

中国石油大学（华东）赴美国德克萨斯大学奥斯汀分校 油气前沿国际学术夏令营项目情况

一、项目简介：

德克萨斯大学奥斯汀分校（University of Texas at Austin），简称 UT-Austin），成立于 1883 年，是一级的公共研究机构，占地 350 英亩，有 18 个学院、24000 名教职工和 50000 多名学生。作为美国最大最著名的公立大学之一，德克萨斯大学奥斯汀分校是世界顶尖的公立研究型大学，是北美顶尖大学联盟美国大学协会（AAU）的成员，美国最负盛名的“公立常春藤（Public Ivy）”院校之一。2018 年 US.NEWS 世界大学全球综合排名第 32 名。根据全球科研自然指数排名，UT-Austin 地球科学专业全球排名第四，石油工程专业全球排名第一。奥斯汀（Austin），美国德克萨斯州的首府，也是德州的教育中心。半导体和计算机产业发展较快，被誉为“硅丘”（Silicon Hill）。同时享有“世界现场音乐之都”的美誉。

该国际学术夏令营围绕当代石油焦点问题的专题讲座，邀请世界能源公司顶级专家及高管，展开题为能源地缘政治、能源经济与管理、气候及环境变化战略、能源结构转型等讲座。石油地质学学术课程，UT-Austin 石油地质教授亲自定制并授课，包含可再生能源、非常规能源、石油与天然气工程、地质工程等。同时包含最新科研成果展示与实验室学习、机构企业参观考察等实践模块。呈现给中国石油大学（华东）学生们能源领域世界前沿科技，世界一流的研究方法及石油地质顶尖名校的前沿知识。项目期间，学生将收获在世界一流大学学

习的机会，学习世界一流的石油学科知识、了解世界前沿学术科研成果及方法、体验美式研究生精英教育、亲身感受这所有着灿烂文化和悠久历史的世界顶级学府的魅力，切实领悟到美国西部的文化风情。

二、 项目课程

1. 专题学术项目：

科克蕾尔工程学院石油地质的教授亲自为中国石油大学（华东）定制并亲自课程，课程主题包括 Renewable Energy、Unconventional Oil and Gas Resources、Geological Engineering、The Application of Big Data in the Energy Industry、Energy Economy、Reservoir Engineering、Flaring in Petroleum Systems、Drilling, Well Completions and Rock Mechanics、Hydraulic Fracturing in US 等内容。UT-Austin 选取全球能源发展最受关注和最具潜力的主题，为提升中国石油大学（华东）世界一流学科的建设 and 高端人才培养水平，结合实验教学、应用展示、学术讨论等多种方式，将石油领域学术前沿知识、高效的科研方法和最新的学术研究成果展示给中国学生。

同时，为增加学生对石油工业的了解，开拓学生视野，使学生更深入了解技术转移应用情况，特邀世界能源公司的资深技术专家和高管作为嘉宾进行讲座，讲座内容围绕当代石油焦点问题，涉及石油工业发展现状及前景、能源技术的开发与应用、能源地缘政治、能源经济与管理、气候及环境变化战略、能源结构转型等内容。让学生从石油工业宏观角度学习理解石油产业的机遇与挑战，同时了解到世界各国的石油发展导向和应对方针。使学生们了解到石油工业的迅猛发展

和经济全球化下的人才竞争，以感染学生们时刻保持严谨创新的科研精神和科研信念，以高目标高要求规划自身发展。进一步提升中国石油大学（华东）的石油学科水平和人才竞争力。

2. 综合素质提升项目：

为加强中国学生对学术课程的理解，提升学生们国际化发展能力，为学生们定制了综合素质提升项目。主要目的是通过口语与写作，培养学生们领导主持、参与现代化议题、演讲、建立研究型写作的基本技能，注重培养撰写学术论文时的组织、研究和写作能力，以打破学生们学习国际学术知识时存在的壁垒，帮助学生们撰写国际高水平论文。为增进学生们对美国生活文化的了解和英语口语的实践应用，开设系列机构企业参观考察活动。

