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毕业院校：南京农业大学

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研究方向：中兽医学

个人简介：

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|-----------------|---------------------|
| 2015.03-2016.03 | 美国佛罗里达大学，访问学者 |
| 2013.01-至今 | 南京农业大学，教授 |
| 2008.01-2012.12 | 南京农业大学，副教授 |
| 2005.06-2007.12 | 南京农业大学，讲师 |
| 2001.09-2005.06 | 南京农业大学，硕博连读，临床兽医学专业 |
| 1997.09-2001.07 | 安徽科技学院，本科，兽医学专业 |

教授，博士研究生导师，江苏省“青蓝工程”优秀骨干教师培养对象，南京农业大学“钟山学术新秀”和“133”优秀骨干教师。中国畜牧兽医学会中兽医分会副秘书长，华东地区中兽医学研究会常务理事，江苏省中西兽医结合研究会常务理事。主持国家自然科学基金 3 项、国家科技支撑项目子课题、公益性（农业）行业项目子课题、教育部科学技术重点项目、中央高校基本科研业务费专项资金等项目各 1 项，参加 4 项国家自然科学基金项目的研究。自工作以来，在国内外核心期刊上发表研究性论文 100 多篇，其中 SCI 收录论文 88 篇，近五年发表论文 60 余篇，其中以第一作者和通讯作者发表 SCI 收录论文 27 篇；作为第一申报人获得授权发明专利 3 项，申报专利 3 项；以主要参加人获得国家发明专利 6 项、新兽药 2 项；主编、副主编著作 4 部，参编著作 10 部。

科研项目：

1. 国家自然科学基金面上项目，31672596，多糖脂质立方液晶纳米粒佐剂活性及对树突状细胞作用分子机理的研究，2017/01-2020/12，直接经费 62 万，在研，主持。
2. 国家自然科学基金面上项目，31372472，纳米化提高中药成分脂质体的免疫增强作用和机理的研究，2014/01-2017/12，80 万，在研，主持。



3. 行业公益性项目，201303046-09，动物疫苗制剂及下游工艺技术研究示范子课题，2013/01-2017/12，218万，在研，主持。
4. 国家自然科学基金青年基金，30901085，应用脂质体技术提高中药成分的免疫增强作用和机理研究，2010/01-2012/12，20万，已结题，主持。
5. 国家科技支撑项目，2008BADB4B06，中兽药免疫增强剂及疫苗佐剂的研制与开发一子课题，2008/01-2010/12，20万，已结题，主持。
6. 中央高校基本业务费——科研业务专项，KYZ201117，新型皂苷纳米脂质体免疫增强剂的研制及应用，2011/01-2013/12，40万，已结题，主持。
7. 教育部科学技术重点项目，108153，抗新城疫病毒中药成分的导向分离及分子修饰研究，2008/01-2010/12，10万，已结题，主持。
8. 公益性行业（农业）科研专项经费，201403051，中兽医关键技术与示范，2014/01-2018/12，1557万，在研，参加（3/10）。

荣誉奖项：

1. 2012年入选江苏省“青蓝工程”优秀青年骨干教师；
2. 2012年入选南京农业大学“钟山学者——钟山学术新秀”。

发明专利：

1. 专利：王德云，袁菊，胡元亮，刘家国，范云鹏，赵晓娟，黄叶娥，一种提高畜禽免疫功能的蜂胶黄酮脂质体及其制备方法，2014年12月10日授权，专利号：ZL 201210203668.7。

2. 专利：王德云，黄叶娥，胡元亮，刘家国，余韵，陶阳，武毅，一种地黄多糖脂质体的制备方法，2014年12月10日授权，专利号：ZL 201310456446.0。

3. 专利：王德云，卢宇，潘华荣，赵晓娟，胡元亮，侯继波，一种硫酸脂化聚蔗糖及其应用，2016年06月15日授权，专利号：ZL 201410346252.X。

4. 专利：胡元亮，王德云，郭利伟，刘家国，张宝康，中药芪藿糖免疫增强剂，2012年08月22日授权，专利号：ZL 201010211999.6。

5. 专利：胡元亮，张靖，王德云，刘家国，陈晓兰，陈兴颖，一种提高麦冬多糖抗病毒活性的硫酸化修饰方法，2014年09月10日授权，专利号：ZL 201210226045.1。

