OIOE 2024

2024 International Conference on
Optoelectronic Information and Optical Engineering

2024年光电信息与光学工程国际学术会议

Conference Manual

会议手册

March 8-10, 2024 | Kunming, China

2024年3月8-10日 | 中国·昆明

Content

Conference Introduction

2024 International Conference on Optoelectronic Information and Optical Engineering (OIOE 2024) will be held in Kunming during March 3-8, 2024. The conference will focus on Optoelectronic Information and Optical Engineering, discuss the key challenges and research directions faced by the development of this field, in order to promote the development and application of theories and technologies in this field in universities and enterprises, and provide innovative scholars who focus on this research field, engineers and industry experts provide a favorable platform for exchanging new ideas and presenting research results..

We sincerely invite experts, scholars, business people, and other relevant people from universities and scientific research institutions from all over the world to attend the conference.

大 会 简 介

光电信息技术和光学工程技术广泛应用于国民经济和国防建设的各行各业。近年来，随着相关产业的迅速发展，其已成为了社会进步的主要科学。人们对于信息的需求越大，光电也就越发成为重要的传输媒介。

为适应国际新时代光电发展特征，对光学、电子信息等发展注入新动能，扩大国际科研学术合作交流渠道，搭建科研学术资源共享平台，推动科技学术创新，将于 2024 年 3 月 8-10 日在中国昆明举办 2024 年光电信息与光学工程国际学术会议(OIOE 2024)，以此交流全球相关领域科技学术最新发展趋势，链接重点领域国内外顶尖、活跃、最新学术资源，通过经验分享和智慧碰撞，推动科研学术成果转化和人才、技术、资本聚集，提升发展新动能。

我们诚挚邀请来自世界各地高校和科研机构的专家、学者、商界人士及其他相关人士参加本次会议。

Committee

Conference General Chair

Prof. Ming Jiang, Sun Yat-sen University, China

Conference Publication Chair

Prof. Qingyang Wei, University of Science and Technology Beijing, China

Prof. Yang Yue, Xi'an Jiaotong University, China

Prof. Harith Ahmad, University of Malaya, Malaya

Organizing Committee Chair

Assoc. Prof. Chen Lei , Shandong University, China

Organizing Committee

Prof. Xin Zhang, University of California at San Diego, USA

Prof. Yong Wang, Shandong University, China

Prof. Jianguo Liu, Imperial College London, UK

Prof. Manuel Filipe Costa, Universidade do Minho, Portugal

Prof. Lifa Hu, Jiangnan university, China

Prof. Xueye Chen, Ludong University, China

Assoc. Prof. HuiSun, Shandong University, China

Assoc. Prof. Ts. Dr. Azizi Abdullah, The National University of Malaysia,Malaysia

Dr. Weiyan Cong, Shandong University, China

Dr. Graciana Puentes, Universidad de Buenos Aires, Argentina

International Technical Program Committee

Prof. Rajib Biswas, Tezpur University, India

Prof. Abbas Zarifkar, Shiraz University, Iran

Prof. Salman Noach, Jerusalem College of Technology, Israel

Prof. Chandra Shakher, Instrumentation and Cyber-Physical System Engineering, India

Prof. Jannick Rolland, Institute of Optics, University of Rochester, USA

Assoc. Prof. Leila Yousefi, University of Tehran, Iran

Assoc. Prof. Dr. Nasharuddin Zainal, The National University of Malaysia,Malaysia

Dr. Lee Siang Chuah, Universiti Sains Malaysia, Malaysia

Dr. Andrey Pryamikov, Prokhorov General Physics Institute of the Russian Academy of Sciences, Russia

