

中国科学院 地球化学研究所



**INSTITUTE OF GEOCHEMISTRY
CHINESE ACADEMY OF SCIENCES**

中国·贵阳
Guiyang China



地球化学是一门
新兴科学，诞生
在矿床构造学
是一件大喜事，望於
矿产资源综合利用
目的物质综合利用
矿作用，成矿规律
研究中作出优异的成绩，以
促进社会主义建设事业。

地球化学研究所成立纪念

一九六六年春 郭沫若

一九六六年中国科学院院长郭沫若为地球化学研究所成立题词：“地球化学是一门新兴学科，成立专门研究机构在我国是一件大喜事，望于矿产资源综合利用的物质成份、成矿作用、成矿规律研究工作中出优异成绩，以促进社会主义建设事业。”

Inscription by Mr. GUO Moruo, president of the Chinese Academy of Sciences for celebrating the founding of the Institute of Geochemistry in 1966. Geochemistry is a new and developing science. It is a great event to set up a special institute in China. It is expected that great achievements will be made in scientific research on synthetic utilization of mineral resources, metallogenesis, and ore-forming regularities for promoting our socialism construction.



中

中国科学院地球化学研究所（地化所）成立于1966年2月，由中国科学院地质研究所地球化学研究室、昆明地质工作站和中科院贵阳化学所等单位合并组成。自建所以来，建立和发展了地球化学的多个分支学科和地球化学的理论体系，在国内外地学界占有重要地位。长期以来，主持承担了大量重大科研项目，取得了大批达到或接近国际先进水平的科研成果，为国民经济建设、国防建设和科学事业的发展作出了重大贡献。1978年以来，共获省、部级以上科技成果奖255项，其中国家级奖50项（国家级特等奖和一等奖5项）。中国矿物岩石地球化学学会挂靠在地化所，与其共同主办有《Chinese Journal of Geochemistry》、《矿物学报》、《矿物岩石地球化学通报》等重要学术期刊。至2005年底，地化所在编人员总数263人，其中科技人员179人。进入创新工程试点人数128人，其中有中国科学院院士2人，正研究员级36人，副研究员级63人。地化所是国务院学位委员会批准的首批硕士、博士授予点单位和国内首批建立博士后工作站单位，现设有地球化学、矿物学岩石学矿床学两个博士点，地球化学、地球探测与信息技术及矿物学岩石学矿床学三个硕士点和一个地质学博士后流动站。至2005年底，有在学硕士生121人，博士生146人（印度学生一名），在站博士后15人。是我国地球化学领域科学研究和人才培养的重要基地之一。

地化所围绕国家战略需求，瞄准国际前沿，在矿床地球化学、环境地球化学、地球深部物质与流体作用地球化学和月球与行星科学四大重点领域开展基础性、战略性和前瞻性研究，建立和完善地球化学的研究方法和理论体系，全面提高地化所的整体科研水平，加强对国家资源环境问题的决策咨询能力，为地球化学学科的发展和国民经济建设作出重大贡献。通过三期创新工作的实施，力争把地化所建成在地球化学领域达到世界先进水平的研究所。



地化所新一届领导班子(从左至右):王青怡、胡瑞忠、刘丛强、王世杰





The Institute of Geochemistry, Chinese Academy of Sciences (IGCAS) was founded in February 1966 through the mergence of the Geochemistry Division of the Institute of Geology CAS, Kunming Geological Work Station CAS, and Guiyang Institute of Chemistry CAS. Since then, the IGCAS has established and developed various academic branch subjects and related theoretical systems in geochemistry. The institute has undertaken a large number of research projects and obtained many research achievements at both national and



所长：刘丛强
Director : LIU Congqiang

international levels, and made significant contributions to the national economic construction, national defense construction and scientific development. The IGCAS has already won over 230 prizes awarded by provincial, ministerial and national authorities for its scientific and technological achievements. These prizes include 50 prizes (5 Special Awards and First Class Awards) awarded by the People's Government of PRC. The Chinese Society of Mineralogy, Petrology and Geochemistry (CSMPG) is based in the IGCAS. 4 journals are published by the IGCAS and the CSMPG. They include Chinese Journal of Geochemistry, Bulletin of Mineralogy, Petrology and Geochemistry (in Chinese), Acta Mineralogica Sinica (in Chinese), and Earth and



党委书记、副所长：胡瑞忠
Party Committee Secretary Vice Director: HU Ruizhong

Environment (in Chinese). The IGCAS has employed a total of 263 staffs at the end of 2005, including 2 academicians of the Chinese Academy of Sciences, 36 research professors and 63 associate research

professors. The IGCAS is among the first group of institutes who are authorized by the Academic Degree Committee of the State Council of China to award Master and PhD degrees to qualified research students and to establish Post-Doctoral Circulation Station. At the end of 2005, there are 121 MSc students, 146 PhD students (including one Indian), and 15 post-doctoral research fellows in the IGCAS. The IGCAS is one of



副所长：王青怡
Vice Director : WANG Qingyi

the important bases for scientific research and high-quality professional training in the field of geochemistry in China.

Responding to the national strategic demands and aiming at the international research frontiers, the researchers of the IGCAS mainly undertake basic, strategic and frontier research works in four key fields which include the ore deposit geochemistry, the environmental geochemistry, the earth's interior and geofluids geochemistry, and the Luna and planet science, in order to establish and improve research



副所长：王世杰
Vice Director : WANG Shijie

methods and theoretical systems of geochemistry, to entirely raise the research levels of the institute, to strengthen the decision-making consultation ability for national resources and environmental issues, and to make great contribution to the development of geochemistry and the national economic construction of China. Through the practice of the third stage Knowledge-Innovation Project of the Chinese Academy of Sciences, the staffs of the IGCAS are working hard in order to develop the institute as one of the leading research institutes in the world in geochemistry with advanced research level in future.



地球化学所以矿床地球化学、环境地球化学、地球深部物质与流体作用地球化学、月球与行星科学为主攻方向，主要研究地球物质循环的地球化学过程及其与矿产资源形成分布和人类生存环境变化的内在联系以及这一过程在地球历史中的演化规律，月球物质的资源与环境效应等。

环境地球化学

以地球化学理论和方法为主要手段，从地球环境的整体观念和相互依存性出发，针对区域（特别是西南喀斯特地区）环境和全球变化问题，综合研究天然和人为过程释放的化学元素、同位素及化合物在地表各个层圈（岩石/土壤圈-水圈-大气圈-生物圈）之间的迁移和循环规律及其对生态环境系统的影响，发展和完善环境地球化学理论，评估导致环境质量变化的自然和人为作用份额，为环境保护、人类健康和社会可持续发展服务。

- 地表环境地球化学过程与环境质量变化
- 环境和气候变化的地球化学记录
- 地球化学环境与人体健康



矿床地球化学

瞄准国家战略需求和世界科学前沿，针对我国独特的地质背景，主要研究成矿元素在各种地质作用下活化、迁移和富集形成矿床的过程，揭示在各种地球动力学条件下化学元素富集形成矿床的规律，创建成矿作用的新理论和矿产勘查的新方法，为矿产资源的寻找、综合利用和矿山环境修复提供科学依据。

- 成矿作用的元素和同位素示踪及成矿年代学
- 成矿过程的理论和实验模拟及成矿流体地球化学
- 区域成矿作用地质地球化学
- 重要矿产成矿预测的地质地球化学理论和方法
- 矿产资源综合利用及矿山开发的环境效应



地球深部物质与流体作用地球化学

借助于高温高压实验与理论计算，在一定温度、压力及氧逸度等物理化学环境下探索地球内部物质（矿物、岩石、熔体及地质流体）及海底热液体系的组成、性状及其运动规律，为大陆动力学、板块构造、大型矿集区和油气盆地的成矿成藏研究以及深部地球物理和深海探测、超深钻探等研究提供科学依据。

- 深部物质的结构与物性
- 深部流体性质
- 深部流体成岩成矿效应

月球与行星科学

我所是我国开展天体化学研究最早的单位。基于目前我国开展空间探测的重要战略和科学意义，部署了部分精干力量开展与空间探测特别是与月球探测计划有关的基础性和前瞻性研究，主要侧重于：

- 全月球月壤的分布厚度和氦-3资源量的估算
- 月表环境的性质与利用的可能方向
- 比较行星学研究





The major academic subjects of the IGCAS include the environmental geochemistry, the ore deposit geochemistry, the Earth's interior and geofluids geochemistry, and the luna and planet science. The researches are mainly concentrated on the geochemical processes of the earth material cycling and its internal relationship with the forming and distribution of mineral resources and the variation of human living environment, and the evolution regularities of the above geochemical processes in geological history, and the resource effect and environmental impact of lunar materials.

Environmental geochemistry

With the application of the geochemical theories and methods, on the basis of the full concept and interdependent of the Earth environments, in accordance with the regional environment (especially the karst area in the southwestern China) and the global environmental variation, the environmental geochemistry is mainly to comprehensively study the mobilization and cycling regularities of chemical elements, isotopes and chemical compounds, which are released in the natural and artificial processes, among all surface spheres of the Earth (rock/soil sphere - hydrosphere - atmosphere - biosphere) and their impact on the eco-environmental system, to develop and polish the theories of the environmental geochemistry, to evaluate the percentage of the environmental quality changes caused by the natural and artificial movements respectively, and to provide service for the environmental protection, human health, and social sustainable development.

