BEYOND 超越

建筑 ARCHITECTURE / 艺术 ART / 人文 CULTURE 002

香港科讯国际出版有限公司 策划　唐艺设计资讯集团有限公司 编著

Burj Khalifa
Shreepati Skies
Bangkok Central Embassy
New Holmenkollen Ski Jump Stadium
Rotterdam City Tower
Poland Zlota 44 Apartment
Tirani Station Towers
The Todr Signal Tower
Guangzhou International Finance Center
The Financial Tower in Ho Chi Minh City, Vietnam

超越 国际顶级建筑

BEYOND INTERNATIONAL TOP LEVEL BUILDINGS

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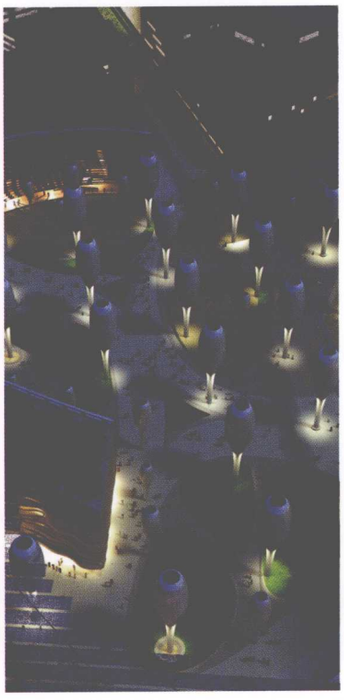
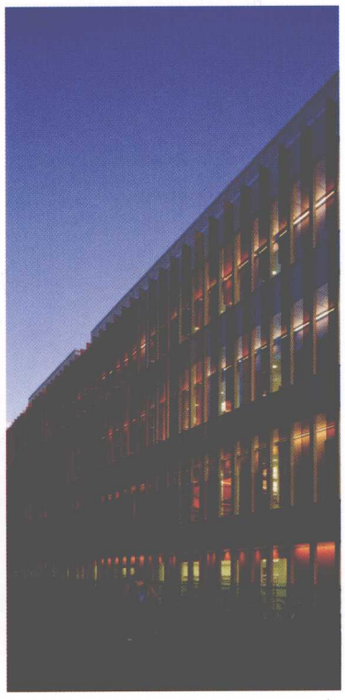
The magazine BEYOND is an architectural design bimonthly published by Tang Art Design & Information Group Limited, reflecting the top trends of architectural design globally. Under the transmission concept of "Architecture, Art and Culture", the magazine also owns a compiling idea of compatible and open with a global vision, and pays high attention to human, nature and cultures.

《超越》是香港科讯国际出版有限公司策划出版的大型建筑设计类图书，是全球最高端的反映建筑设计趋势的读物。我们以"建筑、艺术、人文"为传播理念，具有全球化的视野、兼容开放的经营理念和人文自然关怀的宗旨。作为高端建筑设计读物，我们关心的不仅仅是设计本身，还包括项目的历史背景、地理文化、商业环境等，力求做到商业与艺术的完美结合。





The magazine is now sincerely inviting contributions in and broad, in order to promote industrial communications, reflect the design trends of architecture in time, extend the fresh and fashionable design proposals and successful cases for designers and further reinforces the interchanges between Chinese and International excellent masters in architecture that can smoothen the access for Chinese architects to communicate with the whole world and help them to step into an international stage. The columns of the magazine are Subject, Creative Building, Green Building, Intelligent Building, Experiment Architecture, City Planning, Interview （dialogue）, New Vanguards, Thoughts, Observation, and Information.