Conference Agenda

2024 年 3 月 8 日 / 8th March, 2024 **大会报到 / Registration** **地点：昆明锦江大酒店商务楼一楼大厅/Address: Lobby Floor, Jinjiang Hotel, Kunming**	
13:00-17:00	大会报到、领取参会资料/Registration
18:00-19:00	晚餐/Dinner
2024 年 3 月 9 日 / 9th March, 2024 **会议召开 / Main Conference** **地点：昆明锦江大饭店-商务楼-三楼 2 号会议室 / Address: Jinjiang Hotel, Kunming** **ZOOM 会议室/Conference ID：　　密码/Password:**	
主持人 / Session Chair: Prof. Ming Jiang 江明教授（中山大学，中国）	
嘉宾报告/Keynote Speeches	
09:00-09:40	**Keynote Speech 1 :** Underwater Wireless Optical Communication Systems: When Signal Processing Meets Deep Learning Prof. Ming Jiang, Sun Yat-sen University, China 江明教授（中山大学，中国）
09:40-10:20	**Keynote Speech 2 :** Integrated Modulators for High-speed Pluggable Coherent Optics Prof. Yang Yue, Xi'an Jiaotong University, China 岳洋教授（西安交通大学，中国）
10:20-10:40	合影&茶歇 / Photograph&Tea Break
10:40-11:20	**Keynote Speech 3 :** Design and simulation analysis of a new imaging spectrometer Prof. Bo Li, Space Optical Department Ⅰ of Changchun Institute of Optics and Fine Mechanics and Physics(CIOMP), China 李博研究员（中国科学院长春光机所空间一部，中国）
11:20-12:00	**Keynote Speech 4 :** Cascaded gamma-ray coincidence medical imaging for theranostic Prof. Qingyang Wei, University of Science and Technology Beijing, China 魏清阳教授（北京科技大学，中国）
12:00-14:00	午餐 / Lunch
14:00-14:40	**Keynote Speech 5:** ———— Prof. Harith Ahmad, University of Malaya, Malaya Harith Ahmad 教授（马来亚大学，马来西亚）
14:40-15:00	**Invited Speech 6: Flow Cytometry with Anti-Diffraction Light Sheet (ADLS) for blood analysis** Assoc. Prof. Wei Zhao, Northwest University, China 赵伟副教授（西北大学，中国）
口头报告/ Oral Presentations	
15:00-15:15	***Oral Presentation 1 :** Research on inspection accuracy and application strategy of infrared imaging technology in construction field Lu Wang(王璐), Soochow University, China
15:15-15:30	***Oral Presentation 2 :** Large-scale irrigation of Cr3+ into different octahedra of zinc aluminate toward continual broadband near-infrared emission

	Lu Chen(陈露), Northeastern University, China
15:30-15:45	**Oral Presentation 3 :** Performance comparison of various deconvolution algorithms realizing high spatial resolution Brillouin optical time domain reflectometer Wencun Guo(郭文村), Chongqing University, China
15:45-16:00	***Oral Presentation 4 :** Fractional-order elliptic perfect optical vortex multiplexed holography Lu Wang(史惟汉), Soochow University, China
16:00-16:15	**Oral Presentation 5 :** Vector magnetic field sensing characteristics of magnetic fluid coated side-polished eccentric-core fiber structure Yuxin Wei(魏雨昕), Guilin University of Electronic Technology, China
16:15-16:30	**Oral Presentation 6 :** Analysis of analog correlated multiple sampling noise reduction in low noise CMOS image sensor Chenyang Wang(王晨阳), Hangzhou institute of Technology, Xidian university/Gpixel, China
16:30-16:45	***Oral Presentation 7 :** A spectrometer based on graded anion component perovskite film Hu Xiangmin(胡香敏), Beijing Institute of Technology, China
16:45-17:00	***Oral Presentation 8 :** PAM4-based SFP56 64G SR Optical Module Design Fengjia Gao(郜凤佳), FiberHome Technologies Group , China
17:00-17:15	***Oral Presentation 9 :** Young's Formula for Gaussian Beams: Theoretical Derivation and Experimental Verification Haotian Jiang(蒋昊田), Soochow University, China
17:15-17:30	***Oral Presentation 10 :** High-precision dynamic measurement of roll angle based on digital holography Liang Zhu(朱亮), Hefei University of Technology, China
17:30-17:45	***Oral Presentation 11 :** Speckle interferometry-based deformation measurement system with high sensitivity for speckle surface objects Hanxuan Zhou(周寒萱), Hefei University of Technology, China
17:45-18:00	***Oral Presentation 12 :** Low repetition frequency ytterbium-doped mode-locked fibre lasers Hua-Yi Song(宋华溢), Changchun University of Science and Technology, China