精彩课程	文化体验	社交拓展
1.UT 名师亲自定制课程并授课 2.世界能源公司顶级专家特邀讲座 3.全面了解世界一流学术水平 4.了解当代行业焦点问题，深度提高行业认知 5.提升学科学术科研能力 6.提升学术英语水平和美国认知 7.专家团队学业及职业规划指导	1.游览世界现场音乐之都——奥斯汀，及科罗拉多河两岸夜景 2.参观美国国家航空航天局 NASA 3.参观自然科学博物馆 4.约翰逊总统图书馆或 Mayfield Park&邦原山丘 5.州议会大厦、总督官邸 6. Dell 总部或 3M 总部等	1.欢迎仪式 2.与 UT 学生互动, UT 学生助理协助中国学生进行听课、实验及生活等方面。 3.与 UT 名师建立联系，获取更多学术知识及入学申请等帮助。

三、 项目优势

(1) 服务我校“双一流学科”，专业定制学科课程。UT 科克蕾尔工程学院石油与地质学科教授团队亲自为我校学生定制的课程体系与学术内容。

(2) 名校教授、能源专家与世界能源公司高管共同授课。该师资队伍旨在从学术理论、科研实践、技术转移、工业发展、能源经济等方面加深学生对学科前沿的认知，提高学生学术能力和国际竞争力。

(3) 课程主题选取当代石油焦点问题，提升学生行业深度认知。结合石油行业发展现状，选择当代最具意义、最有研讨价值的主题定制授课内容，全面提升学生的国际视野和行业深度认知。

(4) 多样性授课方式，增加学生学习理解和实践科研能力。授课方式采用集讲授、演示、互动、小组讨论、实验室科研、主题报告等多样性的方式授课，帮助学生掌握课程内容，增强学习实践能力。

(5) 深度体验美国文化及名校氛围，拓展学生国际视野。学生项目期间食宿在 UT 宿舍，有机会结识全球学习伙伴，使学生感受名校学习氛围。课余时间有丰富的课外活动，UT 带领学生实地考察，了解美国政治、文化、艺术等人文特色，使学生感受当地独特的文化气息。

(6) UT 专家团队亲授指导学业规划，增加学生深造录取机会。由 UT 资深的招生专家团队亲自指导学生个人规划发展，同时，项目学生可获得官方出具的证书及成绩单，表现优异可获得教授、专家或企业高管的推荐，增加学生深造录取机会。

(7) 其他亮点。德克萨斯大学奥斯汀分校出具的官方邀请函；德克萨斯大学奥斯汀分校出具的官方结业证书；德克萨斯大学奥斯汀分校出具的官方成绩单；每位学生直接入住 UT 学生宿舍，享受宿舍

设施及休息室、自习室。可自由使用学校软硬件设施，如图书馆、机房等。

四、 项目费用

招生对象：中国石油大学（华东）在校研究生及高年级本科生

项目时间：7月14日—8月14日，4周

报名人数：20人

项目费用：UT费用一费制，4500美金，约人民币28000元/人

费用包含：课程费（包含核心课程和特邀嘉宾讲座）、材料费、住宿费（UT学生宿舍）、餐饮费（全部三餐）、机构及企业考察费用、交通费等各项费用。

不包含：往返机票、签证、保险和个人消费。（机票、签证、保险统一办理，费用实收，约人民币10000元左右；个人消费视自身情况而定）

五、 示例课表及部分教授介绍

Week 1			
	AM		PM
Saturday	Arrival Airport Pickup	Lunch 12PM-2PM	City Tour Dinner County Line on the Lake
Sunday	Oral Communication 9AM-10:15AM		Placement testing ESL Classrooms 2PM-5PM
	Academic Writing 10:30AM-11:45AM		
Monday	Renewable Energy 9AM-12AM		Renewable Energy 2PM-5PM
Tuesday	Reservoir engineering 9AM-12AM		Reservoir engineering 2PM-5PM
Wednesday	Unconventional oil and gas resources 9AM-12AM		Unconventional oil and gas resources 2PM-5PM
Thursday	Geological Engineering 9AM-12AM		Geological Engineering 2PM-5PM
Friday	Special Lecture 9AM-12AM		Oral Communication 2PM-3:15PM
		Academic Writing 3:30PM-4:45PM	