The surface environmental geochemical processes and the environment quality changes

The geochemical records of the environment and climate variation

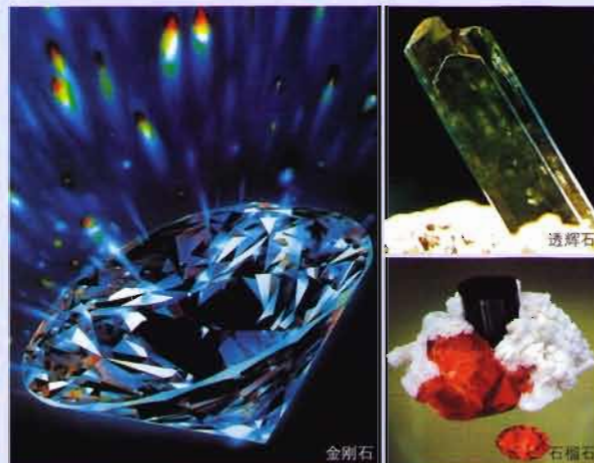
The geochemical environment and human health

Ore Deposit Geochemistry

Responding to the national strategic demands and aiming at the international research frontiers, in accordance with the unique geological background, the ore deposit geochemistry is mainly to study the processes of activation, mobilization, enrichment and mineralization of ore-forming elements in various geological activities, to reveal the enrichment and metallogenetic mechanisms and regularities of chemical elements under various geodynamic background, to establish new theories of metallogenesis and new methods for mineral resource exploration, and to provide scientific basis for the exploration and comprehensive utilization of mineral resources and the environmental rehabilitation of mines.

The elemental and isotopic tracing system of metallogenesis

The theoretical and experimental modeling of



metallogenetic processes and the geochemistry of or-forming fluids

The geology and geochemistry of regional metallogenesis

The prognosis theories and methods of important mineral resources

The comprehensive utilization of mineral resources and the environment impact of the mine development

The Earth's interior and geofluid geochemistry

Based on the high temperature high pressure experiments and theoretical calculation, the Earth's interior and geofluid geochemistry is mainly to probe or study the compositions, textures, characteristics, and active regularities of earth's interior materials (minerals, rocks, melts, and geofluids) under certain physico-chemical condition (temperature, pressure and oxygen fugacity) and the hydrothermal fluid system on the sea floor, and to provide scientific basis for continental dynamics, plate, the researches on metallogenesis of the large scale metallogenetic concentration areas and formation of oil basins, the geophysical probe in depth and the deep sea probe, and the extra deep drilling project.

The structure and physical properties of the Earth's interior materials

The features of earth's interior geofluids

The diagenesis and metallogenesis induced by earth's interior geofluids

The Luna and Planetary Science

The IGCAS is the first research organization started the cosmochemical research in China. Due to the important strategic and scientific significance of the space exploration now in China, the IGCAS has arranged some excellent professionals for developing the basic, frontier and pilot study associated with space exploration.

The distribution thickness of soils on moon and the estimation of ^3He resources on moon

The characteristics and possible utilization of the surface environment on Moon

The comparative planetology



科研机构 Research organization

环境地球化学国家重点实验室
The State Key Laboratory of Environmental Geochemistry

矿床地球化学国家重点实验室
The State Key Laboratory of Ore Deposit Geochemistry

地球深部物质与流体作用地球化学研究室
The Laboratory of the Earth's Interior and Geofluid Geochemistry

月球与行星科学研究中心
The Research Center for Luna & Planet Sciences

管理机构 Management organization

所务处 Department of Administrative Affairs

业务处 Department of Scientific Research Management

党务人事处 Department of Party & Personnel Affairs

教育处 Department of Education Management

支撑机构 Support organization

信息资料中心
Information & Documentation Center

网络管理中心
The Center for Computing Network Administration

主要实验设备
Main Experiment Facilities

挂靠机构 Affiliated organization

中国矿物岩石地球化学学会
Chinese Society for Mineralogy, Petrology and Geochemistry

科学时报贵州记者站
Guizhou Press Center for Chinese ScienceTimes



历任所长



侯德封
院士

1966.2 ~ 1979.9



涂光炽
院士

1979.9 ~ 1985.12
(1985.12至今任名誉所长)



谢先德
院士

1985.12 ~ 1988.6



欧阳自远
院士

1988.6 ~ 1993.12



谢鸿森
研究员

1993.12 ~ 1997.6



刘丛强
研究员

1997.6 至今



主任：刘丛强（研究员）

常务副主任：吴丰昌（研究员）

副主任：冯新斌（研究员）、彭建华（高工）

一、发展背景

环境地球化学是地球化学与环境科学结合而发展起来的一门新兴的边缘学科。它在我国的发展可追溯至1968年我所牵头组织实施的地方病区环境调查和地球化学病因研究，并在1974年成立国内第一个环境地质研究室。1989年组建环境地球化学国家重点实验室，1995年通过国家验收。



二、研究方向、目标与内容

主要研究天然和人为过程释放的化学元素和同位素在地表各圈层间的运移和循环规律及其对生态环境系统的影响，特别注重生物地球化学过程与机理以及宏观尺度上的环境地球化学模型的研究，揭示地球化学环境系统的变化规律和导致环境质量变化的自然和人为作用份额，为土地和矿产资源开发利用、生态环境保护与决策提供理论依据和科技咨询。围绕“环境过程-演化-效应”的研究主线，在地球化学环境过程与环境质量变化、地球化学环境记录与环境质量变化预测、地球化学环境与人体健康等研究方向上取得了重要成果，获国家和省部级成果奖21项。实施的项目类别主要有973项目、国家攀登与攻关、国家自然科学基金重大、重点、杰出青年基金、面上基金、中科院重点、重大项目等。



三、运行与管理

实行主任负责制，运行机制为“开放、流动、联合、竞争”，管理模式为按需设岗、竞争上岗。至2005年底，有固定研究人员36名（其中博士生导师8名）、技术辅助人员8名、管理人员2名。研究生与博士后120多名。根据任期考核以及实验室重要研究方向需要促进人员流动，并保持一定的岗位空缺吸引优秀人才。围绕实验室的发展方向，广泛开展国际国内合作研究，设有“实验室开放基金”。



Head: HU Ruizhong (Ph.D., professor)

Executive Vice Head: BI Xianwu (Ph.D., professor)

Vice Heads: ZHOU Guofu (Ph.D., professor), SONG Xieyan(Ph.D., professor), HUANG Zhilong(Ph.D., professor)

Basic background

With the approval of the Ministry of Science and Technology of China in December 2005, the State Key Laboratory of Ore Deposit Geochemistry (SKLODG) is under construction on the basis of the Key Laboratory of Ore Deposit Geochemistry CAS, which was officially



approved by the Chinese Academy of Sciences for opening to outside in 1989. The laboratory has obtained a number of academic achievements including the First Class Prize and the Second Class Prize of the National Natural Sciences Award. The laboratory, with its long-term research accumulation and recent development, has formed its own research predominance and characteristics in the research field of solid mineral resources in China, and is one of the important bases for scientific research and associated professional education in the field of mineral resources in China.

Research orientations, objectives and contents

Responding to the national strategic demands and aiming at the international research frontiers, in accordance with the unique geological background, the ore deposit geochemistry is mainly to study the processes of activation, mobilization, enrichment and mineralization of ore-forming elements in various geological activities, to reveal the enrichment and metallogenetic mechanisms and regularities of chemical elements under various geodynamic background, to establish new theories of metallogenesis and new methods for mineral

resource exploration, and to provide scientific basis for the exploration and comprehensive utilization of mineral resources and the environmental rehabilitation of mines.

The laboratory has undertaken a large number of important research projects since 1989. The main projects include the National "973" Project "Large-scale Metallogenesis and Prognosis of Large Metallogenic Areas" and the National Climbing Project funded by the Ministry of Science and Technology, the Key Projects, the Distinguished Youth Projects, and the General Programs funded by NSFC, the Special Funds and the Key Projects funded by the Chinese Academy of Sciences, and the "A Hundred Talent Plan" Projects funded by the Chinese Academy of Sciences.

Operation and Administration

The head of the SKLODG is in charge of its operation under the principle of "opening, communication, collaboration, and competition" and the administrative model that the job positions are set depending on demands and competition.



The laboratory possesses a powerful research potential with advanced experimental apparatus. At the end of 2005, there are 53 staff members, including one academician of the Chinese Academy of Sciences, 18 professors (including 12 supervisors for PhD students), and 20 associate professors and senior engineers. There are over 100 graduate students and post-doctoral research fellows in the laboratory. Therefore, the laboratory has a solid and excellent research group with rational age and knowledge structure.