海报展示/ Poster Presentations

Poster Presentation 1: A continuous broad-spectrum correlated photon source based on angle tuning of a BBO crystal Huili Wang (王慧丽), University of Science and Technology of China, China
Poster Presentation 2: Fiber-optical biosensor for antibiotic susceptibility testing Jiabin Huang (黄嘉斌), Shenzhen University, China
Poster Presentation 3: An undersampling phase unwrapping algorithm based on Kalman motion estimation for heterodyne interferometer Jiajin Zhang(张家瑾), University of Chinese Academy of Sciences, China
Poster Presentation 4: A New Star Location Method Based on Rectangular Hole Fraunhofer Diffraction Jiyuan Yang(杨纪元), Beijing Institute of Technology, China
Poster Presentation 5: Influence of average speckle size on measurement of in-plane displacement Jiayao Yang(杨家瑶), Jiaying University, China
Poster Presentation 6: Application of group delay estimation for optical transmitter authentication using bispectrum algorithm Xiaodan Lu(陆小丹), Changzhou Vocational Institute of Industry Technology, China

Poster Presentation 7: Research progress and clinical application of laser Doppler blood flow measurement technology Yinpeng Fang(房银鹏), Hohai University, China
Poster Presentation 8: Two-photon fluorescence lifetime imaging, second harmonic generation imaging, fluorescence lifetime, collagen fibers Wei Li (李蔚), Shenzhen University, China
Poster Presentation 9: Three-dimensional reconstruction based on three-dimensional phase mapping using single-pixel imaging Yemei Liu(刘也美), Shenzhen University, China
Poster Presentation 10: Research On Color temperature tunableWhite LED with High Color Renderingand Full Spectrum Kang Li(李康), Xiamen Institute of Technology, China
Poster Presentation 11: Short-wave infrared and visible image fusion based on a dual-band polarization imaging sensor Weihua Huang(黄伟华), Jihua Laboratory, China
Poster Presentation 12: Real-space alignment of digital optical phase conjugation systems based on single pixel imaging Pidong Wang(王丕东), China Academy of Engineering Physics, China
Poster Presentation 13: Quantitative Measurement of Interlaminar Stress in CFRP Laminates using Fiber Bragg Gratings Dejiang Zhao(赵得江), Wuhan University of Technology, China
Poster Presentation 14: High-speed color difference correction algorithm used for UAV panoramic video system JunXia Gao(高俊霞), Anhui Zhong-Ao Institute of Technolog, China
Poster Presentation 15: Chirped Gaussian pulse propagation within the graded-index multimode fibers in the presence of third-order dispersion and Raman effect YueLei Shuai(帅越雷), Shenzhen University, China
Poster Presentation 16: Laser-induced fluorescence detection of oil film thickness in water based on convolutional neural network algorithm Xiaofen Li(李晓粉), Shandong Jiaotong University, China
Poster Presentation 17: Super-resolution reconstruction of variable length infrared image sequences based on convolutional neural networks and pixel shuffling Shijing Ji(姬世静), Beijing Institute of Technology, China
Poster Presentation 18: Investigation of optoelectronic characteristics of intrinsic point defects on InAs nanowires Qiuyang Li(李秋洋), Beijing University of Technology, China
Poster Presentation 19: Phase Synchronization Algorithm for High speed Space Optical Communication Modulation Baseband Signal Based on FPGA Dizhu WANG(汪滴珠), China Academy of Space Technology-Xi'an, China
Poster Presentation 20: Design of a miniaturized optical system for machine vision angular displacement sensors Shi-tong Liang(梁士通), Beijing Control Engineering Research Institute, China
Poster Presentation 21: Research of Multi-Task Learning in HDR 3-D Measurement Mojing Li(李默晶), Tianjin University, China
2024 年 3 月 10 日 / 10th March, 2024

9:00-18:00	学术考察活动/ Academic exchange activities

Keynote Speech 1

Prof. Ming Jiang

Sun Yat-sen University, China

Biography:

