

# 武汉理工大学“外专千人”计划专家 C. M. Lieber 教授

## 引智成果

哈佛大学 C. M. Lieber 教授是美国科学院院士、美国艺术科学院院士。他在 Thomson Reuters 2011 年发布的 2000-2010 年全球顶尖百位化学家中排名第一，被国际学者公认为是纳米科技领域的开创者。Lieber 教授在新型纳米材料、纳米-生物界面、纳电子器件及纳米能源材料等领域发表论文 350 余篇，其中 *Nature*、*Science* 50 余篇。他的原创性工作对纳米科技领域产生了决定性的影响，所发表论文被引用 70600 次以上，H 因子高达 121。Lieber 教授曾获得 2012 年沃尔夫奖等多项奖励。

Lieber 教授与武汉理工大学建立并保持着紧密的合作关系。2009 年，哈佛大学与武汉理工大学联合建立了“武汉理工大学-哈佛大学纳米联合重点实验室”，Lieber 教授应邀担任实验室主任。2009 年，由于 Lieber 教授为我国在科学研究和人才培养方面所做出的杰出贡献，获中华人民共和国政府授予的“友谊奖”。2011 年，Lieber 教授受聘为武汉理工大学“战略科学家”。2012 年，Lieber 教授被武汉理工大学作为国家“外专千人”计划专家引进。Lieber 教授在人才培养、合作研究、国际交流合作等方面对武汉理工大学的发展起到了重要的推动作用，取得了显著的效益。主要引智成果如下：

### 一、 培养一批优秀人才

Lieber 教授为武汉理工大学培养了一批优秀人才。培养的青年教师麦立强博士在纳米线储能材料与器件领域发表高水平论文 70 余篇，已成长为学科首席教授；联合培养的徐林博士在 *Nano Lett.* 等国际刊物发表论文多篇，已经顺利取得博士学位，并继续在哈佛大学开展生物纳电子探针方面的博士后研究工作；联合培养的博士生赵云龙在 *PNAS*、*Nature Commun.* 等国际刊物发表论文多篇，并获得第十二届“挑战杯”全国大学生课外学术科技作品竞赛特等奖、“第八届中国青少年科技创新奖”、2012 年“全国大学生年度人物”等。

### 二、 共同承担国家国际科技合作专项

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Lieber 教授与武汉理工大学共同承担科技部国家国际科技合作项目（2013DFA50840）一项，项目名称为“高性能纳米线钒系动力电池联合研发”，经费 400 万元，起止时间 2013.01-2015.12。

### **三、 合作发表高水平论文**

Lieber 教授与武汉理工大学合作在高性能纳米线电化学储能器件的设计组装、原位表征、电输运、储能机理及其关键材料的性能调控、应用等方面取得了一系列进展，指导或共同在 *Nature Commun.*、*Nano Lett.*、*PNAS*、*Adv. Mater.* 等国际著名刊物上发表高水平论文多篇。

### **四、 共同组织国际会议**

在 Lieber 教授的积极推动与组织下，武汉理工大学-哈佛大学纳米联合重点实验室于 2011 年举办“纳米能源材料与技术国际高端论坛”，Lieber 教授任大会组织委员会主席，共有 9 名国内外院士做大会报告。

**“One Thousand Talent” high level foreign expert Professor C. M. Lieber**

**(SKLWUT)**

Prof. C. M. Lieber from Harvard University is an elected member of both the National Academy of Sciences and the American Academy of Arts and Sciences. He was ranked #1 in the world's top 100 chemists for the decade 2000-2010 by Thomson Reuters, and he is acknowledged as one of the pioneers in the field of nanoscience and nanotechnology. Prof. Lieber is focused broadly on new materials, nano-bio interface, nanoelectronics and nano-enabled energy and has published over 350 papers in peer-reviewed journals, including over 50 papers in *Nature* and *Science*. His original work has had a defining influence on the field of nanoscience and nanotechnology, where his publications have been cited overall more than 70600 times, and his h-index (impact factor) is 121. His work has been recognized by a number of awards, including Wolf Prize in Chemistry (2012).

Prof. Lieber and Wuhan University of Technology (WUT) have been holding a close collaboration. He is the Director of WUT-Harvard Joint Nano Key Laboratory, which was established in 2009. In the same year, he won “the Friendship Award” of Chinese government because of his great contribution to scientific research and talent cultivation in China. In 2011, Prof. Lieber was appointed to be the “Strategic Scientists” by WUT. In 2012, Prof. Lieber was selected as the “One Thousand Talent” high level foreign experts. Prof. Lieber has been promoting the development of WUT in talent cultivation, joint research and international cooperation. The collaboration has gained notable achievements, which can be summarized as follows:

1. Prof. Lieber has supervised several outstanding young scientists from WUT, including Dr. Liqiang Mai, Dr. Lin Xu and Mr. Yunlong Zhao. Dr. Liqiang Mai has published over 70 papers in high level journals and he is now a Chair Professor in WUT. Dr. Lin Xu has published several high level papers in *Nano Lett.*, etc. He received the doctoral degree and he is doing the post doctoral research about bio-nanoelectronics in Harvard University. Mr. Zhao has published

several high level papers in *PNAS*, *Nature Commun.*, etc. And he gained “Grand Prize of the 12th National Challenge Cup Competition”, “2012 Chinese College Student of the Year”, “2012 Chinese College Student of the Year”, etc.

2. Prof. Lieber is the co-Principal Investigator of the International Science & Technology Cooperation Program of China (2013DFA50840). The name is “Joint R&D of Vanadium oxide based Nanowires with Enhanced Li-ion Power Battery Performance”. The financial support is 4 million RMB and the duration is from Jan. 2013 to Dec. 2015.
3. The collaboration is mainly focused on the design, assembly, *in situ* characterization, electrical transport, energy storage mechanism of the high performance nanowire electrochemical devices and the performance optimization, applications of the relevant key materials. Based on the collaboration, many research papers have been published on *Nature Commun.*, *Nano Lett.*, *PNAS.*, *Adv. Mater.*, etc.
4. Under the kind promotion and organization of Prof. Lieber, WUT-Harvard Joint Nano Key Laboratory hosted the “2011 International Top-level Forum on Nano Energy Materials & Nanotechnology”. Prof. Lieber chaired the Organizing Committee. Nine academicians from China and US gave a plenary report on this forum.