BEYOND 超越
INTERNATIONAL 2010

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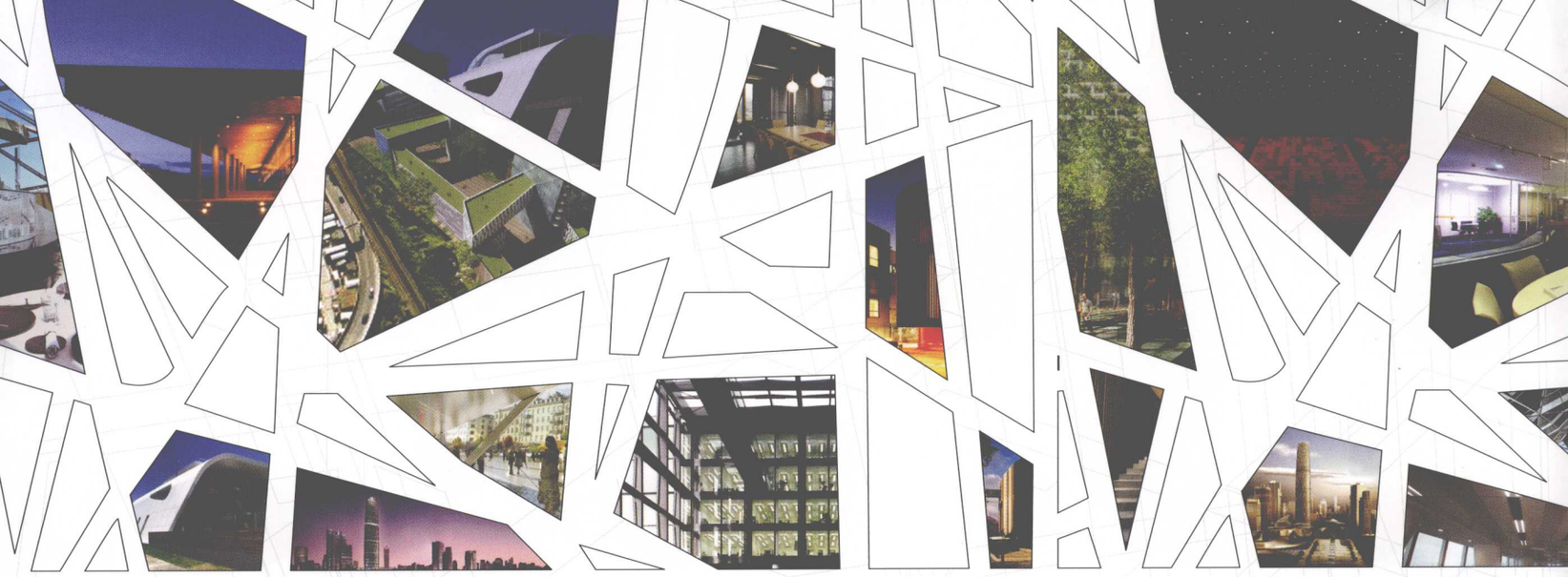

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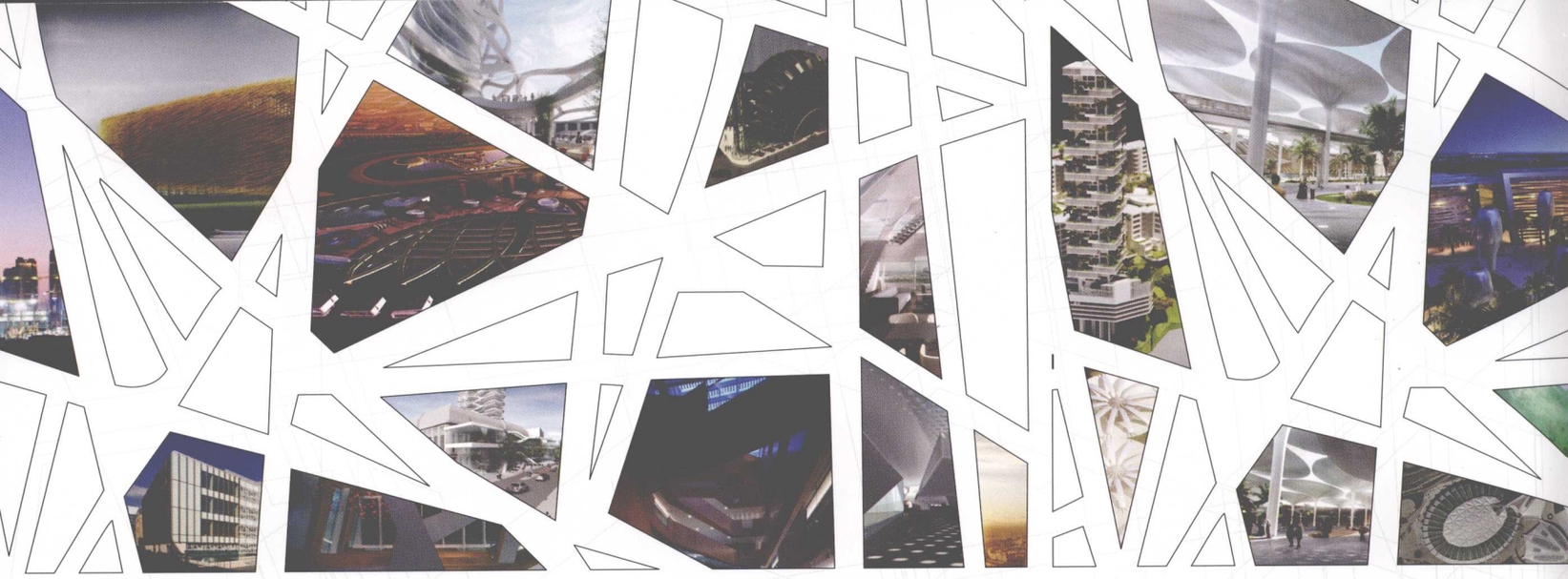