Ming Jiang received the B.Eng. and M.Eng. degrees in electronic engineering from the South China University of Technology (SCUT), China, and the Ph.D. degree in electronic engineering from the University of Southampton, U.K. He has substantial international and industrial experience with Fortune 500 telecom companies. From 2006 to 2013, he had held key research/development or executive positions at Samsung Electronics Research Institute (SERI), U.K., Nortel Networks' research and development center, China, and the telecom equipment maker New Postcom, China, where he actively participated in numerous collaborative projects across the EU, North America and Asia, contributing to algorithm and system research and standardization, as well as radio access and core network product designs. Since June 2013, he has been a Full Professor and a Ph.D. Supervisor with Sun Yat-sen University, China, where he focuses on both fundamental research and technology transfer, and leads a number of national, provincial and industrial research projects. He is the Deputy Director of the State-Province Joint IoT Engineering Laboratory and the Director of Guangdong Province IoT Engineering Laboratory. He has coauthored six books, 90+ articles, 100+ patents and 400+ 3GPP/IEEE standardization contributions. He received several Chinese local council awards in 2011 and 2022, including Innovative Leading Talents, Outstanding Experts, and Top Overseas Scholars. He is a Senior Member of the IEEE.

Speech Title:

Underwater Wireless Optical Communication Systems: When Signal Processing Meets Deep Learning

Abstract:

Visible light communication (VLC) has recently emerged as one of the promising candidate technologies for 6G wireless networks. Particularly, in the underwater scenario, where traditional radio-frequency (RF) and acoustic communication techniques suffer from either prohibitively high energy attenuation, low data rates and/or severe propagation latency, underwater wireless optical communication (UWOC) solutions can provide an effective means for supporting broadband wireless transmissions. In the underwater environment, the complexity of channel variations, influenced by factors like absorption, scattering, and turbulence, along with diverse statistical properties across different water types, poses significant challenges to signal detection in high-rate, high-reliability UWOC systems. To address these challenges, we have designed novel signal processing solutions for UWOC systems based on deep learning (DL), such as joint channel classification/estimation and signal detection. Simulation and experimental results demonstrate the adaptability of the proposed solutions to various UWOC channel environments, achieving superior performance compared to traditional approaches.

Keynote Speech 2

Prof. Yang Yue

Xi'an Jiaotong University, China

Biography:

Yang Yue received the B.S. and M.S. degrees in electrical engineering and optics from Nankai University, China, in 2004 and 2007, respectively. He received the Ph.D. degree in electrical engineering from the University of Southern California, USA, in 2012. He is a Professor with the School of Information and Communications Engineering, Xi'an Jiaotong University, China. Dr. Yue's current research interest is intelligent photonics, including optical communications, optical perception, and optical chip. He has published over 260 journal papers (including Science) and conference proceedings with >10,000 citations, six edited books, two book chapters, >60 issued or pending patents, >200 invited presentations (including 1 tutorial, >30 plenary and >50 keynote talks). Dr. Yue is a Fellow of SPIE, a Senior Member of IEEE and Optica. He is an Associate Editor for IEEE Access and Frontiers in Physics, Editor Board Member for four other scientific journals, Guest Editor for >10 journal special issues. He also served as Chair or Committee Member for >100 international conferences, Reviewer for >70 prestigious journals.

Speech Title:

Integrated Modulators for High-speed Pluggable Coherent Optics

Abstract :

Pluggable optical modules are promoting optical transmission networks in a more efficient and manageable way. For this revolutionary packaged optical engine, integrated photonics is the only possible solution. This report will introduce the latest industry progress of pluggable optical modules and integrated photonic modulators, and discuss their development trends and challenges. In addition, we will introduce compact solutions for timing skew and power imbalance in the optical transmitters of coherent pluggable modules.

Keynote Speech 3

Researcher Bo Li

Space Optical Department Ⅰ of Changchun Institute of Optics and Fine Mechanics and Physics(CIOMP), China

Biography:

Dr. Bo Li is a Professor from Space Optical Department Ⅰ of Changchun Institute of Optics and Fine Mechanics and Physics(CIOMP). He is a doctoral supervisor, the member of the National Science and Technology Expert Database, the member of the National Science and Technology Awards Expert Database, the expert in the field of engineering from the China Association for Science and Technology and the executive director of Jilin Remote Sensing Association. He is also a member of the Jilin Province Science and Technology Expert Database, a senior member of the Chinese Society of Optical Engineering , the High-level C talent in Jilin Province and the Xuguang talent of CIOMP . He had won a first prize of Jilin Province Science and Technology Progress Award and a second prize for National Science and Technology Progress Award. His is currently engaged in research on the overall technology of hyperspectral payloads， the ultraviolet warning technology and the deep space spectroscopic exploration (DSSE) technology . He had hosted include: the XX-No. XX measuring instrument and XX Imaging Spectrometer - Optomechanical Project. He is the head of the Earth Observation and Navigation Project of the Ministry of Science and Technology and limb sounding head of the "FY-3" 06 satellite ultraviolet hyperspectral ozone profile detector. He has published 27 papers and applied 23 patents.

