**2023年度中国发明协会发明创新奖公示内容**

**项目名称 ：** 基于几种典型生物特殊力学行为的仿生理论及器件设计

**提名者：** 中国石油大学（华东）

**完成人（完成单位）：**

1 刘建林 （中国石油大学（华东）

2 李静（中国石油大学（华东）

3 赵德敏 （中国石油大学（华东）

4 李善鹏 （丽水学院）

5 左平成 （江苏海洋大学）

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| **论文情况** | | | | |
| 序号 | 论文名称 | 刊名 | 作者 | 影响因子 |
| 1 | Mechanisms underlying the biological wet adhesion: coupled effects of interstitial liquid and contact geometry | Journal of Bionic Engineering | Li Jing, Liu Jun, Ma Chuandong, Ji Jiaxin, Liu Jianlin | 2.682 |
| 2 | The mechanics of abalone crawling on sharp objects without injury | Scientific Reports | Zhang Yun, Li Shanpeng, Zuo Pingcheng, Ji Jiaxin, Liu Jianlin | 4.996 |
| 3 | Insights into adhesion of abalone: a mechanical approach | Journal of the Mechanical Behavior of Biomedical Materials | Li Jing, Zhang Yun, Liu Sai and Liu Jianlin | 4.042 |
| 4 | A mechanics study on the self-righting of abalone from the substrate | Applied Bionics and Biomechanics | Zhang Yun, Li Shanpeng, Zuo Pingcheng, Li Jing and Liu Jianlin | 1.664 |
| 5 | Response mechanisms of snails to the pulling force and its potential application in vacuum suction | Journal of the Mechanical Behavior of Biomedical Materials | Li Jing, Peng Xianyu, Ma Chuandong, Song Zhenzhen, Liu Jianlin | 4.042 |
| 6 | A bioinspired adhesive sucker with both suction and adhesion: Mechanisms for three-dimensional surfaces | Journal of Bionic Engineering | Li Jing, Song Zhenzhen, Ma Chuandong, Sui Tonghang, Yi Peng, Liu Jianlin | 2.995 |
| 7 | Hard to be killed: Load-bearing capacity of the leech Hirudo nipponia | Journal of the Mechanical Behavior of Biomedical Materials | Li Shanpeng, Zhang Yun, Dou Xiaoxiao, Zuo Pingcheng, Liu Jianlin | 4.042 |
| 8 | Abnormal deformation and negative pressure of a hard magnetic disc under the action of a magnet | Sensors and Actuators A: Physical | Cheng Yonggui, Li Shanpeng, Liu Jianlin. | 4.291 |
| 9 | Mechanical responses of soft magnetic robots with various geometric shapes: locomotion and deformation | Robotica | Jin Yuchen, Liu Shiyang, Li Jing, Cao Gongqi, Liu Jianlin | 2.406 |
| 10 | 海洋生物水下粘附机理及仿生研究 | 摩擦学学报 | 彭宪宇,马传栋,纪佳馨,李静 | 1.84 |
| 填写说明   1. 只填写近五年发表的论文，不超过10篇； 2. 至少有一篇中文论文； 3. 未列入完成人的作者应对本奖项知情同意。 | | | | |

**专利情况**

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| --- | --- | --- | --- | --- |
| 序号 | 专利名称 | 专利号 | 附件 | 法律状况 |
| 1 | 一种利用螺线空间曲率驱动的油水分离方法及结构 | ZL201510902180.7 | 附件1 | 授权 |
| 2 | 磁控吸盘装置及其使用方法 | ZL 202010786252.7 | 附件2 | 授权 |
| 3 | 一种模仿环节动物的仿生减震机构 | ZL201710954231.X | 附件3 | 授权 |
| 4 | 一种磁响应性超疏水表面的简易制备方法 | ZL202010708648.X | 附件4 | 授权 |
| 5 | 具有缓冲功能的仿生海蟑螂腿结构 | ZL 201810426143.7 | 附件5 | 授权 |
| 6 | 一种柔性磁控蘑菇头表面的制备方法及无磁性制备装置 | ZL 202110409765.0 | 附件6 | 授权 |
| 7 | 一种检测表面洁净程度的装置及方法 | ZL 201810217818.7 | 附件7 | 授权 |
| 8 | 一种利用变截面梁的毛细驱动进行振动防雾的装置及方法 | ZL202010699456.7 | 附件8 | 授权 |
| 9 | 一种测量船体在遮阳球中航行所受阻力的模拟装置及方法 | ZL202011399742.8 | 附件9 | 授权 |
| 10 | 一种测量超细粉体筏张力的装置及其测量方法 | ZL201810396849.3 | 附件10 | 授权 |
| 填写说明：   1. 填写与项目相关的专利10个以内，按照重要程度排序； 2. 法律状态填写“公开”或“授权”两种； 3. 提供专利摘要页作为附件，本表填写附件编号。 | | | | |