主任：李和平（研究员）

副主任：唐红峰（研究员） 郭捷（研究员）

一. 基本情况

地球深部物质与流体作用地球化学研究室是在原地球深部物质实验室的基础上，为适应中国科学院知识创新工程的需要，于2000年与原地质流体研究部合并成立的。

二. 实验室的研究方向、内容及目标

该研究室的主要任务是以野外地质调查、高温高压实验技术、数值模拟以及各种现代分析测试技术为主要研究手段，结合现代物理学、化学、材料科学以及其它相关技术领域取得的研究成果，探索在一定温度、压力及氧逸度等物理化学环境下地球内部物质（矿物、岩石及地质流体）的组成、结构、性状及相互作用过程和演化规律，最终为人类寻找矿产资源、预防地质灾害等提供科学依据。该研究室的研究具有广泛的学科交叉性、基础性和国际前瞻性。目前的主攻方向有：（1）高温、高压及一定氧逸度条件下地球内部物质的结构及性质研究；（2）高温、高压及一定氧逸度条件下地球内部物质（固体、水流体和熔体）间相互作用研究；（3）高温高压实验技术研究。本研究室拥有可模拟地壳浅部至下地幔上部深度范围温度、压力及氧逸度的系列高温高压设备以及在高温、高压及一定氧逸度条件下从事凝聚物质的结构及物性、水流体物理化学性质及水流体-固体相互作用原位测量的各种配套原位测量技术，硬件设施在国内领先，部分设备和技术已达国际水平或国际先进水平。在静态超高压大腔体实验技术以及地球深部物质的实验研究等方面获省部级成果奖6项。



三. 运行与管理

实行主任负责制，运行机制为“开放、流动、联合、竞争”，管理模式为按需设岗、竞争上岗。至2005年底，本研究室有科技人员15人，其中包括杰出青年基金获得者1名，“百人计划”入选者2名，博士生导师3名，研究员6名，教授级高工1名，副研究员3名，高工1名，助理研究员2名，工程师2名。



Head: LI Heping (Ph.D., professor)

Vice Heads: TANG Hongfeng (Ph.D., professor) GUO Jie (professor)

Basic introduction

The Laboratory of the Earth's Interior and Geofluid Geochemistry (LEIGG) was established on the basis of the Laboratory of Earth's Interior Materials and the Division of Fluid Interaction in 2000 under the requirement of the Knowledge-Innovation Project of the Chinese Academy of Sciences.

Research orientations, objectives and contents

The researchers of the LEIGG are to study the components, textures, states and interaction processes and their evolutionary behaviors of the Earth's interior materials (minerals, rocks and geofluids) under certain physicochemical conditions of temperature, pressure and oxygen fugacity, by using the methods of field geological investigation, high temperature and high pressure experimental techniques, digital modeling, and various advanced analytical techniques, and in combination with the latest research achievements of modern physics, chemistry, material sciences and associated technologies. The purpose of the study is to provide scientific basis for rationally prospecting mineral resources and for preventing and alarming geological hazards. The researches



of the LEIGG are characterized with basic, innovative and international frontier features.

The current research subjects are: (1) the textures and states of the Earth's interior materials under conditions of high temperature, high pressure and certain oxygen fugacity; (2) the interaction of the Earth's interior materials (solids, fluids and melts) under conditions of high

temperature and pressure and certain oxygen fugacity; (3) the experimental technology of high temperature and high pressure. The LEIGG has the high temperature and high pressure related



apparatus for simulating the temperature, pressure and oxygen fugacity in depth from shallow part of crust to upper part of lower mantle, and the integrated measuring technologies for the study of the texture and physical state of agglomerated materials, the physicochemical characters of fluids and in situ measurement of interaction of fluids-solids. The apparatus are at the advanced level in China. Some of the apparatus and technologies reached international level or international frontier level. Up to date, 6 prizes awarded by the provincial and ministerial authorities has been obtained by the LEIGG for its experimental technology of large chamber of static and ultra high pressure apparatus and the experiment study of the Earth's interior materials.

Operation and administration

The head of the LEIGG is in charge of its operation under the principle of "opening, communication, collaboration, and competition" and the administrative model that the job positions are set depending on demands and competition. At the end of 2005, there are 15 staff members, including 1 winner of the Outstanding Youth Project supported by NFSC, 2 winners of the "A Hundred Talent Plan" funded by the Chinese Academy of Sciences, 3 supervisors for PhD students, 6 professors, 4 associate professors, and 4 research associate or engineers.



主任：欧阳自远（院士）

副主任：王世杰（研究员）



21世纪是人类征服整个太阳系并为地球的可持续发展服务的新时代。跳出地球看地球，比较地球与月球、火星、水星、金星以及太阳系各类天体的共性与特性，在更大的时空尺度里整体性认识地球、地月系和太阳系，将会更深刻地揭示地球、地月系和太阳系的形成与演化规律。

欧阳自远
2000.6.6.

一、发展背景

我国的天体化学研究诞生于六十年代，快速发展始于吉林陨石研究。经过近30年的发展，已成为我国从事天体化学研究的主要单位。先后承担过我国地下核试验的地质效应研究、吉林陨石和其他陨石的综合研究、地外物质对地球撞击事件研究以及比较行星学研究等。在中科院院士欧阳自远的主持下建立了我国天体化学的理论及研究体系，培养了一大批从事天体化学研究的科研和教学人员，代表着我国在这一领域的前沿水平。

二、研究方向、目标与内容

天体化学主要研究宇宙空间物质的起源、分布以及各类天体的物质组成和化学演化，注重于研究宇宙中元素的起源与丰度，太阳星云的物质成分、分布和化学演化过程；研究类地行星在结构、物质构成和地质演化历史上的差异和影响因素，为解释地球的形成和演化提供新的证据；论证地球原始不均一性及其对成矿和构造演化的制约，逐步建立地球的非均一性起源与演化的新理论；积极参加我国的月球探测计划和研究。目前主要侧重于：全月球月壤的分布厚度和氦-3资源量的估算，月表环境的性质与利用的可能方向，比较行星学研究。

三、运行与管理

实行主任负责制，运行机制为“开放、流动、联合、竞争”，管理模式为按需设岗、竞争上岗。至2005年底，本中心有科技人员7人，其中有院士1人，研究员3人，副研究员4人。



Head: OUYANG Ziyuan (academician)
Vice Head: WANG Shijie (Ph.D., professor)

Development background

The cosmochemistry in China was initiated in the 1960s', and was rapidly developed following the study of the Jilin meteorites. The Research Center for Luna and Planet Sciences (RCLPS) has become the leading unit for the cosmochemical study in China with around 30 years' development. The geological impact of the underground nuclear test in China, the Jilin meteorites and other meteorites, the extraterrestrial impact events, and the comparative planetology have been comprehensively studied by researchers of



cosmochemistry. Under the leadership of Academician Prof. Ouyang Ziyuan, the RCLPS has established the Chinese cosmochemical theories and research systems and has trained a number of professionals for cosmochemical research and teaching, with representative of the frontier level of cosmochemistry in China.

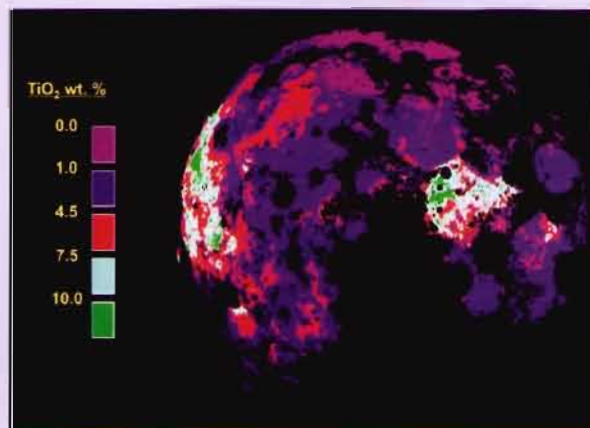
Research orientations, objectives and contents

The cosmochemistry mainly studies the origins, distributions of cosmic materials and the components and chemical evolution of various celestial bodies. The RCLPS aims at: (1) the origins and abundances of elements in universe, the compositions, distributions and chemical evolution process of the solar nebulae; (2) the differences in texture, components and the evolutionary histories among the terrestrial planets and their influence factors, in order to provide new evidences for interpreting the formation and evolution of the Earth; (3) the primitive

unevenness of the Earth and its constrains on the metallogenesis and the structural evolution, in order to gradually establish new theories for the uneven origin and the evolution of the



Earth. The RCLPS positively take part in the Chinese Moon probing and researching projects, with its work mainly concentrated on: (1) the distribution thickness of soils on moon



and the estimation of ^3He resources on moon; (2) the characteristics and possible utilization of the surface environment on Moon; (3) the comparative planetology.

Operation and administration

The head of the RCLPS is in charge of its operation under the principle of "opening, communication, collaboration, and competition" and the administrative model that the job positions are set depending on demands and competition. At the end of 2005, there are 7 staff members, including 1 academician, 3 professors and 4 associate professors.