6. 新兽药注册证书：芪藿注射液，证号：（2013）新兽药证字38号。第2完成人。

7. 新兽药注册证书：藿蜂注射液，证号：（2013）新兽药证字8号。第4完成

人。

近年代表性论著：近 5 年以第一作者和通讯作者发表 SCI 论文，*：为通讯作者

1. Jie Xing, Zhenguang Liu, Yifan Huang, Tao Qin, Ruonan Bo, Sisi Zheng, Li Luo, Yee Huang, Yale Niu, **Deyun Wang***. Lentinan-Modified Carbon Nanotubes as an Antigen Delivery System Modulate Immune Response in Vitro and in Vivo. *ACS Applied Materials & Interfaces*, 2016, 8, 19276–19283. (IF: 7.145)
2. Zhenguang Liu, Li Luo, Sisi Zheng, Yale Niu, Ruonan Bo, Yee Huang, Jie Xing, Zhihua Li, **Deyun Wang***, Yuanliang Hu, Jiaguo Liu, Yi Wu. Cubosome nanoparticles potentiate immune properties of immunostimulants. *International Journal of Nanomedicine*, 2016, 11: 3571–3583. (IF: 4.32).
3. Zhenguang Liu, Jie Xing, Sisi Zheng, Ruonan Bo, Li Luo, Yee Huang, Yale Niu, Zhihua Li, **Deyun Wang***, Yuanliang Hu, Jiaguo Liu, Yi Wu. Ganoderma lucidum polysaccharides encapsulated in liposome as an adjuvant to promote Th1-bias immune response. *Carbohydrate polymers*, 2016, 142: 141-148. (IF: 4.219)
4. Sisi Zheng, Li Luo, Ruonan Bo, Zhenguang Liu, Jie Xing, Yale Niu, Yuanliang Hu, Jiaguo Liu, Deyun Wang. Evaluation of optimum conditions for pachyman encapsulated in poly nanospheres by response surface methodology and results of a related in vitro study. *International Journal of Nanomedicine*, 2016, 23;11:4891-4904. (IF: 4.32).
5. Yee Huang, Tao Qin, Yifan Huang, Zhenguang Liu, Ruonan Bo, Yuanliang Hu, Jiaguo Liu, Yi Wu, Deyun Wang*. *Rehmannia glutinosa* polysaccharide liposome as a novel strategy for stimulating an efficient immune response and their effects on dendritic cells. *International Journal of Nanomedicine*, 2016, 11: 6795–6808. (IF: 4.32).
6. Li Luo, Sisi Zheng, Yifan Huang, Tao Qin, Jie Xing, Yale Niu, Ruolan Bo, Zhenguang Liu, Yee Huang, Yuanliang Hu, Jiaguo Liu, Yi Wu, **Deyun Wang***. Preparation and characterization of Chinese yam polysaccharide PLGA nanoparticles and their immunological activity. *International Journal of Pharmaceutics*. 2016, 29; 511(1): 140-150. (IF: 3.994)