**Carey W. King**

Assistant Director, Energy Institute
Research Scientist, Jackson School of Geosciences
Lecturer, McCombs School of Business

EDUCATION:

Ph.D., Mechanical Engineering, 2004, University of Texas at Austin, Austin, TX
B.S. with High Honors, Mechanical Engineering, 1997, University of Texas at Austin, Austin, TX

Dr. Carey W King performs interdisciplinary research related to how energy systems interact within the economy and environment as well as how our policy and social systems can make decisions and tradeoffs among these often competing factors. The past performance of our energy systems is no guarantee of future returns, yet we must understand the development of past energy systems. Carey's research goals center on rigorous interpretations of the past to determine the most probable future energy pathways.

Carey is Research Scientist and Assistant Director at the Energy Institute at The University of Texas at Austin and with the Center for International Energy and Environmental Policy within the Jackson School of Geosciences. He has both a B.S. with high honors and Ph.D. in Mechanical Engineering from the University of Texas at Austin. He has published technical articles in the academic journals *Environmental Science and Technology*, *Environmental Research Letters*, *Nature Geoscience*, *Energy Policy*, *Sustainability*, and *Ecology and Society*. He has also written commentary for *Earth* magazine discussing energy, water, and economic interactions. Dr. King has multiple patents as former Director for Scientific Research of Uni-Pixel Displays, Inc.

<http://www.jsg.utexas.edu/careyking/>



VINCENT M. TORRES

Associate Director

Center for Energy and Environmental Resources

Cockrell School of Engineering

Research interests and expertise include energy and fluid systems design, analysis and project management. Other expertise includes measurement of emissions from industrial flares, indoor and outdoor air quality measurements and assessments, and development of specifications for remediation of microbial contamination especially identification of sources and control of indoor air pollution and its relationship to HVAC systems.

Mr. Torres has provided consulting services or conducted research projects for various state agencies, industrial firms, electric utilities, municipalities, US District Court and school districts in the areas of air quality, performance of industrial flares, energy analysis of industrial processes, technical and economic analysis of dielectric heating for industrial processes, market analysis of electro-technologies, assessment of indoor air quality in schools and commercial buildings and its relationship to HVAC systems, development of remediation plans for microbial contamination in schools, homes and commercial buildings, and project management for the establishment and operation of continuous air quality monitoring stations throughout Texas. Has also conducted microbial contamination remediation training of physical plant personnel at The University of Texas at Austin.

http://dept.ceer.utexas.edu/ceer/vincent_torres.html

Michael Pyrcz Associate Professor

Research Areas: Integrated Reservoir Characterization; Unconventional Resources; Petrophysics and pore-scale processes; Geologic Carbon Storage;

Educational Qualifications:

B.Sc. Engineering (Class Rank #1), Mining Engineering, School of Mining and Petroleum Engineering, University of Alberta, Canada

Ph.D. Engineering, Geostatistical Reservoir Modeling, University of Alberta, Canada

Research:

My current research focusses on improving reservoir characterization and modeling for enhanced development planning, minimized environmental impact, stronger profitability and better utilization of valuable natural resources.

My students and I work on reservoir modeling related problems of improved integration of geological concepts, modeling for unconventional plays, improved data integration, multiscale and multivariate modeling, machine learning, and optimal decision-making in the presence of uncertainty.

Awards & Honors:

Association of Professional Engineers and Geoscientists of Alberta (APEGA) Gold Medal for B.Sc. Class Rank #1, 2000

National Science and Engineering Research Council of Canada (NSERC), Post Graduate Scholarships (PGS) A and B, 2000-2004.

Best Heavy Oil Paper, Canadian Society of Petroleum Geologists, Canadian Heavy Oil Association, 2004.

Outstanding Technical Editor, Society of Petroleum Engineers, Reservoir Evaluation & Engineering Journal, 2008.