主任：夏勇(研究员)

副主任：金志升(副研究员)

信

息资料中心成立于2001年9月，包括图书馆，期刊编辑部和综合档案室三个部门；有固定人员5人，秘书7人，辅助人员2人。定位为我所知识创新工程中的支撑部门。其宗旨是：畅通学术信息和交流的渠道，为地化所顺利实施知识创新工程服务。

中心具备良好的信息服务条件。图书馆现有馆藏书籍约122,000册（件），其中现刊350余种，共1800余册，各类资料约10,000件，地形地质图18,000余件。包括地球科学领域所有重要期刊和著作，以及物理、化学、环境科学、电子技术、生物科学等学科的重要文献。此外，还提供CNKI、Elsevier、Springer和Scidirect等中外文全文电子期刊的查询服务。本中心是中国科学院文献情报系统的组成部分，将来可进行全院联合编目、联合目录查询、馆际互借、全文传递等服务功能以及所际、馆际间的查询和资料交换。

《矿物学报》、《地球与环境》(原《地质地球化学》)、《Chinese Journal of Geochemistry》三个学术期刊均已进入了国内外重要的检索数据库，影响日益增大。

综合档案室收集了自建以来的全部文书、科研、基建和财务档案近万卷。





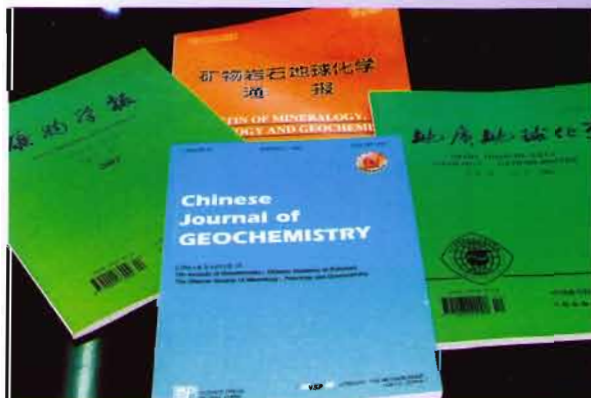
Head: XIA Yong (professor)

Vice Head: JIN Zhisheng (associate professor)

The Information and Documentation Center (IDC) was formed in September 2001. It consists of library, journal edition offices, and the comprehensive archive office. At the end of 2005, there are 5 staff members, 7 secretaries, and 2 temporary assistants in the IDC. It is confined as the supporting organization for the Knowledge-Innovation



Project of the IGCAS, with responsibility of smoothing the channelway of academic information and communication and serving for the successful implementation of the Knowledge-Innovation Project in the IGCAS. Good service conditions are provided for the researchers in the IDC. In the library, there are about 122,000 volumes of books on stock,



including 350 journals (around 1800 volumes), around 10,000 hard copies of documents, and 18,000 topographical and geological maps. The references on stock include most of the important geoscience-related journals and

books, and other documents for the subjects of physics, chemistry, environmental sciences and biology. In addition, the library provides good service for online journals of CNKI (Chinese journals), Elsevier Science, Springer and ScienceDirect. The IDC is one component of the information system of the Chinese academy of Sciences, and provides the service for the allied catalogue and contents search, interlibrary borrowing, online documents transfer of the whole Academy, and also provides the service references searching and documents exchanging among various institutes and libraries. 3 journals, published by



the IDC, of Chinese Journal of Geochemistry, Acta Mineralogica Sinica (in Chinese), and Earth and Environment (formally Geology-Geochemistry) (in Chinese) have already been indexed into the national and international Index Databases, with gradually increased influence in China or even in the world.

In the comprehensive archive, there are over 10,000 volumes of documents including all official files, research administration files, capital construction files, and financial records produced since the foundation of the IGCAS.



主任：曾毅强（研究员）

Head: ZENG Yiqiang (professor)

为实施中科院资源管理计划所级系统（Academia Resource Planning），以及统一管理地化所计算机网络系统，于2005年10月新成立了所网络管理中心，配备中心主任1人，高级工程师2人。地化所计算机网络系统经历了较长的发展及整合过程，现在已有350余台微型计算机通过100M光纤到楼方式连接成局域网，租用中国电信8M带宽专线，连通北京中国科技网网络中心接入互联网和中科院院部；同时也有另一网络出口接入贵州联通公司城域网。地化所网络服务器提供WEB网页浏览服务，向公众介绍本所一般总体情况和动态消息。设有FTP、Email服务器，用于文件传输和收发电子邮件。购置有中外文期刊全文数据库，通过代理服务器提供有关科研文献检索和国内外许多重要期刊全文或摘要下载。所内部分会议室和办公楼、研究生学习室等场所设置有无线接入设备，提供无线上网服务。所局域网延伸至本所生活区专家楼，为高级研究人员提供更多的上网条件，方便随时资料查阅、对外联系以及实验设备远程控制。本所网络中心配置有网络视频会议设备，可以实时参加中科院网络视频会议，或与其它研究所点对点连接召开视频会议。随着ARP系统投入运行，所内网络将实现管理部门人事、财务、科研、资产管理数据共享、互相协调，以及电子政务、网上报销、网上计划编制、电子档案等多种功能，为本所科研及管理工作提供更为便捷的服务。

The Center for Computing Network Administration (CCNA) was established in October 2005, in order to practice the Academia Resource Planning (ARP) system of the CAS and to administrate the computing network system of the IGCAS. There are 3 staff members. With the development and reorganization in a relative long time period, there are over 350 computers are connected with the local network of the IGCAS through the 100M optical fiber. A special line of 8M is rented from the China Telecom to let the local network of the IGCAS connect the China Science & Technology Net (www.cstnet.ac.cn) and the headquarter of the CAS. Another line is rented from the China Unicom to let the local network connect to the internet. The servers of the IGCAS provide services for navigating website in internet and the introducing the general information and activities of the IGCAS. The FTP and E-mail server is specially applied for document transferring, e-mail receiving and sending. Scientific references and abstracts of various journals in Chinese and in English of the full text database, which has been purchased, could be inquired and downloaded through the agent server for research application. There are radio devices for supporting the network service in some buildings of the IGCAS. In order to make the key young scientists easily and conveniently inquire references, communicate with outside, and remote control the operation of devices, the local network is specially connected with the computers in their apartments. The CCNA has been equipped with Videoconference devices for taking part in the video conference of the CAS, or having video communication with other institute directly. With the operation of the ARP system, the local network will be used to share data and to coordinate works of human resources, financial, research and property administrations, and to operate electronic administrative issues, financial management, network proposal, and electronic filing and documentation in the IGCAS. All these will provide more convenient service for the research and administrative works of the IGCAS.



地球化学研究所是资源、环境科学等领域高层次人才的培养基地，我国首批硕士、博士学位授权单位和博士后流动站建站单位。现有地球化学、矿物学岩石学矿床学两个专业的博士点，地球化学、矿物学岩石学矿床学、地球探测与信息技术三个专业的硕士点和地质学博士后流动站。40年里，招收硕士研究生484人，博士研究生325人，进入流动站的博士后100人。现有在职博士生导师19人、硕士生导师58人。近年来，随着创新工程的实施及社会需求的增加，研究生招生规模不断扩大，至2005年底，有在学硕士生121人，博士生146人(印度学生一名)，在站博士后15人。2006年实际招收硕士生52人，博士生38人。

研究生作为“知识创新工程”中流动人员的主体，是我所科研工作不可缺少的重要力量。在学研究生实行助理研究制度，并享受与在职人员相当的津贴待遇。研究生在学习期间，通过在北京中国科学院研究生院或成都教育基地的英语及基础课程学习后，在所内全面参与导师的科研工作，在工作中完成学位论文。

The IGCAS is one of the important bases for educating high-quality professionals in the field of natural resources and environmental sciences, and is among the first group of institutes authorized to award Master and Ph.D. degrees, and to establish the Post-Doctoral Circulation Station in China. The IGCAS now has been authorized to confer Ph.D. degree in two majors (geochemistry, and mineralogy-petrology-mineral deposit geology), and to confer master degree in three majors (geochemistry, mineralogy-petrology-mineral deposits, and earth exploration and information technology), and to train post-doctoral researchers in major of geology. In 40 years, overall 484 MSc students, 325 PhD students have or having been educated in the IGCAS and 100 post-doctoral researchers have or having been trained in the IGCAS. At the end of 2005, there are 19 supervisors for PhD students and 58 supervisors for MSc students in the IGCAS. In recent years, the number of enrolled graduate students is rapidly increased, with the successful implementation of the Knowledge-Innovation Project and the larger demands for graduates from the society. At the end of 2005, there are 121 MSc students, 146 PhD students (including one Indian), and 15 post-doctoral research fellows in the IGCAS. In 2006, 52 MSc students and 38 PhD students will be enrolled.

As the main body of the circulating professionals for the "Knowledge-Innovation Project", the post-graduate students have played indispensable role for the research work of the IGCAS. At present, the enrolled graduate students are treated as research assistants in working allowance. They have to complete the English course and other basic degree courses at the Graduate School of the Chinese Academy of Science in Beijing or in the Chengdu Education Center of the Chinese Academy of Sciences in the first year, to partly work for their supervisors' research project, and to complete their research thesis under the supervision of their supervisors of the IGCAS.



