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广东海洋大学理学院应用化学系教授（二级），享受国务院政府特殊津贴，国家自然科学基金项目和国家863项目评审专家，农业部热带作物产品加工重点开放实验室学术委员会委员。国际专业杂志POLYMER、 JOURNAL OF APPLIED POLYMER SCIENCE和JOURNAL OF MASS SPECTROMETRY等杂志的审稿专家。

先后主持和负责了3项国家自然科学基金项目和4项省级科技项目，13项科技成果获中国专利，8项成果获省市科技成果奖，在国内和美国、英国、瑞典、匈牙利等国发表学术论文260多篇，其中50多篇被SCI收录。多次以访问教授身份赴澳大利亚南澳大学、迪肯大学和香港理工大学参加科技联合攻关。

主要从事天然高分子化学和物理领域的基础和应用研究，涉及高分子、可再生资源化学和生物化学交叉学科，研究天然橡胶、热带植物纤维及蛋白质、海洋生物高分子及其改性产物的分子结构、功能和生物活性等。对天然高分子的研究已取得一批具有原创性的专利和优秀基础研究成果，主要包括：研究揭示了环氧化天然橡胶和氯化天然橡胶的微观结构及热氧老化的机理，对我国环氧化天然橡胶和氯化天然橡胶的产业化产生重要推动作用；发现了天然橡胶在贮存过程溶胶和凝胶分子结构的变化规律及其对天然橡胶质量的影响，揭示了天然橡胶分子结构的动态变化是导致其质量一致性差的重要原因，解决了天然橡胶分子结构对其质量影响的关键问题，为我国天然橡胶加工应用基础研究赶超国际先进水平做出了突出贡献。从热带水果菠萝中提取高新技术生化制品——高活性菠萝蛋白酶，其活力大于150万单位/克，达到国际先进水平。近年来，带领学科组开展海洋生物高分子高值化利用研究——①甲壳素及其衍生物的研究，采用化学、物理和生物技术结合等手段，探索甲壳素脱乙酰制备高性能壳聚糖的新途径，同时系统研究影响壳聚糖生物活性的主要因素，进行壳聚糖纳米药物涂层及控释药物载体的研究，取得了系列优秀成果。②江蓠海藻生物固碳及其高值化利用研究，开发了用江蓠制造琼胶的绿色环保新技术及膳食纤维系列产品。

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承担的主要课题目录：

- 1、微生物快速凝固天然橡胶的老化特性研究（国家自然科学基金项目）
- 2、“胶乳法”氯化天然橡胶稳定体系的研究（国家自然科学基金项目）
- 3、“胶乳法”氯化天然橡胶结构稳定性的研究（国家自然科学基金项目）
- 4、生物催化风味干制/腌制海产品标准化生产技术研发与应用（广东省科技计划项目）
- 5、高性能医用天然橡胶/二氧化硅纳米复合材料的研发（广东省重点引导项目）
- 6、江蓠生物固碳及其高值化利用研究（广东省科技计划项目）
- 7、过渡金属离子对“胶乳法”氯化天然橡胶结构稳定性的影响（海南省科学基金项目）
- 8、用虾头制备甲壳素及其衍生物的应用研究（广东省重大科技项目子题）
- 9、高活性菠萝蛋白酶中试（湛江市科技招标重大项目）
- 10、壳聚糖结构研究（广东海洋大学科技项目）
- 11、甲壳素衍生物—对虾药物控释机理研究（广东海洋大学科技项目）
- 12、江蓠的生态效能评价及其经济价值开发（广东海洋大学科技项目）

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