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德国亥姆霍兹国家研究中心联合会-中国国家留学基金管理委员会 2010 年度联合培养项目可资助科研岗位及课题清单

各重点高校、科研单位：

德国亥姆霍兹国家研究中心联合会共由十六个德国国家研究中心联合组成，拥有 28000 员工、28 亿欧元的年度科研经费，是德国乃至欧洲最大的科研机构。规划运行大型科研装备、开展前瞻性的跨学科综合研究、解决涉及国计民生可持续发展的重大挑战、创造一流科研成果，是亥姆霍兹联合会的科研宗旨和特色。联合会的科研活动划分为六大领域：**能源**(核能、核安全以及再生能源)、**地球与环境**(包括气候变化、环境控制与治理)、**生命科学**、**关键技术**(纳米、材料、大型计算)、**物质结构**(大型物理学)、**航空航天与交通**。

德国亥姆霍兹联合会与中国国家留学基金管理委员会于 2006 年签署双边合作协议，每年联合培养 50 名左右中方青年科研人员。越来越多的同学和青年科研人员通过高水平大学项目、专项项目、亥姆霍兹国际博士生班项目以及外方单独项目获得资助，他们分别来自各大高校、中国科学院和中国原子能科学研究院等科研院所。大部分人员现已抵达亥姆霍兹国家研究中心进行学术工作。

亥姆霍兹联合会与国家留学基金管理委员会 2010 年度项目现已准备完毕。附件列出了 2010 年度供申请的 53 个课题、所在研究中心以及科研岗位，目前位置仍在不断更新增加中，其中：**A 博士生、B 博士交换生、C 博士后**。**有关德方教授本人对于研究课题更具体描述、申请人的条件要求以及具体报名申请程序，请参见国家留学基金委和亥姆霍兹联合会北京代表处网站 (www.helmholtz.cn)。**

奖学金申请实行公平竞争的机制，以学生本人素质、科研潜力以及包括语言沟通能力等作为核心评价指标，申请人与德方导师之间应有良好沟通。评审时对来自国家、部委重点实验室、已有合作基础的中方课题单位或有助于建立起双边未来实质性合作的人员，实行一定程度的倾斜。

欢迎各单位根据学科建设的需要，有重点地组织推荐优秀青年科研人员，也欢迎优秀学生根据个人情况自由申请，再经由大学或所属科研单位核准报送国家留学基金委。所列科研岗位，也向国家 985 高校建设留学项目开放，欢迎有条件获得中方全额奖学金的优秀学生投寄申请，并走中方单边奖学金项目。此外，在 CSC 设定的中方网上申请时间截止前，仍可与本联合会德方教授协商获得增设位置的机会。

提醒：申请材料须先投德国方面，德方截止时间 2010 年 2 月 10 日；获得德方邀请之后，请继续在留学基金委网站报名。

附件：2010 年度科研课题及岗位清单

地球与环境领域（研究课题及所在研究中心）

1. Study on sustainable development and natural protection of wetlands in Ningbo area around the Economic Zone of Hangzhou Bay (AWI, C)
2. Study on sustainable development and natural protection of wetlands in Ningbo area around the Economic Zone of Hangzhou Bay (AWI, B)
3. Arctic climate modelling, Atmosphere-land interactions (AWI, A)
4. Environmental response to climate on the Tibetan Plateau inferred from lake sediment records (AWI, A)
5. DOAS measurements of nitrous acid, glyoxal and formaldehyde in the atmosphere (FZJ, C)
6. Simulation of metabolism of chemicals in the environment by electrochemistry-mass spectrometry (FZJ, B)
7. Quantification of resource use efficiency in canopies of agricultural plants using non-invasive optical remote sensing (FZJ, A)
8. Investigation of the unexplained amplified trace gas degradation in recent atmospheric HOx observations (FZJ, C)
9. Sino-German Joint Research Project - Predicting Hydrological Fluxes in the Haihe River Basin using Remote Sensing and Data Assimilation Methods (FZJ, C)
10. GEO HALO Airborne Gravimetry and GPS Kinematic Monitoring (GFZ, B)
11. Climatology and tree-ring research (GFZ, C)
12. Sedimentology / Paleoclimatology (GFZ, C)
13. Long-range transport and deposition of emerging organic pollutants in coastal region (GKSS, B)
14. Long-term regional atmospheric and oceanic climatology for the last decades for SE Asia and the Yellow Sea (GKSS, B)
15. Biogeochemistry, Biosphere-Atmosphere Exchange Processes (KIT, B)
16. Biogeochemistry, Biosphere-Atmosphere Exchange Processes (KIT, A)
17. Water and Energy Fluxes in Complex Terrain (KIT, A)
18. Air Quality of Beijing (KIT, B)