地质与地球化学家 侯德封院士
Geologist and geochemist:
Academician HOU Dengfeng



矿床学与地球化学家 涂光炽院士
Mineral deposit geologist and geochemist:
Academician TU Guangchi



第四纪与环境地球化学家 刘东生院士
Quaternary geology and
environmental geochemist:
Academician Liu Dongsheng



矿物学与地球化学家 郭承基院士
Mineralogist and geochemist:
Academician GUO Chengji



天体化学与地球化学家 欧阳自远院士
Cosmochemist and geochemist:
Academician OUYANG Ziyuan



有机地球化学家 傅家谟院士
Organic geochemist:
Academician FU Jiamo



矿物学家 谢先德院士
Mineralogist:
Academician XIE Xiande



前寒武纪地质学家 孙大中院士
Precambrian geologist:
Academician SUN Dazhong



第四纪地质学家 安芷生院士
Quaternary geologist:
Academician AN Zhisheng



刘丛强: 博士、研究员、博士生导师, 所长, 环境地球化学国家重点实验室主任, 国家杰出青年基金获得者, 国家攀登计划项目“地质流体作用及其成矿效应”首席科学家, 中国科学院“百人计划”入选者。

LIU CongQiang: PhD, research professor, supervisor for PhD students, director of the IGCAS, head of the SKLEG, winner of Distinguished Youth Project, chief scientist of the National Climbing Project “Geological Fluids Interaction and its Ore-forming Effect”, winner of “A Hundred Talent Plan” of the Chinese Academy of Sciences (CAS).



胡瑞忠: 博士、研究员、博士生导师, 党委书记、副所长, 矿床地球化学国家重点实验室主任, 国家杰出青年基金获得者, 国家973项目“大规模成矿作用与大型矿集区预测”首席科学家, 中国科学院“百人计划”入选者。曾获中国科学院青年科学家奖、中国青年科技奖和全国优秀留学回国人员奖。

HU Ruizhong: PhD, research professor, supervisor for PhD students, general-secretary of the Chinese Communist Party Committee of the IGCAS, vice director of the IGCAS, head of the SKLODG, winner of the Distinguished Youth Project, chief scientist of the National “973” Project “Large-scale Metallogenesis and Prognosis of Large Metallogenic Areas”, winner of “A Hundred Talent Plan” of the CAS, winners of the CAS Young Scientist Prize, the Chinese Youth Prize for Science and Technology, and the State Excellent Overseas Returnee Prize.



王世杰: 博士、研究员、博士生导师, 副所长, 环境地球化学国家重点实验室学术委员会副主任, 月球与行星科学研究中心副主任, 曾获中国矿物岩石地球化学学会侯德封奖和贵州省第三届青年科技奖。

WANG Shijie: PhD, research professor, supervisor for PhD students, vice director of the IGCAS, vice chairman of the academic committee of the SKLEG, vice head of the RCLPS, winner of the Hou Defeng Prize of the CSMPG and winner of the 3rd Guizhou Youth Prize for Science and Technology.



李和平: 博士、研究员、博士生导师, 所长助理, 地球深部物质与流体作用地球化学研究室主任, 中国科学院“百人计划”入选者。

LI Heping: PhD, research professor, supervisor for PhD students, head of the Laboratory of the Earth's Interior and Geofluids Geochemistry, winner of “A Hundred Talent Plan” of the CAS.



吴丰昌: 博士、研究员、博士生导师, 环境地球化学国家重点实验室常务副主任, 国家杰出青年基金获得者, 中国科学院“百人计划”入选者。曾获贵州省青年科技奖和中国科学院方树泉奖。

WU Fengchang: PhD, research professor, supervisor for PhD students, executive vice head of the SKLEG, winner of the Distinguished Youth Project, winner of “A Hundred Talent Plan” of the CAS, winner of the Guizhou Youth Prize for Science and Technology, and winner of the Fang Shuquan Prize of the CAS.



冯新斌: 博士、研究员、博士生导师, 环境地球化学国家重点实验室副主任, 中国科学院“百人计划”入选者, 曾获“中国首届环境科技奖”和“中国矿物岩石地球化学学会侯德封奖”。

FENG Xinbin: PhD, research professor, supervisor for PhD students, vice head of the SKLEG, winner of “A Hundred Talent Plan” of the CAS, winner of the 1st China Environmental Technology Prize and winner of the Hou Defeng Prize of the CSMPG.



李心清: 博士、研究员、博士生导师, 中国科学院“百人计划”入选者。

LI Xinqing: PhD, research professor, supervisor for PhD students, winner of “A Hundred Talent Plan” of the CAS.



黄智龙: 博士、研究员、博士生导师, 矿床地球化学国家重点实验室副主任, 曾获中国矿物岩石地球化学学会侯德封奖。

HUANG Zhilong: PhD, research professor, supervisor for PhD students, vice head of the SKLOG, winner of the Hou Defeng Prize of the CSMPG.



刘再华: 博士、研究员、博士生导师, 国务院特殊津贴获得者, 中国科学院“百人计划”入选者。

LIU Zaihua: PhD, research professor, supervisor for PhD students, winner of the special allowance of the State Council of China, winner of “A Hundred Talent Plan” of the CAS.



陈衍景: 博士、研究员、博士生导师, 国家杰出青年基金获得者, 中国科学院地球化学研究所“百人计划”入选者。

CHEN Yanjing: PhD, research professor, supervisor for PhD students, winner of the Distinguished Youth Project, winner of “A Hundred Talent Plan” of the CAS.



张乾: 研究员、博士生导师, 曾获中国科学院方树泉奖。

ZHANG Qian: research professor, supervisor for PhD students, winner of the Fang Shuquan Prize of the CAS.



张辉：博士、研究员，中国科学院“西部之光”计划入选者。

ZHANG Hui: PhD, research professor, winner of the "Light of the Western" Project of the CAS.



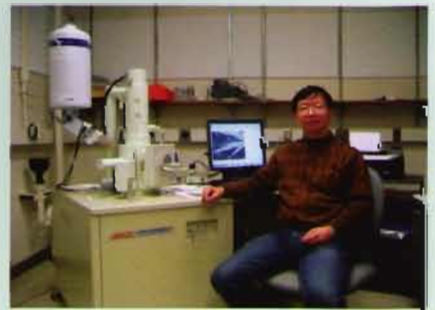
王中良：博士、研究员

WANG Zhongliang: PhD, research professor



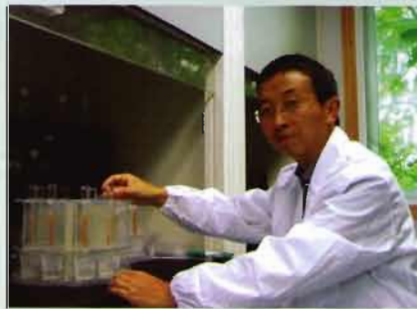
肖化云：博士、研究员

XIAO Huiyun: PhD, research professor



朱建明：博士、研究员

ZHU Jianming: PhD, research professor



张国平：博士、研究员

ZHANG Guoping: PhD, research professor



肖唐付：博士、研究员

XIAO Tangfu: PhD, research professor



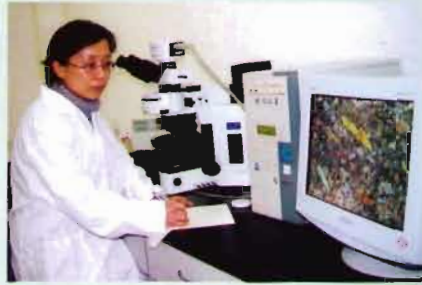
韩贵琳：博士、研究员

HAN Guilin: PhD, research professor



张正伟：博士、研究员

ZHANG Zhengwei: PhD, research professor



毕献武：博士、研究员，矿床地球化学国家重点实验室常务副主任。曾获中国矿物岩石地球化学学会侯德封奖和“全国三八红旗手”称号。中国科学院“西部之光”计划入选者。

BI Xianwu: PhD, research professor, executive vice head of the SKLOGD, winners of the Hou Defeng Prize of the CSMPG, the "red flag standard-bearer of the All-China Women's Federation", and the "Light of the Western" Project of the CAS.



连宾：博士、研究员、博士生导师，中国科学院地球化学研究所环境生物科学与技术中心主任，国务院特殊津贴获得者，中国科学院“百人计划”入选者。

LIAN Bin: PhD, research professor, supervisor for PhD students, winner of the special allowance of the State Council of China, winner of "A Hundred Talent Plan" of the CAS.



宋谢炎：博士、研究员、博士生导师，矿床地球化学国家重点实验室副主任，中国科学院“百人计划”入选者。

SONG Xieyan: PhD, research professor, supervisor for PhD students, vice head of the SKLOGD, winner of "A Hundred Talent Plan" of the CAS.



刘耘：博士、研究员、博士生导师，中国科学院“百人计划”入选者。

LIU Yun: PhD, research professor, supervisor for PhD students, winner of "A Hundred Talent Plan" of the CAS.



钟宏：博士、研究员、博士生导师，矿床地球化学国家重点实验室学术委员会副主任，中国科学院“百人计划”入选者。

ZHONG Hong: PhD, research professor, supervisor for PhD students, vice chairman of the academic committee of the SKLOGD, winner of "A Hundred Talent Plan" of the CAS.



彭建堂：博士、研究员，中国科学院“西部之光”计划入选者。

PENG Jiantang: PhD, research professor, winner of the "Light of the Western" Project of the CAS.



