and Technology of China

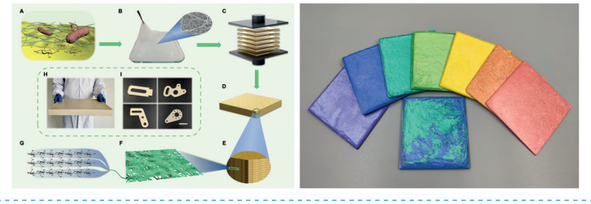
Yu Shuhong has been engaged in inorganic synthesis and biomimetic materials research. He has made a series of original achievements in the field of design, preparation and applications of bio-inspired engineering materials, laying a solid foundation for creation of practical bio-inspired structural functional materials and their applications.

A synthesis method called mesoscale “assembly and mineralization” was successfully established and the synthetic nacre was successfully mineralized for the first time, which solves this world-recognized problem. The lightweight and high-strength artificial wood with excellent heat insulation and fire prevention performance was created. The related research work was highlighted by the scientific media Science News and Scientific American. He explored the research on the preparation and functionalization of macroscale nanoassemblies with great potential applications. The massive production of various nanoscale building blocks and their assemblies have been successfully achieved by his team.



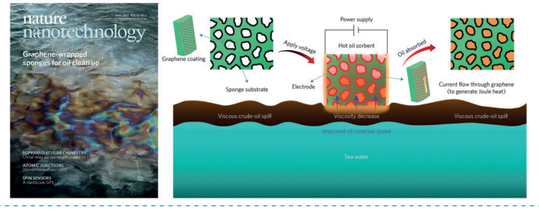

通过预先设计的基质定向矿化合成人工珍珠母

Synthetic nacre by predesigned matrix-directed mineralization.



轻质高强韧天然纳米纤维素基高性能结构材料

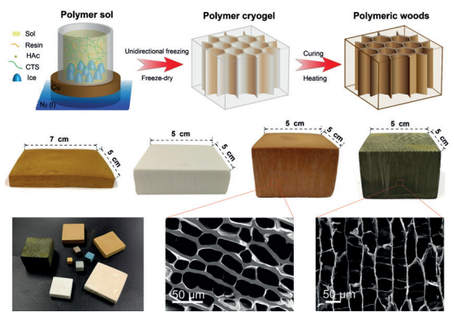
A family of high-performance sustainable bulk structural materials with low density, excellent strength and toughness, and great thermal dimensional stability.




焦耳热石墨烯包覆海绵辅助界面自控浮油连续收集装置

Joule heated graphene wrapped sponge for fast clean-up of viscous crude oil spill.






人工木材

Artificial wood.


“提出的矿化方法是一项突破性进展”——《科学》杂志以“生长人工珍珠母”为题的评价

“The mineralization method proposed by Mao et al. is a breakthrough”-Science highlights the work on growing a synthetic mollusk shell.

俞书宏

Yu Shuhong

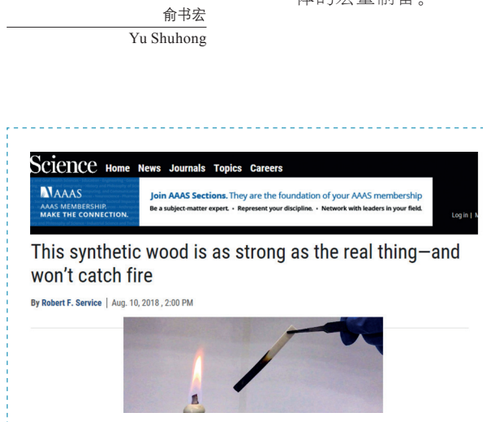


## 俞书宏

推荐单位：中国科学技术大学

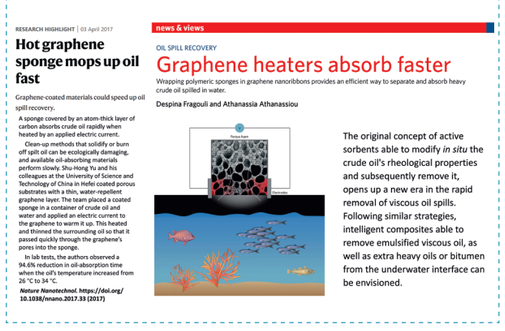
### 主要科技贡献：

俞书宏院士长期从事无机合成和仿生材料研究，在仿生工程材料的设计制备及应用领域取得了一系列原创性成果，为实用仿生结构功能材料的创制及其应用奠定了坚实基础。创立了介观尺度“组装与矿化”相结合的合成方法，首次成功矿化合成了人工珍珠母，解决了这一世界公认的难题。创制了具有优异隔热防火性能的轻质高强仿生木材，被《Science》新闻、《Scientific American》选为亮点。开拓了宏观尺度纳米组装体的制备与功能化的研究，成功实现了具有重要应用前景的多种纳米结构单元及其组装体的宏量制备。



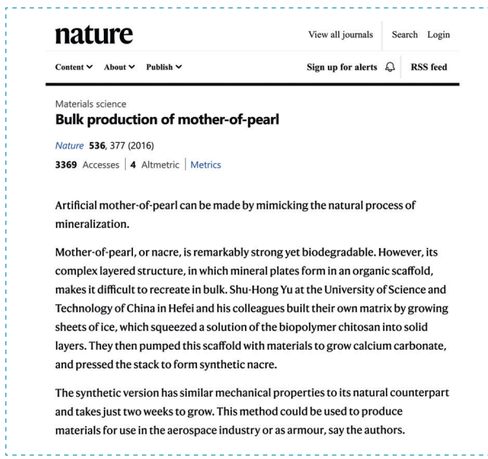

“这种合成木材与天然木材强度相当而不着火”—— “科学新闻”对人工合成木材的评价

“This synthetic wood is as strong as the real thing—and won't catch fire”-Science News highlights the work of artificial wood.




“热的石墨烯海绵可快速吸油”—— 《自然》和《自然·纳米》对该工作的评价

“Graphene heaters absorb faster”-Nature and Nature Nanotechnology “news & views” highlight this work.




珍珠母块材的制备 —— 《自然》杂志对珍珠母块材制备工作的评价

Synthetic nacre by predesigned matrix-directed mineralization was highlighted by Nature as “Bulk production of mother-of-pearl” (Nature 2016, 536, 377).


“人造木材”—— “科学美国人”对人工合成木材的评价

“Artificial Wood”-Scientific American highlighted the work as: “A new lightweight substance is as strong as wood yet lacks its standard vulnerabilities to fire and water”.