

# National Center for Applied Mathematics in Chongqing

## 重庆国家应用数学中心

Nature of Employer 单位性质	Type of Employer 单位类型	Location of Employer 单位所在区县	Number of Vacant Jobs 拟招收总人数
Public institution 事业单位	Municipal/national research station 市级/国家级工作站	Chongqing High-tech Industrial Development Zone 重庆市高新区	6
Recruiting Brochure 招生简章			
I 一	Introduction to Founders 设站单位简介	<p>The National Center for Applied Mathematics in Chongqing, established in February 2020, is one of the 13 national centers for applied mathematics approved by the Ministry of Science and Technology of the People's Republic of China. The center is led by the Chongqing Normal University, in cooperation with the University of Chinese Academy of Sciences (CAS), Peking University, Chongqing University, Southwest University, the Army Medical University, Chongqing University of Posts and Telecommunications, Chongqing Jiaotong University, Chongqing College of Electronic Engineering, the Institute of Applied Mathematics of AMSS (the Academy of Mathematics and Systems Science) of CAS, Chongqing Institute of Green and Intelligent Technology of CAS, the Electric Power Research Institute of State Grid Chongqing Electric Power Company, Chongqing Chang'an Automobile Co., Ltd., Chongqing Port Logistics Group Co., Ltd., Chongqing Ulit Science &amp; Technology Co., Ltd., Chongqing Healthcare</p>	

Security Administration, Children's Hospital of Chongqing Medical University, Mashang Consumer Finance Co., Ltd., Chongqing Zhubajie Network Co., Ltd., Chongqing Ruiyang Jixing Technology Co., Ltd., Chongqing Materials Research Institute Co., Ltd., Chongqing High-tech Industrial Research Institute Co., Ltd., as well as China Electronics Technology Group Chongqing Sound and Light Technology Group Co., Ltd. The Center is headed by Professor Yang Xinmin, an academician of the International Academy for Systems and Cybernetic Sciences and winner of the second-class State Natural Science Award.

重庆国家应用数学中心是2020年2月经中华人民共和国科学技术部批准成立的首批13个国家应用数学中心之一。中心以重庆师范大学作为牵头单位，联合中国科学院大学、北京大学、重庆大学、西南大学、陆军军医大学、重庆邮电大学、重庆交通大学、重庆电子工程职业学院等高校，中国科学院数学与系统科学研究院应用数学研究所、中国科学院绿色智能技术研究院、国网重庆市电力公司电力科学研究院等院所，与重庆长安汽车股份有限公司、重庆港务物流集团有限公司、重庆攸亮科技股份有限公司、重庆市医疗保障局、重庆医科大学附属儿童医院、马上消费金融股份有限公司、重庆猪八戒网络有限公司、重庆瑞阳吉星科技股份有限公司、重庆材料研究院有限公司、重庆市高新技术产业研究院有限责任公司和中电科技集团重庆声光电有限公司等核心单位合作共建。中心由国际系统与控制科学院院士、国家自然科学奖二等奖获得者杨新民教授担任主任。

As an integral part of the national science and technology innovation system, the Center is an important platform for organizing high-level research in applied mathematics and mathematics application, training mathematics talent, and facilitating cooperation and exchange between mathematicians and scientists in other fields and entrepreneurs. The Center focuses on key scientific topics and bottleneck technical

		<p>challenges in the fields of informatics, advanced manufacturing, intelligent transportation and biomedicine, and gathers scientists, industry experts and entrepreneurs in mathematics and related fields to identify and solve a number of key mathematical problems, and realize the transfer, commercialization and application of advances in science and technology. In this way, it enhances the capability and level of mathematics to underpin innovation and development, further promotes the development of big data intelligence industry in Chongqing, and greatly supports the construction of the National Pilot Zone for New-Generation AI Innovation and Development in Chongqing and Western (Chongqing) Science City.</p> <p>中心是国家科技创新体系的重要组成部分，是组织高水平应用数学研究和数学应用研究、培养数学人才、搭建数学家与其他领域科学家与企业家合作交流的重要平台。中心聚焦信息科学、先进制造、智能交通和生物医学等领域的关键科学问题和瓶颈性技术难题，集聚数学与相关领域科学家、行业专家、企业家等，共同凝练和解决一批关键数学问题，实现科技成果转移转化和应用落地，提升数学支撑创新发展的能力和水平，进一步推动重庆市大数据智能化产业发展，极大支撑重庆国家新一代人工智能创新发展试验区和西部（重庆）科学城的建设。</p>
II 二	Introduction to Postdoctoral Workstation 博士后站介绍	<p>The workstation establishes an administrative office and four research offices, namely Mathematics and Informatics, Mathematics and Intelligent Transportation, Mathematics and Advanced Manufacturing, and Mathematics and Biomedicine.</p> <p>工作站设有一个行政办公室和数学与信息科学、数学与智能交通、数学与先进制造、数学与生物医学四个研究室。</p> <p><b>1. Research Office of Mathematics and Informatics</b> <b>1.数学与信息科学研究室</b></p> <p>With the focus on the generic and key technology in the field of big data and artificial intelligence, the Office carries</p>

out the research on the basic theory and method of mathematics and information technology for the application of information industry. The key scientific issue it aims to solve is the foundation and core algorithms of big data and artificial intelligence. In recent years, the Office has led a project that has won the second-class State Natural Science Award, as well as major and key projects supported by the National Natural Science Foundation of China.