7. Ruonan Bo, Sisi Zheng, Jie Xing, Li Luo, Yale Luo, Yee Huang, Zhenguang Liu, Yuanliang Hu, Jiaguo Liu, Yi Wu, **Deyun Wang***. The immunological activity of Lycium barbarum polysaccharides liposome in vitro and adjuvanticity against PCV2 in vivo. *International Journal of Biological Macromolecules*. 2016, 85: 294-301. (IF: 3.138)
8. Yee Huang, Zhenguang Liu, Ruonan Bo, Jie Xing, Li Luo, Sisi Zheng, Yale Niu, Yuanliang Hu, Jiaguo Liu, Yi Wu, **Deyun Wang***. The enhanced immune response of PCV-2 vaccine using Rehmannia glutinosa polysaccharide liposome as an adjuvant. *International Journal of Biological Macromolecules*. 2016, 86: 929-36. (IF: 3.138)
9. Zhenguang Liu, Jie Xing, Yee Huang, Ruonan Bo, Sisi Zheng, Li Luo, Yale Niu, Yan Zhang, Yuanliang Hu, Jiaguo Liu, Yi Wu, **Deyun Wang***. Activation effect of Ganoderma lucidum polysaccharides liposomes on murine peritoneal macrophages. *International Journal of Biological Macromolecules*, 2016, 82: 973-978. (IF: 3.138)
10. Zhenguang Liu, Xia Ma, Bihua Deng, Yee Huang, Ruonan Bo, Zhenzhen Gao, Yun Yu, Yuanliang Hu, Jiaguo Liu, Yi Wu, **Deyun Wang***. Development of liposomal Ganoderma lucidum polysaccharide: Formulation optimization and evaluation of its immunological activity. *Carbohydrate Polymers*, 2015, 117:510-517. (IF: 4.219)
11. Ruonan Bo, Xia Ma, Yibo Feng, Qian Zhu, Yee Huang, Zhenguang Liu, Cui Liu, Zhenzhen Gao, Yuanliang Hu, **Deyun Wang***. Optimization on conditions of Lycium barbarum polysaccharides liposome by RSM and its effects on the peritoneal macrophages function. *Carbohydrate Polymers*, 2015, 117: 215-222. (IF: 4.219)
12. Feng Yibo, Zhao Xiaojuan, Lv Fang, Zhang Jinqiu, Bihua Deng, Yanhong Zhao, Yuanliang Hu, Deyun Wang*, Jiaguo Liu, Yu Lu, Ruonan Bo, Zhenguang Liu. Optimization on Preparation Conditions of Salidroside Liposome and Its Immunological Activity on PCV-2 in Mice. *Evidence-Based Complementary and Alternative Medicine*, 2015;2015:178128. doi: 10.1155/2015/178128. (IF: 1.931)
13. Yang Tao, Deqing Wang, Yuanliang Hu, Yee Huang, Yun Yu, **Deyun Wang***. The

- immunological enhancement activity of propolis flavonoids liposome in vitro and in vivo. *Evidence-Based Complementary and Alternative Medicine*, 2014, 483513. doi: 10.1155/2014/483513. (IF: 1.931)
14. Yee Huang, Caihong Wu, Zhenguang Liu, Yuanliang Hu, Cheng Shi, Yun Yu, Xiaojuan Zhao, Cui Liu, Jiaguo Liu, Yi Wu, **Deyun Wang***. Optimization on preparation conditions of Rehmannia glutinosapolysaccharide liposome and its immunological activity. *Carbohydrate Polymers*, 2014, 104, 118-126. (IF: 4.219)
15. Yun Yu, Yu Lu, Ruonan Bo, Yee Huang, Yuanliang Hu, Jiaguo Liu, Yi Wu, Yang Tao, **Deyun Wang***. The preparation of gypenosides liposomes and its effects on the peritoneal macrophages function in vitro. *International Journal of Pharmaceutics*, 2014, 460(2): 248-254. (IF: 3.138)
16. Xiaojuan Zhao, Yu Lu, Yang Tao, Yee Huang, **Deyun Wang***, Yuanliang Hu, Jiaguo Liu, Yi Wu, Yun Yu, Cui Liu. Salidroside liposome formulation enhances the activity of dendritic cells and immune responses. *International Immunopharmacology*, 2013, 17: 1134–1140.
17. Yee Huang, Chunmao Jiang, Yuanliang Hu, Xiaojuan Zhao, Cheng Shi, Yun Yu, Cui Liu, Yang Tao, Huarong Pan, Yibo Feng, Jiaguo Liu, Yi Wu, **Deyun Wang***. Immunoenhancement effect of rehmannia glutinosa polysaccharide on lymphocyte proliferation and dendritic cell [J]. *Carbohydrate Polymers*, 2013, 96: 516-521. (IF: 4.219)
18. Yun Yu, Deqing Wang, Saifuding Abula, Yuanliang Hu, Xiaojuan Zhao, Yee Huang, Jiaguo Liu, Yi Wu, **Deyun Wang***, Yang Tao, Huarong Pan. The immunological adjuvant activity of gypenosides liposome against Newcastle disease vaccine. *International Journal of Biological Macromolecules*, 2013, 60: 116-121. (IF: 3.138)
19. Ju Yuan, Yu Lu, Saifuding Abula, Yuanliang Hu, Jiaguo Liu, Yunpeng Fan, Xiaojuan Zhao, **Deyun Wang***, Xu Liu, Cui Liu. Optimization on preparation condition of propolis flavonoids liposome by response surface methodology and research of its immunoenhancement activity. *Evidence-Based Complementary and Alternative Medicine*, 2013, dx.doi.org/10.1155/2013/505703. (IF: 1.931)
20. Yunpeng Fan, Yuanliang Hu, **Deyun Wang***, Jiaguo Liu, Jing Zhang, Xiaojuan