Speech Title:

Design and simulation analysis of a new imaging spectrometer

Abstract :

Imaging spectral detection technology has been widely used, which is of great significance for detecting greenhouse gases and atmospheric isotopes. According to different application requirements and the future development direction of spectral imagers, the report summarizes the recent research achievements of the project team, including multi-channel multiplexed optical system imaging spectrometer, panoramic occultation imaging spectrometer and AOTF+ echelle grating technology, and carries out simulation analysis of the drift of on-orbit the spectral curve with temperature, providing ideas for the subsequent design of hyperspectral instruments.

Keynote Speech 4

Prof. Qingyang Wei

University of Science and Technology Beijing, China

Biography:

Professor Wei Qingyang, currently head of the Department of Instrumentation, School of Automation, University of Science and Technology Beijing, Deputy director of Beijing Industrial Spectrum Imaging Engineering Technology Research Center, director of the Nuclear Instrumentation Branch of Chinese Nuclear Society, member of the Nuclear Medical Equipment Committee of Chinese Medical Equipment Association, Young editorial Member of Radiation Detection Technology and Methods and Atomic Energy Science and Technology, Senior Member of IEEE, engaged in the development of nuclear radiation detection and imaging instruments for nuclear safety and nuclear medicine.

His research field is nuclear medicine imaging equipment and methods (PET/SPECT/CT, etc.); Nuclear radiation detection and identification technology; Tumor radiotherapy dose calculation, movement monitoring, etc. Medical image correction, reconstruction and post-processing, feature signal extraction, etc.

Speech Title:

Cascaded gamma-ray coincidence medical imaging for theranostic

Abstract :

This presentation will introduce the concept of cascaded gamma-ray coincidence medical imaging for theranostic applications, with the goal of integrating diagnostic imaging and therapy in nuclear medicine. Our proposed system combines a slit-pinhole collimator with a coincidence technique to detect cascaded gamma rays of Lu-177. The design specifics and initial results will be presented. This innovative technique has the potential to enable precise imaging and dosimetry for radiotherapy, ultimately leading to significantly enhanced patient care in personalized medicine.

Keynote Speech 5

Prof. Harith Ahmad

University of Malaya, Malaya

Biography:

Professor Datuk Dr Harith Ahmad FASc obtained his in BSc in Physics with First Class Honours from the University of Malaya in 1979. Subsequently, he obtained his MSc from the University of Wales in 1980, followed by his PhD in 1983 from the same institution. Upon returning to Malaysia in 1983, he became a member of the academic staff of UM, and since then has led the university's research into the area of photonics. He is currently a Distinguished Professor, and is also the director of the Photonics Research Centre of the University of Malaya, a Higher Education Centre of Excellence (HiCoE) under the purview of the Ministry of Education, Malaysia (MOE). His substantial contributions in the area of photonics has been acknowledged with multiple awards and recognitions, including as a Fellow of Akademi Sains Malaysia and recipient of the Malaysia-Toray Science Foundation Award, Merdeka Award for Scholastic Achievement and ASEAN Outstanding Scientist and Technology Award. He is very active as both a researcher and an academician, with numerous ISI ranked research publications to his name, as well as supervising numerous undergraduate and postgraduate students in photonics..

Speech Title:

Abstract :

Instructions for Presentations

Oral Presentation

1. Timing: a maximum of 15 minutes total, including speaking time and discussion. Please make sure your presentation is well timed.

2. Each speaker is required to copy the slide file (PPT or PDF) to the computer before conference date.

3. Please note that each session room will be equipped with a LCD projector, screen, point device, microphone, and a laptop with general presentation software such as Microsoft PowerPoint and Adobe Reader. Please make sure that your files are compatible and readable with our operation system by using commonly used fronts and symbols.

4. There is no uniform template for PPT, you can design and make your own.

Poster Presentation

1. Maximum poster size is 59.4 CM wide by 84.1 CM high（A1）, and send the file (JPG or PPTX) to Conference secretary before March 4, 2024.