研究内容主要为针对大数据、人工智能领域内的共性基础与关键技术，开展面向信息产业应用的数学与信息技术的基礎理论与方法研究。拟解决的关键科学问题为大数据、人工智能的基础与核心算法。近年来，不仅主持获得国家自然科学獎二等奖，而且主持承担了国家自然科学基金重大和重点项目。

## **2. Research Office of Mathematics and Intelligent Transportation**

### **2.数学与智能交通研究室**

Focusing on large urban transportation network with complex environment and uncertain traffic demand, the Office develops mathematical optimization models and designs efficient and reliable real-time algorithm. The key scientific issue it aims to solve is the optimization models and algorithms of transportation network under the constraints of complexity and uncertainty. In recent years, the Office has presided over more than 10 projects funded by the National Natural Science Foundation of China. It boasts obvious advantages and distinctive research characteristics in global optimality condition and optimization algorithm, online distributed algorithm, meshless method of differential equation, and fast iterative algorithm of rigid differential equation.

研究内容主要为针对环境复杂性与交通需求不确定性的大型城市交通路网，建立数学优化模型，设计高效可靠的可实时运行算法。拟解决的关键科学问题为复杂性和不

确定性约束下的交通路网的优化模型和算法。近年来，主持国家自然科学基金 10 多项，在全局最优性条件和最优化算法、在线分布式算法、微分方程的无网格方法和刚性微分方程的快速迭代算法等方面有明显优势，研究特色鲜明。

### **3. Research Office of Mathematics and Advanced Manufacturing**

#### **3.数学与先进制造研究室**

With the focus on the generic and key technology of digital design and manufacturing and CNC system transmission parts manufacturing, as well as intelligent control and additive manufacturing, the Office conducts research on mathematical modeling theories and efficient algorithms for improving the accuracy, efficiency and reliability of manufacturing. The key scientific issue it aims to solve is mathematical modeling and efficient algorithms for digital manufacturing with high accuracy, efficiency and reliability.

中心研究内容主要为针对数字化设计制造与数控系统传动件制造、智能控制和增材制造中的共性基础与关键技术，开展提高制造业精度、效率和可靠性的数学建模理论与高效算法研究。拟解决的关键科学问题为高精度、高效率和高可靠性的数字化制造的数学建模与高效算法。

### **4. Research Office of Mathematics and Biomedicine**

#### **4.数学与生物医学研究室**

In order to meet the major national strategic need of improving capacity for disease diagnosis, health assessment and effective control of major infectious diseases, the Office focuses on key scientific issues in disease diagnosis and prevention and treatment of infectious diseases in China. It undertakes interdisciplinary research in mathematics, medicine, public health and applied statistics, and develops original suitable theories and methods for disease diagnosis,

		<p>health assessment and prevention and treatment of infectious diseases in the country. The key scientific issue it aims to solve is the basic theory of mathematical models and numerical algorithms of high-dimensional system in occurrence, evolution and prevention of major diseases.</p> <p>研究内容主要为面向提高疾病诊断、健康评估和重大传染病的有效防治能力这一国家重大战略需求，聚焦我国疾病诊断和传染病防治中的关键科学问题，开展数学、医学、公共卫生和应用统计学等多学科交叉研究，发展适合我国特点的疾病诊断、健康评估和传染病防治的原创性理论和方法。拟解决的关键科学问题为重大疾病发生、演化和防治中的数学模型基础理论和高维系统的数值算法。</p>
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**Postdoc Recruitment Requirements**

博士后选聘需求

<p>Name of Project/Position 项目名称/招聘岗位</p>	<p>Number of People in Need 需求人数</p>	<p>Majors (First-level Disciplines) Involved 所需专业方向 (一级学科)</p>	<p>Remuneration and Benefits 薪资福利 (10,000 yuan/year) (万元/年)</p>	<p>Requirements for Doctors 博士生源单位等要求</p>
<p>Researcher on Applied Mathematics 应用数学研究岗</p>	<p>3</p>	<p>Mathematics and related subjects 数学及相关学科</p>	<p>36 (Municipality: 8; District or county: 8; Employer: 20) 36 (市级: 8; 区县 8; 单位: 20)</p>	<p>The applicants must be covered by the "Double First-Class" Initiative, or come from top foreign universities,</p>

