

## MESSAGE FROM THE EDITOR

Good day to all fellow members!

We have ended the first half of 2023 successfully and have executed all our events as planned.

IQM wishes to thank members who had attended our 21st Annual General Meeting held on Saturday, 24th June 2023 at Four Points by Sheraton, Puchong. Member's support is very much appreciated. A Technical Talk session by EPC Asia Pacific was held in conjunction with the AGM and was sponsored by them. The talk was a success with an overwhelming attendance. The topic covered was on "Full Digitalization in Quarry Operation". We also had a guest speaker, Dato' Prof. Ir. Ts. Dr. Eric Goh, who presented a paper on "5G Drones for Quarry Succes".

Over the first half of 2023, IQM had organized a number of courses as listed below:

- i. 2 sessions of the Blast Monitoring course was held from 17 – 18 January at IQM Puchong and 28 February -1 March in Bukit Mertajam, Penang.
- ii. Legislation Course for Quarrying was held from 13 15 February at IQM Puchong
- iii. Training Course for Shot-Firer was conducted from 6 11 March at Sabah Quarry Association (SQA) center in Kota Kinabalu
- iv. Drilling Course was held from 20 22 March at IQM Puchong.
- v. 2 sessions of the Crushing and Screening Course was conducted from 8 10 May in Kuching and 22 – 24 May at IQM Puchong.
- vi. OSH Course was conducted from 12 15 June in Bukit Mertajam, Selangor

IQM is proud to announce that the IQM Conex 2023 Quarry Conference & Exhibition will be held at Palm Garden Hotel, IOI Resort City, Putrajaya from 24-25th October 2023. The theme for this year's event is 'Quarry Excellence: Environmental Social Governance & Industry 5.0'. A total of 14 papers will be presented during the 2 days event. Do mark your calendar and we hope to have all member's support to make this event a success.

IQM will continue to provide reliable and up to date courses for the upcoming year. Members can refer to the IQM event planner in this publication, and also available for reference on IQM website www.iqm.com.my

Once again IQM wishes to remind members to renew their membership for year 2023. The CPD requirement is still voluntary, and members are highly recommended to submit their CPD records for 2023.

INTERNATIONAL AFFILIATIONS:











The Institute of Quarrying United Kingdom Australia

Southern Africa

New Zealand

Malaysia

Hong Kong





## 2023 IQM COURSES AND ACTIVITIES JULY - DECEMBER

JULY	AUGUST	SEPTEMBER	<u>OCTOBER</u>	
3 - 5 July Drone Operation Management & Applications (IQM) 11 - 12 July Strategic Geology & Streographic Projection (PENANG) NEW 24 - 29 July Training Course for Shot-Firers 2/2023 (IQM)	7 - 9 August Quarry Planning & Design (IQM) 10 August Shot-Firers Exam 21- 22 August Quarry Economics (IQM)	<ul> <li>4 - 8 September Environmental Management Course (IQM)</li> <li>18 - 20 September Drilling Course 2/2023</li> <li>(KOTA KINABALU)</li> </ul>	3 - 4 October Blast Monitoring Course 3/2023 (KUCHING) 24 - 25 October IQM Conex 2023 (Palm Garden Hotel, IOI Resort City)	
	NOVEMBER 30 Oct - 4 November Training Course for Shot-Firers 3/2023 (IQM) 23 November Shot-Firers Exam 28 - 30 November Legislation Course for Quarrying (KUCHING)	DECEMBER 5 - 6 December Blast Monitoring Course 4/2023 (KUANTAN)		







## **ANNUAL SUBSCRIPTION FOR 2023**

Please be informed that your Membership Subscription Fee for year 2023 is due for payment. Payment can be made by crossed cheque / bank draft / Online Transfer to :

#### **INSTITUTE OF QUARRYING MALAYSIA BHD** Maybank 014187208342 (Kindly fax / email bank transaction advice)

Payment should reach us not later than 1st September 2023. If you have any queries or need any clarification on your membership status kindly contact Madam Nirmala Devi at Tel: 03-80624194 / Email: nirmala@iqm.com.my.

The following subscription rates apply for 2023

Fellow (FIQ)	:	RM250.00
Member (MIQ)	:	RM200.00
Technical Member (TMIQ)	:	RM190.00
Associate	:	RM180.00
Student	:	RM 25.00



enclose my crossed cheque/bank draft/money order no.

for RM	being Mer	nbership Fee	for year		payable to
--------	-----------	--------------	----------	--	------------

#### INSTITUTE OF QUARRYING MALAYSIA BHD.

E-mail : \_\_\_\_\_ Handphone No : \_\_\_\_\_

#### MEMBERSHIP PAYMENT SCHEME

To encourage members to retain their membership on a long term basis, IQM is offering a new membership scheme :

#### Membership fee paid in advance for three (3) years,

entitles you to one (1) year free membership (3+1).