2. Posters are required to be condensed and attractive. The characters should be large enough so that they are visible from 1 meter apart.

3. Please note that during your poster session, the author should stay by your poster paper to explain and discuss your paper with visiting delegates.

Notice for Participants

欢迎各位专家学者们参加 2024 年光电信息与光学工程国际学术会议（OIOE 2024），为了您在会议期间方便顺利，请注意以下事项：

Welcome all leaders and researchers to the 2024 International Conference on Optoelectronic Information and Optical Engineering. For your convenience during the conference, please pay attention to the following concerns:

昆明线下参会：

1. **报道地址：**2024 年 3 月 8 日下午 13:00-17:00　　昆明锦江大酒店一楼大厅
2. **会议地址：**昆明锦江大酒店商务楼三楼　（云南省昆明市官渡区，北京路 98 号）
3. **提供会议三餐：**3 月 8 日晚餐、9 日午餐和晚餐

1. **Registration:** March 8, 2024　13:00-17:00
   Lobby Floor, Jinjiang Hotel, Kunming
2. **Conference venue:** Jinjiang Hotel, Kunming　（98 Beijing Road, Guandu District, Kunming City, Yunnan Province）
3. **Three meals:** Dinner on March 8, lunch and dinner on March 9

线上参会：

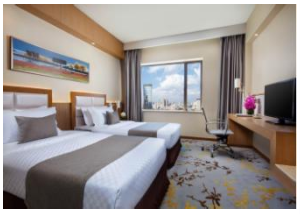
1. 会议将通过线上及线下同步召开，线上参会请先下载 **ZOOM** 最新版。
   下载链接：https://zoom.us/download
2. 参会者可根据参会日程，输入对应的会议 ID 和密码，进入线上会议室。
   ZOOM 会议室：　　密码：
   ZOOM 链接加入会议：
   *ZOOM 软件需要将下载链接复制到浏览器中下载；
   *进入会议室后，请将名称改为自己的姓名拼音+学校/单位简称；
   *口头汇报人员请至少提前 1 个小时进入会议室等候，开始演讲时请打开摄像头。

Online Conference

1. The online conference will be held on **ZOOM Meeting**. To participate online, please download the latest version of ZOOM first.
   Download link: https://zoom.us/download
2. You can access the online conference room by the following way: (**Please use your real name in the meeting room.**)
   Input the ZOOM Meeting ID and the Password respectively, which is shown on the conference agenda.
   Conference ID:　Password:　Join Zoom meeting:

会议地点/Venue



2024 年光电信息与光学工程国际学术会议（OIOE 2024）将于 2024 年 3 月 8-10 日在昆明锦江大酒店举行。具体酒店信息和预定方式如下：

Ⅰ. 酒店信息：昆明锦江大酒店
酒店电话：+86-871-63138888
酒店地址：昆明官渡区北京路 98 号
>> 时尚大床/双床房：320 元 含早餐
>> 商务大床/双床房：390 元 含早餐

Ⅱ. 房间预定方式：
1. 可打电话或发短信至 13608849488（张经理），告知您是："会议全称+姓名+入住日期+退房日期+房型+入住人数"。
2. 请勿重复预定。请尽量在 3 月 4 日前完成预定（逾期无法保证房间安排，需视酒店房态而定），如有变动或取消预定需提前告知酒店经理。酒店费用将由酒店直接收取并开具发票。

Ⅲ. 交通指南：
*长水国际机场: 28 km ; 34 mins
*昆明站: 520 m ; 5 mins

OIOE 2024 will be held in KunMing, China during March 8-10, 2024. For further information of the hotel, please find below.

I. Information : Kunming Jinjiang Hotel
Telephone : +86-871-63138888
Address : No.98 Beijing Road, Guandu District, Kunming, China

>> Standard single/double room : 320 yuan / night (about $ 50 / night). (Includes breakfast)
>> Business single/double room : 390 yuan / night (about $ 60 / night). (Includes breakfasts)

Ⅱ. Room Booking:
You can make a reservation by calling +86- 13608849488 before March 4, please tell that you are a guest of "（OIOE 2024）" conference, and then can enjoy the agreed price.

Ⅲ. Direction:
* ChangShui international airport 28 km ; 34 minutes;
* KunMing Railway Station 520 m ; 5 minutes;

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OIDE

www.ic-oioe.org

CONTACT US

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