				<p>QS Top 100 universities, etc.</p> <p>国内双一流高校或一流专业/国外一流高校/全球 QS 排名前 100 高校等</p>	
<p>Research on Artificial Intelligence Methods for Optimality Problems</p> <p>最优化问题的人工智能方法研究</p>	3	<p>Mathematics and related subjects</p> <p>数学及相关学科</p>	<p>36 (Municipality: 8; District or county: 8; Employer: 20)</p> <p>36 ( 市级: 8; 区县 8; 单位: 20 )</p>	<p>The applicants must be covered by the "Double First-Class" Initiative, or come from top foreign universities, QS Top 100 universities, etc.</p> <p>国内双一流高校或一流专业/国外一流高校/全球 QS 排名前 100 高校等</p>	
<p>Other Recruitment Requirements</p> <p>其他招聘需求</p>					
<p>Name of Project/Position</p> <p>项目名称/招聘岗位</p>	<p>Number of People</p> <p>需求</p>	<p>Degree</p> <p>学历</p>	<p>Majors</p> <p>专业</p>	<p>Other Requirements</p> <p>其他要求</p>	<p>Remuneration and Benefits</p> <p>薪资福利</p>

	in Need 人数				
<p>High-level Talent in Applied Mathematics Research 应用数学研究高层次人才</p>	10	<p>Doctor's Degree and Beyond 博士及以上</p>	<p>Mathematics, computer science and other related majors 数学、计算机等相关专业</p>	<p>High-caliber backbone talent or academic leaders in relevant academic fields, who have strong academic capability and influence and outstanding research results, and are competent to lead and organize the implementation of high-level research projects or application projects.</p> <p>相关学术领域高层次骨干人才或学术带头人,具有较强的学术能力和影</p>	<p>The annual salary is between 400,000 yuan and 1.2 million yuan. The resettlement fee may reach up to five million yuan. The maximum research start-up costs may amount to 10 million yuan. Those highly skilled and top-notch talent or teams in urgent need can be employed as full-time members on a case-by-case basis. Qualified spouses will</p>



				<p>响力并取得突出成绩,能够领衔和组织实施高级别科研项目或应用落地项目。</p>	<p>be transferred and offered with jobs on campus. Children's enrollment will be coordinated. 年薪 40-120 万,安家费最高可达 500 万,科研启动费最高可达 1000 万,对于拟专职聘用的特别优秀的“高精尖缺”人才或团队,可按“一事一议”的方式引进。配偶符合调动条件的可随调并在校内安排工作;做好子女入学的协调工作。</p>
<p>Scientific Researcher on Applied Mathematics 应用数学科研岗</p>	20	<p>Doctor's Degree and Beyond 博士及以上</p>	<p>Mathematics, computer science and other related majors</p>	<p>Have delivered a satisfactory performance in operational research (queuing</p>	<p>You will be included in the staffing of public institution, and offered with the</p>

			<p>数学、计算机等相关专业</p>	<p>theory, combinatorial optimization), applied mathematics, computational mathematics, graph theory, probability statistics, statistics, machine learning, computer technology and other specialized technical fields.</p> <p>在运筹学(排队论, 组合优化), 应用数学, 计算数学, 图论, 概率统计, 统计学, 机器学习, 计算机技术等专业技术领域取得较好成绩。</p>	<p>resettlement fee, research start-up costs, talent subsidies, etc. 提供正式编制、安家费、科研启动费、人才补贴等。</p>
<p>Project Research Assistant 项目研究助理</p>	4	<p>Master's degree or</p>	<p>Mathematics, computer science</p>	<p>Have a solid foundation in algorithm and mathematics,</p>	<p>Annual salary of more than 100,000 yuan, bonus,</p>

		above 硕士及 以上	and other related majors 数学、计 算机等相 关专业	able to learn quickly, and have research experience in at least one of the following fields: machine learning, optimization, and optimal control. 算法和数学 基础扎实,具 备快速学习 能力,至少具 有以下一个 专业方向的 研究经验:机 器学习、最优 化、最优控 制。	holiday benefits, etc. 年薪 10 万元 以上,奖金、 节日福利等。
Project Manager 项目经理	4	Master' s degree or above 硕士及 以上	Mathemati cs, computer science and other related majors 数学、计 算机等相 关专业	Good at business development and negotiation; background in information science, intelligent transportation , advanced	Salary is negotiable, a competitive payment package against the other talent's income level at the same level in the same field according to

			<p>manufacturing, and biomedicine; have served as senior project manager or engaged in relevant market development in large enterprises and public institutions.</p> <p>有较高的统筹拓展业务与谈判能力，有信息科学、智能交通、先进制造、生物医学等相关专业背景，在大型企事业单位担任过资深项目经理或从事过相关市场开发工作。</p>	<p>your research background and experience.</p> <p>薪资面议，具体待遇视个人研究背景 and 经历，对标同领域同层次人才收入水平，提供极具竞争力的薪酬。</p>
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