40年来，地球化学研究所取得了累累科研成果硕果，迄至2005年底，已出版论著（或译著）近二百余部，在国内外发表学术论文（含论文集）近万篇，取得科研成果一千余项，荣获三等奖（含三等奖）以上的科技成果奖255项，其中获国家级（自然科学奖、科学技术进步奖、发明奖及和全国科学大会奖50项，中国科学院级138项，其他省、部委级67项。为国民经济、国防建设和国家地球科学事业的发展作出了重要贡献。

The IGCAS has obtained a great deal of research achievements since its foundation in 1966. Up to the end of 2005, about 200 monographs and about 10,000 research articles (including conference proceedings) have been published on both the Chinese and the international journals in the name of the Institute of Geochemistry Chinese Academy of Sciences. Over 1,000 items of research achievements have been obtained. 255 items of prizes in the third class or above classes are obtained. They include 50 items of national level prizes (the National Natural Science Prize, the National Scientific and Technological Progress Prize, the National Scientific and Technological Invention Prize, and the National Scientific Congress Award), 138 items of prizes awarded by the Chinese Academy of Sciences, 67 items of prizes awarded by the provincial and ministerial authorities. The IGCAS has been making great contributions to the construction of national economy and national defense, and the development of the geosciences in China.





中国科学院地球化学研究所 获国家、中科院、省部级三大奖部分代表性奖项

1 国家级科技成果奖

(一). 国家自然科学奖:

1. 中国层控矿床地球化学 (1987) 一等奖
2. 青藏高原隆起及其对自然环境与人类活动影响的综合研究 (1987) 一等奖
3. 中国黄土研究 (1982) 二等奖
4. 华南花岗岩类地球化学 (1982) 二等奖
5. 白云鄂博铌、稀土、铁矿床的矿物学与地球化学综合研究 (1989) 二等奖
6. 黄土与环境 (1991) 二等奖
7. 分散元素矿床与低温矿床成矿作用 (2005) 二等奖
8. 吉林陨石综合研究 (1987) 三等奖

(二). 国家科学技术进步奖:

1. 长江中下游铜硫金银资源重大发现与个旧-大厂锡矿成矿条件、找矿方法及远景 (1987) 特等奖
2. 中国煤成气的开发研究 (1987) 一等奖
3. 找油找气有机地球化学新指标、新方法及其应用 (1985) 二等奖
4. 京津渤区域环境综合研究 (1985) 二等奖
5. 我国金矿成矿模式找矿方向及选矿技术方法研究 (1998) 二等奖

2 中国科学院科技成果奖

(一). 自然科学奖:

1. 天体化学 (1990) 一等奖
2. 成岩成矿低温地球化学 (1999) 一等奖
3. 中国科学院地球化学研究所发现的15种新矿物 (1991) 二等奖
4. 地球深部物质的实验研究 (1999) 二等奖

(二). 科学技术进步奖:

1. 中国富铁矿地质地球化学综合研究 (1980) 一等奖
2. 准葛尔盆地形成演化与油气形成 (1986) 一等奖
3. 地质体中新生物标志化合物研究 (1987) 一等奖
4. 京津地区生态系统特征与污染防治 (1988) 一等奖
5. 海南岛地质与石碌铁矿地球化学 (1988) 二等奖
6. 新疆北部主要矿产成矿规律及找矿方向的研究 (1993) 二等奖

3 省、部、委级科技成果奖

1. 环境质量的地球化学原理 (1991) 一等奖
2. 涂光炽院士获贵州省最高科学技术奖 (2001)
3. 中国新生代火山岩地球化学及其地幔源区特征 (2002) 一等奖
4. 欧阳自远院士获贵州省最高科学技术奖 (2003)
5. 分散元素成矿机制 (2003) 一等奖
6. 喀斯特(乌江)流域—湖泊系统物质的水文地球化学循环及其环境效应 (2004) 一等奖
7. 全新世陆—气系统的物质能量交换与全球变化 (2004) 一等奖
8. 与寻找超大型矿床有关的基础研究 (2005) 一等奖
9. 个旧锡矿深部和外围成矿预测及矿山增储研究 (2005) 一等奖



2001年6月中国科学院院长办公会议讨论通过了《中国科学院地球化学研究所知识创新工程全面推进阶段试点方案》，我所整体进入院知识创新工程试点序列。五年来我所进一步凝练和提升科技创新目标，革新管理体制和运行机制，取得了明显实效，圆满完成预期工作目标，在如下几个方面成绩突出。

一、科研成果丰硕。四年来我所在矿床地球化学、环境地球化学、地球深部物质与流体作用地球化学和月球与行星科学等优势领域取得了一批原始科技创新成果，共获得国家自然科学二等奖1项、贵州省最高科学技术奖2项、省部级科技进步一等奖6项。学术论文数量和质量显著提高，SCI论文从1997-2000年的105篇上升到2001-2004年的289篇。据中国科学院兰州文献情报中心统计，1999-2004年我所单篇论文经费投入在中科院资环局各研究所中最低，论文产出/投入比排名第一。

二、对外竞争能力显著增强。2001-2005年间我所在国家基金委地球化学学科组争取的面上基金项目总数占全国的16%，在全国高校和地学研究单位名列前茅，体现了我所在地球化学研究领域的整体优势。环境地球化学国家重点实验室和中国科学院矿床地球化学重点实验室均以优良成绩通过2005年的国家评估，矿床地球化学重点实验室已被批准为国家重点实验室，从而使我所成为中国科学院少数拥有2个国家重点实验室的研究所之一。试点二期期间，我所承担了较多国家重大科研项目，主要包括国家973项目4项（主持1项，参加3项）、国家攀登计划项目3项（主持2项，参加1项）、国家自然科学基金重大项目2项（主持1项，参加1项）。

三、具有高水平的实验技术平台和较强的仪器自主研发能力。为提高科技创新能力和可持续发展能力，近五年来我所先后购置了价值3000多万元的现代大型分析仪器，目前已建成接近世界一流水平的实验技术平台，且自成体系。更为重要的是，我所具有较强的实验设备研制与开发能力，自行设计为主建成了很具特色的构造地球化学、实验地球化学、表生地球化学和生物地球化学等实验室，我所开发的多种微量元素和同位素分析测试新方法被同行广泛应用。

四、人才队伍建设稳步发展。我所地处西部不发达地区，通过积极努力，在无区位优势的情况下人才队伍建设取得显著成效。五年来，通过不同渠道引进具有博士学位人员40多人，其中从美国、日本、英国、加拿大等发达国家引进13人，已形成一支学位层次高、知识和年龄结构合理的科技创新队伍。创新基地人员中60%以上具有博士学位，5人先后获得国家杰出青年科学基金资助，2人分别担任国家“973”项目和国家攀登计划项目首席科学家，10人入选中国科学院“百人计划”。与此同时，我所流动人员队伍建设实现了飞跃发展。在学研究生人数从2000年的113人增加到目前的280多人，2004年我所首次招收了国外博士留学生，2005年我所首次招收了国外博士后。

五、体制机制改革取得新突破。五年来，我所进行了大力度的用人制度、分配制度、资源配置制度、考核和奖励制度的改革，使创新资源不断向创新能力强、创新效率高的方向富集，形成了竞争向上、协同发展的良好局面。2004年我所直接聘用物业管理公司负责工作区管理，实现了后勤服务社会化。我所顺利完成了两个所属公司的转制工作。

六、创新文化建设成效显著。通过五年来的创新文化建设，我所营造了良好的创新文化氛围和价值取向。尊重知识、尊重人才、鼓励创新已成共识；“在西南实现人生价值，成就事业”成为许多年青人的价值理念；依法治所、以德治所深入人心；“求真、奉献、协力、创新”的所风已基本形成。我所在创新文化建设方面取得的突出成绩得到了中国科学院和昆明分院的充分肯定，在2002年的评估中，我所创新文化建设取得了全院并列第三的好成绩。

当前，中国科学院地球化学研究所正以稳健、自信的脚步迈向知识创新工程新的征程！





In June 2001, the executive meeting of the presidents of the Chinese Academy of Sciences (CAS) had discussed and approved "the pilot plan proposed for the second stage (fully advancement stage) of the Knowledge-Innovation Projects of the



涂光炽院士获贵州省最高科学技术奖

IGCAS". Thus the IGCAS fully entered into the Knowledge-Innovation Projects system of the CAS. In recent five years, the goal of the science and technology innovation of the IGCAS has further been condensed and advanced, and the administration system and the operation mechanism have been reformed or improved. Thus, obvious good practical results have been obtained, the work plan has been properly completed, and the desired goals have been achieved with some outstanding results in following aspects.

a) Plentiful research achievements

The IGCAS has obtained a series of original scientific and technological innovation achievements in the superior fields of the environmental geochemistry, the ore deposit



