

MEL 杰出博士后基金项目定向招聘申请表

MEL Outstanding Postdoctoral Fellowship Program

Directed Enrollment Application Form

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| 导师姓名 Supervisor | 上官明佳 Mingjia Shangguan | 邮箱 Email | mingjia@xmu.edu.cn |
| 导师简介 About the Supervisor | <ul style="list-style-type: none">- 近海海洋环境科学国家重点实验室（厦门大学）副教授- 从事海洋遥感、激光雷达研究，发表 SCI/EI 论文 30 篇，受理国家发明专利 51 项（授权 39 项），申请 PCT 专利 3 项- 主持激光诱导荧光激光雷达和海洋激光雷达课题多项，“南强青年拔尖人才支持计划” <p>- Associate professor State Key Lab of Marine Environmental Science (Xiamen University)</p> <p>- Research spans ocean remote sensing and lidars, Published 30 SCI/EI-indexed papers, Applied 51 national invention patents (Granted 39 terms), Issued 3 PCT patents</p> <p>- Lead PI of multiple research projects in laser-induced fluorescence lidar and oceanic lidar funded by the “Top-notch Talents Recruitment Plan”</p> | | |
| 导师主页 Webpage | http://mel2.xmu.edu.cn/faculty/MingjiaShangguan/ | | |
| 课题名称 Project title | 用于浮游植物种类区分的海洋激光雷达研究 Oceanic lidar for discriminating phytoplankton species | | |
| 课题简介 Project Description | <p>浮游植物通过光合固碳启动生物泵，而不同类群固碳速率及碳输出皆不同，因此实现浮游植物类群的划分，以评估海洋初级生产力，关乎海洋碳收支与碳循环研究，意义重大。</p> <p>目前传统的探测手段，包括劳动密集型的显微镜成像法、高效液相色谱法、荧光计、基于吸收的光谱仪，均不能实现原</p> | | |

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| | <p>位测量，并且时间分辨率低，小时量级。</p> <p>而激光雷达技术是实现浮游植物高时空分辨率、剖面 and 昼夜连续观测的唯一手段。基于浮游植物不同类群间色素组成和含量的不同，激光雷达通过测量不同激光激发的弹性信号（散射和吸收）和非弹性信号（荧光光谱），不仅可区分藻类的种类，还可计算不同类群的含量。同时，结合课题组具有的水色遥感技术，开展两个遥感技术的相互校正和数据融合。该项成果将碳循环与全球变化研究奠定基础。</p> <p>Phytoplankton fix carbon via photosynthesis and then initiate the biological pump. Different phytoplankton has varying photosynthesis and export rates, thus for the study of the carbon budget and carbon cycle, it is crucial to develop a phytoplankton-resolved remote sensing instrument.</p> <p>A variety of traditional approaches have been applied to discriminate phytoplankton species, such as labor-intensive microscopy, high-performance liquid chromatography, fluorescence instruments, and a method based on absorption spectra. These currently available methods for detecting microalgae population distribution in waters typically lack the ability to be used in situ and are low in temporal resolution; often costly in terms of man-hours.</p> <p>Lidar is a unique approach to detect phytoplankton profile with a high temporal-spatial resolution around the clock. Based on the fact that the various algae possess different kinds of antenna and accessory pigments, Oceanic lidar not only can discriminate against the species of phytoplankton but also can determine the content of different algae by detecting the elastic backscattering and inelastic fluorescence spectrum simultaneously. Also, taking advantage of the mature ocean color technique, data merging and calibration between those two techniques will be carried out. This study will pave the way for studying the carbon cycle and climate change.</p> |
| <p>对博士后申请人要求</p> <p>Requirement for candidates</p> | <ul style="list-style-type: none"> - 具有激光原理及应用、电子学、水色遥感、浮游植物学、海洋学等相关方向博士学位 - 有良好的科研背景（包括优秀的科研经历、较强的动手能力、高质量的学术论文以及相关专利及获奖）。进站前已经以第一作者或通讯作者发表 SCI 论文 2 篇以上 |

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| | <p>- 年龄在 35 岁以下，有志于从事科学研究工作。</p> <p>1. An applicant should have obtained a doctor's degree in the fields of laser theory and application, electronic, ocean color remote sensing, phytoplankton dynamics, oceanography or closely related subjects from renowned domestic or international universities/institutes.</p> <p>2. An applicant should have a good research background including excellent research experience, good scientific skills, and high-quality publications, patents and/or awards. An applicant should have published at least two papers in SCI-indexed journals as first or corresponding author.</p> <p>3. An applicant should be 35 years old or younger.</p> |
| <p>其他说明</p> <p>Other comments</p> | |
| <p>MEL 杰出博士后评审委员会审批意见</p> <p>Approval decision</p> | |
| <p>经研究表决，</p> <p><input type="checkbox"/> 同意定向配额_____老师， _____年，博士后招收名额 1 个。</p> <p><input type="checkbox"/> 不同意。理由：</p> <p>负责人（签名）：_____ 日期：_____</p> <p>Chair of the Committee (signature): _____ Date: _____</p> | |