能源领域（研究课题及所在研究中心）

1. Active Control of Instabilities in Tokamak Plasmas (FZJ, C)
2. Active Control of Instabilities in Tokamak Plasmas (FZJ, B)
3. Development of a method to improve the characterization and quality assurance of radioactive waste by gamma-scanning (FZJ, B)
4. Development of nano-structured tungsten alloys by severe plastic deformation (SPD) (KIT, A)
5. Two-phase flow in PWR (KIT, A)

医学与生物学领域（研究课题及所在研究中心）

1. Focus Infection and Cancer, Div. Genome Modifications and Carcinogenesis (DKFZ, A)
2. Therapy and diagnosis of Alzheimer' s disease (FZJ, C)
3. Diagnosis of Alzheimer' s disease (FZJ, C)
4. Structural studies on the rhodopsin arrestin complex (FZJ, A, C)
5. Cross-cultural analysis of mass media coverage of biomedical innovations and their ethical, legal and social implications (FZJ, B, C)
6. Aptamers binding to the hepatitis B virus capsid (HMGU, A)
7. Impact of low emission zones on properties of ambient particulate matter (HMGU, A)
8. Genetic resources and mechanisms of resistance to abiotic stresses using the model plant Arabidopsis thaliana (HMGU, A)

9. Dosimetry of radiopharmaceuticals in nuclear medicine (HMGU, B)
10. Efficient delivery of aerosolized drugs into the lungs of mice (HMGU, A)
11. Efficient delivery of aerosolized drugs into the lungs of mice (HMGU, C)
12. Determination of the biologically effective dose of drugs delivered to the lungs of mice (HMGU, C)
13. Impact of lipid mediators on the dynamics of pulmonary inflammation in mice (HMGU, A, B, C)
14. Dynamic force spectroscopy of single chain-like molecules (KIT, C)
15. Biochemistry of signal transduction (KIT, A)

关键技术领域 (研究课题及所在研究中心)

1. Magnetic actuation and magnetic label detection at neuronal cells (FZJ, B)
2. Correlation of Electronic Structure and Magnetism in Low-Dimensional Structures (FZJ, B)
3. Ferroelectric thin films with engineered ferroelectric properties (FZJ, A, B)
4. Low field nuclear magnetic resonance spectroscopy of neuronal cells (FZJ, B)
5. Electronic Structure and Magnetism in low-dimensional systems (FZJ, C)
6. High-k/metal gate stacks on SiGe/Ge structures (FZJ, B)
7. SiGe channel MOSFETs with high k/ metal gate stack (FZJ, B)
8. NANOMIKRO (KIT, B)
9. Nano- and Microsystems (KIT, A)
10. Hydrogen Storage Materials based on solid state reaction systems (KIT, A)
11. Further Development of Nanolaminography (KIT, A)
12. Coherent Imaging with Bragg Magnifier (KIT, A)
13. Mechanisms of carbide precipitation and carbon solubility in high-Nb TiAl alloys (GKSS, A)
14. Joint Project Structure of Matter / Advanced Engineering Materials (GKSS, A)

物质结构 (大型物理学) 领域 (研究课题及所在研究中心)

1. Development of a 2 MeV electron Cooler for COSY/HESR (FZJ, C)
2. Open and hidden charm physics at PANDA (FZJ, A)
3. Fundamental Symmetries and Meson Decays with WASA-at-COSY (FZJ, A)
4. Investigation of ambient particulate matter with comprehensive two-dimensional gas chromatography (HMGU, A)
5. Anisotropy studies of high-energy cosmic rays (KIT, A, B)

关于项目申请和研究内容的详细信息, 请参见:

http://www.helmholtz.cn/helmholtz_in_china/helmholtz_csc_scholarships/

如有进一步问题, 欢迎联系:

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