欧阳自远院士获贵州省最高科学技术奖

geochemistry, the Earth's interior and geofluids geochemistry, and the Luna and planetary science, including 1 item of the second class prize of the National Natural Science Award, 2 items of the highest Scientific and Technological Award of Guizhou Province, 6 items of the first class prize awarded by various provincial or ministerial authorities. Both the quality and quantity of research articles are obviously improved and

increased. The number of SCI articles is increased from 105 for the period of 1997-2000 to 289 for the period of 2001-2004. According to the statistics by the Scientific Information Center for Resource and Environment of the CAS, the average investment on a single article produced in the period of 1999-2004 by the IGCAS is lower than those by other institutes under the administration of the Bureau of Science and Technology for Resource and Environment of the Chinese Academy of Sciences, with the highest ratio of the production/investment.

b) The obviously strengthened competition capability

In the period of the 2001 - 2005, The IGCAS has obtained about 16% of funds in numbers within the Geochemistry Group, Department of Earth



实验室评估

Sciences, the National Natural Science Foundation of China (NSFC). The numbers of funds obtained is ranked in the top group of parties for the Earth Science in China. This has shown that the IGCAS has overall superiority in the field of geochemistry in China. The State Key Laboratory of Environmental Geochemistry (SKLEG) and the Key Laboratory of Ore Deposit Geochemistry Chinese Academy of Sciences (KLOGDCAS) have successfully passed the review by the Ministry of Science and Technology of China in 2005 with good scores. The KLOGDCAS has been approved to construct the State Key Laboratory of Ore Deposit Geochemistry. Therefore, the IGCAS has become one of a few institutes who own two state key laboratories within the CAS. In the second stage of the knowledge innovation pilot plan, the IGCAS has undertaken many key and important scientific research projects, mainly including 4 items of the State "973" Project (1 in leading role, 3 in assisting role), 3 items of the State Climbing Project (2 in leading role, 1 in assisting role), 2 items of the Special Funds of the National Natural Science Foundation of China (1 in leading role, 1 in assisting role).



c) Relatively high level experimental & technological platform and strong self design and develop device capability

In order to strengthen the scientific and technological innovation capability and the



sustainable development capability of the IGCAS, a large number of modern analytical instruments worth value of about 30 million RMB have been purchased in recent five years. An experimental and technological platform, which is close to the world advanced level, has been established in the IGCAS with its own style system. Especially, The IGCAS has relatively strong capability for designing and developing some special experimental devices for studying the tectonic geochemistry, the experimental geochemistry, and the supergene geochemistry respectively. The new analytical method developed by researchers of the IGCAS for analyzing many kinds of trace elements and isotopes has been widely applied in the world.

d) Gradual development of the talent team construction

As the IGCAS is located in the undeveloped western China, there is no location superiority for attracting talents. However, the IGCAS has obtained remarkable success on the talent team construction through its positive effort. In recent five years, over 40 PhD degree holders (including 13 PhD degree holders from USA, Japan, UK, and Canada, etc.) have been attracted back to the IGCAS in various ways. Therefore, a scientific and technological innovation team with high level of degree structure and rational ratios of knowledge and age structure has been constructed in the IGCAS. Over 60% of the personnel within the innovation base hold PhD degrees. There are 5 persons who won the support of the "Outstanding Youth Project" of the NSFC, 2 persons were the chief scientists for the "State 973 Project" and the "State Climbing Project" respectively, 10 winners of the "One Hundred Talent Plan" of the CAS. In the meantime, the floating personnel team construction also is developing by leaps and bounds. The numbers of enrolled graduate students

are increased from 113 in 2000 to over 280 in 2005. The first foreign PhD student of the IGCAS was enrolled in 2004. The first foreign post-doctoral research fellow of the IGCAS was arrived and registered in 2005.

e) New breakthrough on the mechanism and system reform

In recent five years, lots of systems on human resources, salary distribution, resources distribution, review and reward etc. have been reformed in large extent, in order to gradually concentrate innovation resources to the part with strong innovation capability and high innovation effectiveness, and to form a good prospect of upward competition and coordinative development. In 2004, the IGCAS directly hired a property administration company in charge of the daily administration of the working area, and thus made its logistic service socialization.



In addition, 2 companies of the IGCAS have been transformed smoothly.

f) Remarkable achievement on the construction of innovation culture

Through the construction of innovation culture in five years, a good environment of innovation culture and view of value have been formed in the IGCAS. Respecting knowledge, respecting talent and encouraging innovation are commonly recognized. "To practice life value and accomplish dedication in the western China" has become the view of life value of many young talents. The concept of administrating the IGCAS under laws and good moral integrity is deeply recognized. The common practice of "seeking truth, dedication, cooperative, and innovation" has basically been established in the IGCAS. Due to the outstanding work on the construction of innovation culture, which was appreciated by the Kunming Branch of the CAS in 2002, the IGCAS has been ranked as the third position (parataxis) among all institutes of the CAS for the Excellence on the Construction of the Innovation Culture in 2003.

At present, the IGCAS is smoothly, steadily, and confidently moving forward to the new stage of the Knowledge-Innovation Project.



地球化学研究所围绕学科优势，先后与世界上40多个国家和地区的大学与研究机构开展了科技学术交流与合作，共派出630余人次的专家学者到世界上先进的实验室学习和合作，邀请了520余人次国外的专家学者来我所访问和工作。主要合作国家包括：美国、加拿大、日本、英国、俄罗斯、南非、比利时等，并主办了“地质环境与社会经济发展国际学术讨论会”和“低温成矿作用国际学术讨论会”等国际会议。



The IGCAS has developed a wide international academic communication and cooperation with many universities and research institutions in over 40 countries and regions based on its excellent researches. Up to end of 2005, more than 630 person-times were sent to advanced laboratories overseas for training, cooperation, and academic communication. About 520 foreign scientists were invited to visit the IGCAS for research collaboration or lecturing. The cooperative counterparts are mainly from USA, Canada, Japan, United Kingdom, Russia, South Africa and Belgium. In recent years, the IGCAS has successful held two international conferences in Guiyang in names of "An International Conference on Geo-environmental Management and Socio-economic Development" and "An International Symposium on Low-temperature Metallogenesis" respectively.



1981年，国务院副总理、中科院院长方毅在贵州省副省长刘玉林陪同下视察地化所工作。

In 1981, Fang Yi, Vice Premier of the State Council and director of the Chinese Academy of Sciences was inspecting the Institute of Geochemistry, accompanied by Liu Yulin, Vice Governor of Guizhou Province.



1986年，全国政协副主席、原中国科学院院长卢嘉锡视察地化所时，对广大科技人员在条件艰苦的贵州为国家的矿产资源开发和环境保护作出突出的贡献表示满意。

In 1986, Academician Lu Jiashi (center), Vice Chairman of the Chinese People's Political Consultative Conference and the former president of the CAS expressed his satisfaction with the outcomes made by the scientific and technological personnel of the IGCAS in mineral resources development and environmental protection under tough living conditions in the remote area of Guizhou Province on his trip to the IGCAS.



1992年，全国人大常委会副委员长、中国科学院院长周光召（左2）视察地化所，听取所长欧阳自远院士（右2）、党委书记李加田（右1）汇报工作。

In 1992, Academician Zhou Guangzhao (second from left), Vice Chairman of the Standing Committee of the National People's Congress and the president of the CAS, was listening work report by Director Ouyang Ziyuan (second from right) and Party Committee Secretary Li Jiatian (first from right) on his trip to the IGCAS.



1993年，国务委员、国家科委主任宋健到贵州视察工作时，专程到地化所看望全所科技人员(图中左2为贵州省副省长龚贤永)。

In 1993, Song Jian, state councillor and chairman of the State Commission of Science and Technology made a special trip to the Institute of Geochemistry to call on the scientific and technical personnel during his inspection tour of Guizhou Province (the second from the left is the Vice Governor of Guizhou Province, Gong Xianyong).



2004年4月，全国人大常委会副委员长、中国科学院院长路甬祥（右）来所视察并与涂光焮院士（左）亲切交谈。

In April 2004, Academician Lu Yongxiang, Vice Chairman of the Standing Committee of the National People's Congress and the president of the CAS, visited the IGCAS, and kindly talked with Academician Tu Guangchi (left).



2004年6月，国务委员陈至立（左二）在贵州省省委书记钱运录（左三）和省长石秀涛（左一）陪同下视察我所。

In June 2004, Chen Zhili, state councillor (second from left), accompanied by Qian Yunlu, Secretary of the Communist Party Committee of Guizhou Province, and Shi Xiushi, Governor of Guizhou Province, visited the IGCAS.



领导关怀



1986年5月，中国科学院副院长孙鸿烈（右）听取我所科研人员的工作汇报。
In May 1986, Academician Sun Honglie (right), vice president of the CAS, was listening work report given by a researcher of the IGCAS.



中国科学院副院长徐冠华（右）听取我所科研人员介绍实验工作情况
Academician Xu Guanhua (right), vice president of the CAS, was listening the introduction of experiments given by a researcher of the IGCAS



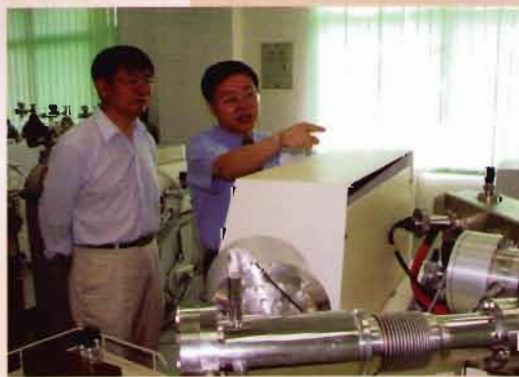
2002年6月，中国科学院副院长陈宜瑜（左）来所视察。
In June 2002, Academician Chen Yiyu (left), vice president of the CAS, visited the IGCAS.