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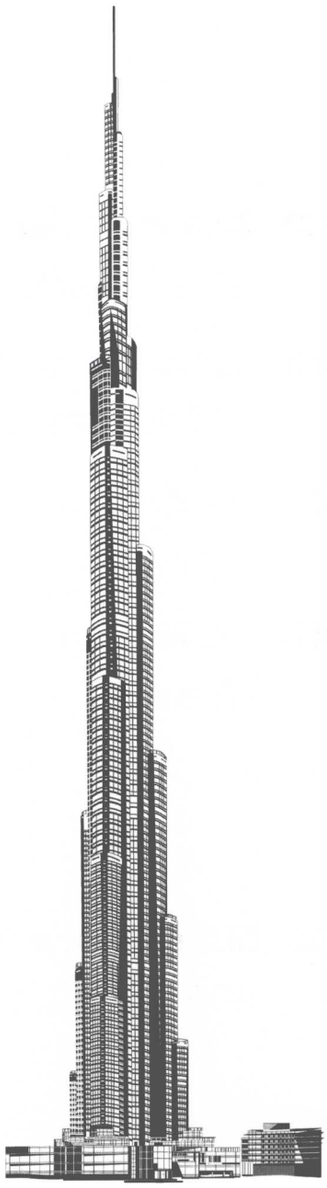
卷首语 Preface

撰文/翻译 贺秋玲

全球新地标

奇迹般的全球第一高楼哈利法塔令万众瞩目，毫无疑问地成为迪拜、中东地区乃至全球的地标性建筑。什么样的建筑才能成为区域甚至全世界的地标？地标建筑作为城市中的建筑主角，除了外形具有创新性外，在功能上也具有超前性和包容性，其硬件设施先进且经得起时间的考验，软件服务品质能赢得人们的青睐，更重要的是它作为区域核心的地位和对整个区域经济的带动作用。地标建筑承载的不仅是其建筑本身的文化内涵，还包括城市的历史文脉。无论是单体建筑还是建筑群落都可以成为地标性建筑。

随着现代社会文化、科技的发展日新月异，地标建筑的意义也不断被刷新，而与时代发展期相匹配的新地标建筑也在不断涌现，让我们来聚焦全球范围内新兴城市和经济发展新热点的新地标，关注胡志明市如莲花绽放的金融中心、自由奔放的鹿特丹城市之塔、融入地方建筑特色的印度“女郎”、结合现代数字技术的曼谷中央大使馆、巴黎释放舒缓元素的拉芳德斯信号塔等等，一齐领略全球新地标的无穷魅力。



Global New Landmarks

The marvelous Burj Khalifa, the tallest building in the world, has undoubtedly become a landmark in Dubai, the Middle East and even the whole world. What kind of build is qualified to be a landmark in an area or in the entire world? As the hero of the urban buildings, landmarks should be foreseeing and compatible in functions except for creative appearance; its hardware should be endurable and services win people's favor; the most important thing is its status as an economic core and a leading role in promoting the development of regional economy. What landmark bear is not only the cultural connotation of the building but also the cultural history of the city it locates in. both single building or a group of building can be landmarks.

With the rapid development of cultures and technologies in modern society, the meaning of landmark is refreshing and new landmarks that advance with times emerge constantly. Let's focus on new landmark cases in rising cities and hotspots of economic development around the world, pay attention to the Financial Tower in Ho Chi Minh city resembling a blossom lotus, the liberated Rotterdam City Tower, the India Shreepati Skies reminding you a dancing native lady, the Bangkok Central Embassy incorporating modern digital technology and the Tour Signal Tower releasing soothing element in Paris and so on. Here, you can experience the infinite glamour of the global new landmarks.