American Association of Petroleum Geologists, A.I. Levorsen Award for Best Paper Pacific Section, Ventura, California, for paper "Allocyclicity of Sediment Volume and Composition Provide the Basis for a Predictive Model of Turbidite Channel Architectures", T. Mc Hargue J. Clark, M. Sullivan, M. Pyrcz, A. Fildani, M. Levy, H. Posamentier, B. W. Romans, and J. A. Covault,

Geological Society of London, Reservoir Modeling Conference at University of Aberdeen, Invited Keynote Speaker, Talk "When Reservoir Models Become Unfit for Purpose", 2015

International Association of Mathematical Geoscientists Council Nominee, 2016

Geostatistical Congress 2016 Scientific Committee, 2016

Associate Editor, Computers and Geosciences, International Association of Mathematical Geosciences, 2017

Professional Engineer Alberta, Canada, current

<https://www.pge.utexas.edu/facultystaff/profiles/pyrcz>

Matthew Balhoff Associate Professor
Frank W. Jessen Centennial Fellowship in Petroleum Engineering

Educational Qualifications:

B.S., Chemical Engineering, Louisiana State University, 2000

Ph.D., Chemical Engineering, Louisiana State University, 2005

Research Areas: Chemical EOR, Geological CO₂ Storage, Reservoir Simulation

Research:

The overall goal of my research is to model, understand, and validate fundamental flow and transport behavior of subsurface fluids with applications to hydrocarbon recovery, carbon sequestration, groundwater remediation, and nuclear waste storage. I perform my research using advanced mathematical and computational tools (pore-scale models and reservoir simulation), but I also conduct experiments. I categorize the goals of my research into four specific areas: (1) Develop unique methods to simulate multiscale flow and transport processes in subsurface media, (2) Predict and quantify nonlinear flow behavior in porous media at the pore scale, (3) Model, characterize, and validate non-Newtonian fluid flow in hydrocarbon recovery processes, and (4) Discover breakthroughs in recovering unconventional hydrocarbons. My expertise is in pore-scale modeling, multiscale modeling, reservoir simulation, and enhanced oil recovery.

Awards & Honors:

SPE Distinguished Member Award, 2017

SPE Young Member Outstanding Service Award, 2014

Regents' Outstanding Teaching Award for Assistant Professor, 2013

Society of Petroleum Engineers (SPE) International Teaching Fellow Award, 2012

ASEE Gulf Coast Southwest Outstanding Young Faculty Award, 2011

Recognized by Mortar Board Honor Society as a "preferred professor" at University-wide reception, 2010

PGE Departmental Teaching Award, 2009

<https://www.pge.utexas.edu/facultystaff/profiles/balhoff>



Masa Prodanovic Associate Professor
Chevron Centennial Teaching Fellow in Petroleum
Engineering

EDUCATION:

Ph.D., Computational Applied Mathematics and Statistics, State
University of New York at Stony Brook, 2005

Research Areas:

Fundamental Processes; Integrated Reservoir
Characterization; Nanoparticle Engineering for
Subsurface Processes; Unconventional Resources

Maša Prodanović holds a bachelor of science in applied mathematics from the University of Zagreb, Croatia and a PhD in computational applied mathematics from Stony Brook University, New York. She had held a Research Associate position, as well as prestigious J.T. Oden Postdoctoral Fellowship prior to her current post. Prodanović's research interests include multiphase flow and image-based porous media characterization especially applied to heterogeneous media, level set method, ferrohydrodynamics, sediment mechanics/fracturing and unconventional resources. View her digital rocks portal to see this research in action. She taught and organized successful Short Courses on Image Analysis and Related Modeling in July 2011, May 2013 and May 2014.

Awards & Honors:

Chevron Centennial Teaching Fellow in Petroleum Engineering, September 2015

SPE Faculty Innovative Teaching Award, 2014.

InterPore Procter & Gamble Award for Porous Media Research, 2014.

NSF CAREER Award (NSF Directorate of Earth Sciences), February 2013.

Pioneer Corporation Faculty Fellowship in Petroleum Engineering, September 2012.

Summer Research Assignment 2011 Award for tenure-track faculty, University of Texas at Austin.

SPE Annual Technical Conference 2009 and Exhibition Outstanding Young Professional Paper.

<https://www.pge.utexas.edu/facultystaff/profiles/prodanovic>