2004年，国家气象局局长秦大河（左）来所考察。
In 2004, Academician Qin Dahe (left), Administrator of the China Meteorological Administration, visited the IGCAS.



2004年3月，中国科学院副院长施尔畏（左一）来所检查基建工作。
In March 2004, Shi Erwei, vice president of the CAS, visited the IGCAS for inspecting capital construction.



2004年5月，中国科学院副院长李家洋（左）来所调研时，参观实验室。
In May 2004, Academician LI Jiayang (left), vice president of the CAS, visited laboratory of the IGCAS.



2005年3月，中国科学院常务副院长白春礼（中）来所调研时，参观实验室。

In March 2005, Academician Bai Chunli (center), executive vice president of the CAS, visited laboratory of the IGCAS.



2005年7月，中国科学院党组副书记方新来所考核领导班子。

In July 2005, Fang Xin, Deputy secretary of the Party Leadership Group of the CAS visited the IGCAS for reviewing the leaders' team of the IGCAS.



2005年11月，中国科学院副院长陈竺（前中）来所对创新工程进行评估。

In November 2005, Academician Chen Zhu (center), vice president of the CAS visited IGCAS for reviewing the work progress of the IGCAS in second stage of the Knowledge Innovation Project.



1995年5月，贵州省省长陈士能（右一）参观我所实验室。

In May 1995, Chen Shineng (right), Governor of Guizhou Province, visited laboratory of the IGCAS.



2002年5月20日，贵州省省委书记钱运录（中）参观我所“全国科技活动周”的科普展览。

Mr. Qian Yunlu (center), the Secretary of the Chinese Communist Party Committee of Guizhou Province, visited the Institute of Geochemistry on 20 May 2002 for the Exhibition of Popular Sciences of "National Week of Science and Technology".



2004年6月，贵州省省长石秀诗（左一）来所调研时，签名留念。

In June 2004, Shi Xiushi, Governor of Guizhou Province (first from left), visited the IGCAS with inscription.



中国矿物岩石地球化学学会是挂靠在地球化学研究所的学术团体，是中国科协的成员之一。其宗旨是：提倡辩证唯物主义和历史唯物主义，坚持实事求是的科学态度和优良学风；弘扬“尊重知识、尊重人才”的风尚，积极倡导“献身、创新、求实、协作”的精神；坚持科学技术是第一生产力的思想，实施“科教兴国”和“可持续发展”战略；加强我国矿物岩石地球化学界的团结和国际合作，提倡和推广现代科学的某些新理论、新技术在矿物学、岩石学和地球化学研究中的应用；组织学术交流，推动科学研究，提高科技人员的业务水平，开拓新的研究领域，发展边缘学科，促进出成果出人才；充分发挥学会在学科发展中的组织、协调和导向作用；积极普及科学知识，崇尚科学精神，提倡和推广科学方法；促进学科的繁荣和发展，为国民经济建设和科学技术现代化服务。中国矿物岩石地球化学学会秘书处负责编辑出版《矿物岩石地球化学通报》季刊。

学会成立于1978年10月，目前有会员6000余名；专业委员会22个、工作委员会3个，每年开展学术活动和科普活动近10次。1981年代表中国加入国际矿物协会和国际宇宙化学和地球化学协会，是两组织的国家会员。

现任理事会主要成员：

名誉理事长：涂光炽 欧阳自远

理事长：刘丛强

副理事长（以姓氏笔画为序）：

丁仲礼 王成善 叶大年 安芷生 陈 骏

张彦英 林学钰 郑永飞 胡瑞忠 夏 斌

贾承造

秘书长：胡瑞忠（兼）





The Chinese Society for Mineralogy, Petrology and Geochemistry (CSMPG) is an academic party affiliated to the IGCAS, and one of members of the China Association for Science and Technology. Its tenet is to advocate the dialectical materialism and historical materialism, to keep the practical and realistic scientific attitudes and excellent learning styles, to promote the prevailing custom of "respecting knowledge, respecting professionals"; to actively inspire the spirit of "self-devotion, creativity, pursuing for reality, and collaboration"; to insist on the idea of "the



science and technology is the No.1 productive forces"; to implement the strategy of "Science and Education Flourishing the Nation" and "Sustainable Development"; to strengthen the unity of the Chinese research groups in the field of mineralogy, petrology and geochemistry and the cooperation with international research groups; to advocate and spread the application of some new theories and technologies of modern sciences for studying mineralogy, petrology and geochemistry; to organize academic communication for promoting the scientific study and improving the research capabilities; to exploit new study fields and develop marginal subjects for producing achievements and professionals; to highly exert the organizing, harmonizing and conduct role of

the CSMPG for the development of academic subjects; to actively popularize the scientific



knowledge, uphold the scientific spirit, advocate and spread the scientific approaches; to drive the boom and development of academic subjects; and to serve for the construction of national economy and modernization of science and technology in China. The secretariat of the CSMPG is responsible for publishing the quarterly journal "Bulletin of Mineralogy, Petrology and Geochemistry".

The CSMPG was established in October 1978, with over 6,000 members at the end of 2005. It consists of 22 specialty committees and 3 executive committees. The CSMPG annually holds around 10 times of academic activities and science popularization activities. It joined as national members on behalf of China to the International Association of Mineralogy and the International Association of Cosmochemistry and Geochemistry respectively in 1981.

Main members of current council

Honorary President: Tu Guangchi, Ouyang Ziyuan

President: Liu Congqiang

Vice Presidents:

An Zhisheng Chen Jun Ding Zhongli Hu Ruizhong

Jia Chengzao Lin Xueyu Wang Chengshan Xia Bin

Ye Danian Zhang Yanying Zheng Yongfei

Secretary-general: Hu Ruizhong



地球化学所拥有当前国际一流的研究设备，包括高分辨等离子质谱仪、多道能谱、多通道等离子质谱仪、稀有气体同位素质谱仪、高分辨分析电镜、电子探针、扫描电镜、激光拉曼探针、X光衍射仪、X-荧光光谱仪、气相色谱仪、热电离固体质谱仪、气体同位素质谱仪、原子吸收光谱仪等。基本可以保证地球化学研究所工作的需要。

There are a number of world-level advanced laboratory equipments in the IGCAS. They include high resolution Inductively Coupled Plasma Mass Spectrometry (ICP-MS), Multi-channel Energy Spectroscopy, Multi-collection Inductively Coupled Plasma Mass Spectrometry (MC-ICP-MS), Nobel Gas Isotope Mass Spectrometry, high resolution Transmitted Electron Microscope (TEM), Electron Probe Microanalyzer (EPMA), Scanning Electron Microscope (SEM), Laser Raman Spectrometry (LRS), X-ray Diffractometer (XRD), X-ray Fluorescence Spectrometry (XRF), Thermal Ionisation Multicollector Mass Spectrometry (TIMS), Gas Isotope Mass Spectrometry, Atomic Absorption Spectroscopy (AAS), etc. All these equipments can basically meet the research requirements of the IGCAS.

MAT252气体同位素质谱仪
MAT252 Gas Isotope Mass Spectrometer



HP-6890 气相色谱仪 HP 1100 液相色谱仪
HP-6890 Gas Chromatography HP 1100 Liquid Chromatography

S多道能谱仪
Multichannel Energy Analyzer



NU多通道等离子质谱仪
NU MC-ICP-MS

主要实验设备简介

Brief Introduction of the Laboratory Equipments



电子探针
Electron Probe Microanalyzer



PE5100原子吸收光谱仪
PE5100 Atomic Absorption Spectrometer



X-射线衍射分析仪
X-ray Diffractometer



分析电镜
Analytical Electron Microscope



电感耦合等离子体质谱仪
Inductively Coupled Plasma Mass Spectrometer



稀有气体质谱仪
Noble Gas Mass Spectrometer



名誉所长涂光炽院士题词

The inscription of Academician Tu Guangchi for researchers:

设想要海阔天空，观察要全面细致。
实验要准确可靠，分析要客观周到。
立论要有根有据，推论要适可而止。
结论要留有余地，文字要言简意赅。

我是中国科学院矿床地球化学开放研究
实验室成员之一，谨将此心自勉，并与全室同志共勉。

涂光炽

1993.7.22

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立论要有根有据，推论要适可而止。结论要留有余地，文字要言简意赅。

Assumption should be unrestrained and far-ranging,
Observation should be comprehensive and careful;
Experiment should be accurate and reliable,
Discussion should be objective and thoughtful;
Argument should be based on good grounds,
Inference should not be overdone;
Conclusion should be allowed for unforeseen circumstance,
Expression should be clear and concise.



中国科学院地球化学研究所园区一瞥
Beauty spots of the Institute of Geochemistry,
Chinese Academy of Sciences



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