SPECIAL 专题

国际新地标

International New Landmarks

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BEYOND

雄奇瑰丽的全新造型
无与伦比的恢弘气势
璀璨若星辰
令万众瞩目

哈利法塔举世无双，近乎奇迹
Zlota 44公寓舒适奢华，提供超高享受
拉芳德斯信号塔优雅旋转，释放舒缓元素
奥斯陆滑雪跳台大胆新奇，超越人们想象
……

国际新地标
各自以独特的方式
彰显着社会文明与科技进步
影响力辐射整个城市、国家乃至整个世界

Splendid and magnificent new forms
Unparallel imposing manners
Resplendent as stars
Attracting the attention of millions of people

Unrivalled Burj Khalifa is nearly a miracle
Comfortable and luxurious Zlota 44 apartment provides enjoyment in high-rise building
The Tour Signal Tower with rotating screen releases soothing elements
Bold and noval New Holmenkollen Ski Jump Stadium surpassed people's imagination
...

Global new landmarks
In their unique ways
Highlight social civilization and technical development
Influence radiating a whole city, country or even the entire world

全球第一地标

哈利法塔

Burj Khalifa

采编：罗莎莎　Contributing Coordinator: Shelley Law

名称：哈利法塔（原迪拜塔）	Name: Burj Khalifa（formerly Burj Dubai）
地点：迪拜	Location: Dubai
面积：450 000平方米	Area: 450,000 m^2
客户：伊玛尔地产	Client: Emaar Properties
设计单位：SOM(Skidmore, Owings & Merrill LLP)建筑设计事务所	Designed by: SOM（Skidmore, Owings & Merrill LLP）
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哈利法塔（原名迪拜塔），是位于阿拉伯联合酋长国迪拜的一栋已经建成的摩天大楼，有160层，高828米，为全球之最。迪拜塔由国际著名Skidmore, Owings & Merrill LLP (SOM)建筑事务所设计，韩国三星公司负责建造，2004年9月21日开始动工，2010年1月4日竣工启用，同时正式更名哈利法塔。SOM的设计师和工程师在设计中融入了尖端科技和文化，以打造全球性地标，为全世界都市中心的发展提供模型。哈利法塔除了拥有令万人瞩目的高度，它的建筑设计，工程设计以及室内设计都称得上举世无双，堪称全球第一地标。

Burj Khalifa（formerly Burj Dubai）, a skyscraper located in Dubai, UAE, is the tallest building in the world of 828 meter-high with 60 floors. Designed by Skidmore, Owings & Merrill LLP and constructed by Samsung company from Korea, the tower started building on 21st September 2004 and opened on 4th January 2010, when it was formally renamed as Burj Khalifa. SOM designers and engineers combined cutting-edge technology and culturally-influenced design to create a global icon that will serve as a model for future urban centers. While height may be the obvious attribute that sets Burj Khalifa apart, the architectural, engineering and interior design is unparalleled. It matches the number one landmark worldwide.

设计理念：

哈利法塔的设计反映了伊斯兰建筑的图案体制和国际性的社区观念。建筑设计以尖端技术融合历史和文化因素，打造出高效能的塔楼。SOM创新了一种结构体系，使用支撑核心让塔楼稳固而且经济。塔楼由围绕核心的三个“翼”元素，随着塔楼高度增加，“翼”的终端都是向上旋转递减的造型，减小塔的体型。利用塔楼的高度优势，设计师发明高空气体冷却系统，从楼顶吸入冷空气（比底层空气低7°C），再输入楼体下层以降低塔楼温度，而塔楼高性能外立面系统可以抵御迪拜夏季数月极端高温的考验。建筑体块根据垂直距离设置，尽可能地形成涡流而减少风力引起的塔楼位移，此外，塔楼的设计曾进行了大量的风洞测试，结果显示塔楼可抵抗强风而使振动最小。

建筑的室内设计早在塔楼结构建造阶段就已经开始了，贯穿整个设计过程，自内而外地与建筑设计融为一体。室内设计灵感一方面来自大楼建造的技术造诣，另一方面来源于当地的文化与传统。作为全球最高的生活工作空间，哈利法塔最高层设计呼应天空，犹如静止的宇宙飞船，而最底层则恰好相反，灵感来自于大地的自然元素。