- Zhao, Xu Liu, Cui Liu, Ju Yuan, Shiliang Ruan. Effects of Astragalus polysaccharide liposome on lymphocyte proliferation in vitro and adjuvant activity in vivo. *Carbohydrate Polymers*, 2012, 88: 68-74. (IF: 4.219)
21. Huan Gao, Yunpeng Fan, **Deyun Wang***, Yuanliang Hu, Jiaguo Liu. Optimization on preparation condition of epimedium polysaccharide liposome and evaluation of its adjuvant activity. *International Journal of Biological Macromolecules*, 2012, 50: 207-213. (IF: 3.138) .
22. Xiaojuan Zhao, Jiaguo Liu, Yuanliang Hu, Yunpeng Fan, **Deyun Wang***, Ju Yuan, Liu Xu, Liu Cui, Zhang Jing. Optimization on condition of glycyrrhetic acid liposome by RSM and the research of its immunological activity. *International Journal of Biological Macromolecules*, 2012, 51: 299-304. (IF: 3.138)
23. Ju Yuan, Jiaguo Liu, YuanLiang Hu, Yunpeng Fan, **Deyun Wang***, Liwei Guo, The Luong Nguyen, Xiaojuan Zhao, Xu Liu, Cui Liu, Yi Wu. The immunological activity of propolis flavonoids liposome on the immune response against ND vaccine. *International Journal of Biological Macromolecules*, 2012, 51:400-405. (IF: 3.138) .
24. Yunpeng Fan, **Deyun Wang**, Yuanliang Hu, Jiaguo Liu, Guocai Han, Xiaojuan Zhao, Ju Yuan, Cui Liu, Xu Liu, Xiang Ni. Liposome and epimedium polysaccharide-propolis flavone can synergistically enhance immune effect of vaccine. *International Journal of Biological Macromolecules*, 2012, 50(1): 125-130. (共同第一作者) . (IF: 3.138)
25. Liwei Guo, **Deyun Wang**, Yuanliang Hu, Xiaona Zhao, Yuanlei Wang, Shujuan Yang, Junmin Wang, Yunpeng Fan, Guocai Han, Huan Gao. Adjuvant activity of compound polysaccharides on chickens against Newcastle disease and avian influenza vaccine. *International Journal of Biological Macromolecules*, 2012, 50(3): 512-517. (共同第一作者) . (IF: 3.138)
26. The Luong Nguyen, **Deyun Wang**, Yuanliang Hu, Yunpeng Fan, Junmin Wang, Saifuding Abula, Liwei Guo, Jing Zhang, Shem Kakai khakame, Bao Khanh Dang. Immuno-enhancing activity of sulfated Auricularia auricula polysaccharides. *Carbohydrate Polymers*, 2012, 89(4): 1117-1122. (共同第一作者) . (IF: 4.219)

27. Xiaojuan Zhao, Yunpeng Fan, **Deyun Wang***, Yuanliang Hu, Liwei Guo, Shiliang Ruan, Jing Zhang, Ju Yuan Immunological adjuvant efficacy of glycyrrhetic acid liposome against Newcastle disease vaccine. *Vaccine*, 2011, 29(52): 9611-9617. (IF: 3.766) .