哈利法塔将成为大规模综合性发展区的中心，发展区包括住宅、商业区、酒店、娱乐、购物休闲区域、以及宽阔的绿化空间、水域、人行道、购物中心和以旅游业为主的古镇。

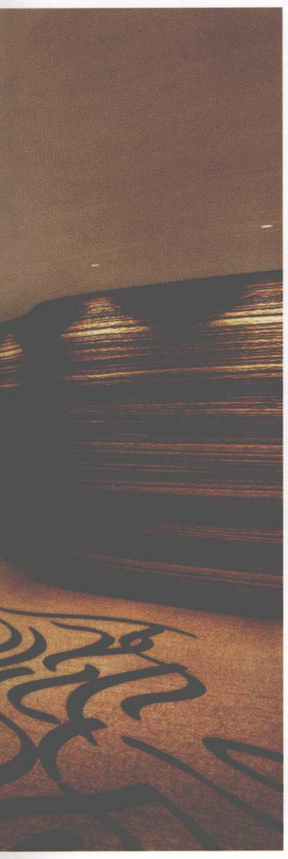
Design Conception:

Burj Khalifa reflects the patterning systems embodied in Islamic architecture and the global community it is designed to serve. The design of the tower combines historical and cultural influences with cutting-edge technology to achieve a high-performance building. SOM invented a new structural system, called a buttressed core, which enabled the building's efficient and economic build out. The tower is composed of three “wing” elements arranged around the central core. As the tower rises, setbacks occur at the end bay of each “wing” in an upward-spiraling pattern that decreases the mass of the tower as the height increases. Taking advantage of the height, SOM invented a “sky sourcing” cooling system to maximize ambient air. It pulls cooler

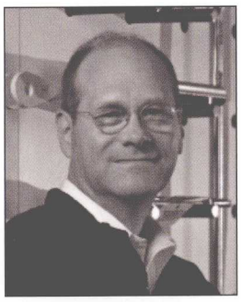
air from the top of the building (which is on average 7°C cooler than the ground) and forces it back down through the building to keep it cool. Besides, a high performance exterior cladding system allows the building to withstand the extreme temperatures experienced during the summer months in Dubai. Its massing is manipulated in the vertical dimension to induce maximum vortex shedding and minimize the impact of wind on the tower's movement. Actually, the design for Burj Khalifa went through extensive wind tunnel testing, resulting in a building that resists high winds while minimizing vibration.

Planning of the building's interior space began at the earliest stages of structural and architectural development, was integral to the design process and informed the building from within. The interior design was inspired by the dual influences of the building's technological accomplishments and the regional culture and heritage. As the tallest living and working spaces in the world, the interiors of Burj Khalifa's highest floors take celestial influences similar to a stationary spacecraft. This is in contrast to the lower floors, which are inspired by natural elements of the land.

The Burj Dubai will be the center of a large scale, mixed-use development comprised of residential, commercial, hotel, entertainment, shopping and leisure outlets with open green spaces, water features, pedestrian boulevards, a shopping mall and a tourist-oriented old town.



BURJ KHALIFA ARCHITECTURAL DESIGN AND ENGINEERING TEAM



William F. Baker, PE, SE, FASCE, FIStructE
Structural Partner

William F. Baker is the Partner-in-Charge of Structural Engineering for Skidmore, Owings & Merrill LLP. Throughout his distinguished career, Bill has dedicated himself to structural innovation—most notably in the design of tall buildings within the urban landscape. His most recent contribution has been to develop the "buttressed core" structural system for the Burj Khalifa, a system which, in conjunction with sophisticated wind engineering, makes it possible to construct skyscrapers of extreme elevation. He has also spearheaded the structural design of several defining structures within the Chicago skyline, including the AT&T Corporate Center and the 92-story Trump International Hotel and Tower. According to the Council on Tall Buildings and Urban Habitat (CTBUH), three of the four tallest buildings to top out in 2009 are credited to Baker: Burj Khalifa, Trump International Hotel & Tower - Chicago, and Nanjing Greenland Financial Center.

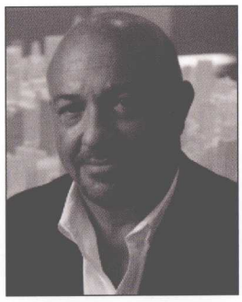
In addition to working at SOM, Bill's expertise is frequently solicited by institutions of higher learning, as well as numerous professional organizations. Bill is the 2008 recipient of the Fazlur Rahman Khan medal from CTBUH and the 2009 recipient and first American to receive the Fritz Leonhardt Prize. He is a Fellow of both the American Society of Civil Engineers (ASCE) and the UK based Institution of Structural Engineers (IStructE). Bill frequently lectures on a variety of structural engineering topics within the U.S. and abroad.

Nada Andric
Associate Director
Senior Interior Design

Ms. Nada Andric is an Associate Director with the Interior Design Studio of Skidmore, Owings & Merrill's Chicago office. Her extensive experience has been focused on the firm's large-scale, global interior design and architecture projects. As the leader of the interior design team for the Burj Dubai, Nada conceptualized a design program that encompasses over two million square feet of space. She also led SOM's efforts for the Burj Khalifa art program, a collection with close to 1,000 artworks and two major commissions by internationally renowned artists for the tower lobby and surrounding area.

The international scope of Nada's work includes BankBoston in Sao Paulo, Brazil, Korea's World Trade Center in Seoul, Jin Mao Tower in Shanghai, China and Nestle Makati Headquarters in Manila, Philippines. Her accomplishments have been recognized with numerous national and international design awards.

Nada frequently serves as a design juror, roundtable participant and lecturer on important issues impacting the design profession. She is an active supporter of many cultural institutions and was appointed to the Art Institute of Chicago's Committee on Architecture in 2001. Nada has taught in the Department of Design at the School of the Art Institute of Chicago and has served as a trustee at Roger Williams University, School of Architecture in Bristol, Rhode Island.

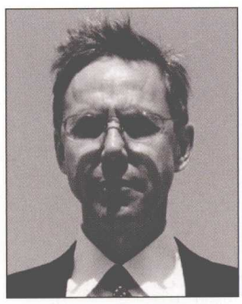


George J. Efstathiou, FAIA, RIBA
Managing Partner

George Efstathiou is a Managing Partner in the Chicago Office of Skidmore, Owings & Merrill LLP (SOM). As an architect, he has dedicated his career to large-scale urban projects that catalyze development and become symbols of their cities. For the last six years, he has led SOM's work on the Burj Khalifa, the world's tallest tower. As lead architect, George cultivated the project from the initial design competition concept into a concrete structure that has become synonymous with Dubai as a center of innovation and invention.

In each project he undertakes, George coordinates and manages all professional disciplines, keeping the team on schedule and on budget while ensuring that the client's goals are represented throughout the design process. He works closely with architects, engineers, designers, consultants, clients and construction teams across the globe.

George's portfolio encompasses the design and management of large-scale and high-rise projects in the United States, United Kingdom, Malaysia, Korea, Russia, China, Brazil, and the Middle East. In 1989, George relocated to SOM's London office for two years to manage the Broadgate and Ludgate developments, which have since become two of the city's most successful infrastructure projects. More recently, he has managed the development of numerous high-rises in the UAE, including the Burj Dubai, Infinity Tower and Rolex Tower.



Eric Tomich, AIA, RIBA
Associate Director
Senior Technical Architect

Eric Tomich is an Associate Director with the Chicago office of Skidmore, Owings & Merrill LLP. As an Architect, he has dedicated his SOM career to developing an expertise in Project Delivery Process, Multidisciplinary Coordination, and Building Sciences Technology.

For the last the past five years he has been the Dubai based site representative for Burj Khalifa and was fully dedicated to leading the development of the project to a successful conclusion that realizes the SOM design intent. His focus since the very commencement of the Burj Khalifa project has been to engage and lead the many teams of consultants and contractors to follow a process and a path that would yield the best possible built project for the client.

Eric's portfolio of projects includes the development of large scale high quality projects in the United States, United Kingdom, Russia, France, Portugal, Poland, Bahrain, Egypt and the United Arab Emirates. Eric began his SOM career in the firm's San Francisco office and then spent 16 years in the London office working as the Architectural Technical Director overseeing the design development and construction of projects, including key projects at the Canary Wharf and Broadgate developments in London. With the completion of the Burj Khalifa project he will continue to work in Dubai in the SOM office and represent the ongoing efforts of SOM in the Middle East.

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