This will benefit not only the member but also reduce the administration cost. IQM hopes more members will accept this beneficial scheme.

## QUARRIES AND QUARRYING

## WORLD CLASS QUARRYING





These handy reference books are appropriately useful as a guide and catalyst to the government, equipment manufacturers, the industry and the academia for further enhancement of the quarrying industry to World Class status.

The cost of this publication is RM150 for IQM members and RM200 for non-members. Additional RM10 per book for postage within Peninsular Malaysia.

To purchase a copy, please fill in the order form below and send it to us with your payment.

ORDER FORM	
I	enclose my Cheque / Bank Draft / Money Order No
for RM	being purchase of :
	ES & QUARRYING (no of copies)
WORLD	CLASS QUARRYING (no of copies)
Pavable to "Institu	ute of Quarrving Malaysia Bhd" <i>(Maybank 0141 8720 8342</i> )
Kindly mail book to	):

For further information kindly contact Madam Nirmala Devi at INSTITUTE OF QUARRYING MALAYSIA

No. 23, Jalan Utama 1/7, Taman Perindustrian Puchong Utama (Puchong Perdana), Seksyen 1, 47100 Puchong, Selangor DE, Malaysia. Tel: 03-8062 4194/5 Fax: 03-8061 8258 Website: www.iqm.com.my E-mail: nirmala@iqm.com.my

## **TO ALL RECIPIENTS OF QMC & QMPC**

## **CONTINUING PROFESSIONAL DEVELOPMENT**

The Institute is here to recognise and promote the professionalism of people working within the quarrying industry. Professionalism is created through a combination of work experience and qualifications. Continuing Professional Development (CPD) is the process of continual improvement and personal development that documents your career.

We believe that undertaking CPD is a way of ensuring that the qualifications that you have earned are kept up to date.

With effect from 2023, all QMC & QMPC holders have a mandatory 20 hours/year of CPD required, to maintain your certification and should be an active member of IQM. Attached is the CPD Record Form with examples of activities that qualify for CPD hours.

The QMC & QMPC will now have an expiration date. All certificates issued before 2021 will not be recognized. You will be required to renew your certs by completing the relevant forms. The Certificates have a validity date of 3 years (renewable every 3 years). We encourage all recipients of the QMC and QMPC to submit their renewal with the summary of CPD Record Form for this year. A renewal fee of RM40.00 will be charged for each certification and you will receive a new certificate with an IC size card.

If you are not yet a member of IQM, you can download the membership form from our website <u>www.iqm.com.my</u>, complete the form and submit together with payment.

For further enquires on the above, kindly contact Madam Nirmala Devi at : **Tel : 03-80624194 / 5, Fax : 03-80618258, email :** <u>nirmala@iqm.com.my</u>

QMC / QMPC RENEWAL FORM	         			
I       Membership No :         wish to renew my QMC / QMPC for year       Old Certificate No. :				
Enclose is my renewal fee of <b>RM40.00</b> transferred online to Institute of Quarrying Malaysia Bhd - Maybank 014187208342				
Email :         Handphone No :	       			

# SUMMARY OF CONTINUING PROFESSIONAL DEVELOPMENT (CPD) RECORD

#### CPD Requirements: 20 hours per year

	Category	Date	CPD Activity / Topic CPD Provider	Allowable hours	Total hours
1	Related Training Activities			No Limit	
2	Informal Learning <ul> <li>On job learning</li> </ul>			Maximum 10 hours per year	
3	Conference and Technical Talk			No Limit	
4	Presentation and Papers			Maximum 15 hours per year	
5	Services in Related Activities			Maximum 15 hours per year	
6	Informal Learning <ul> <li>Private study</li> </ul>			Maximum 5 hours per year	
			TOTAL		

Sign: .....

Date: .....





#### INSTITUTE OF QUARRYING MALAYSIA'S 21ST ANNUAL GENERAL MEETING & SPONSORED TECHNICAL TALK BY EPC GROUPE

#### Held on 24 June 2023 at Four Point of Sheraton Puchong, Selangor

**Topics:** 

Full Digitalization in Quarry Operations by EPC Groupe &
5G Drones for Quarry Success by Dato' Prof. Ir. Ts. Dr. Eric Goh



#### **21ST ANNUAL GENERAL MEETING & TECHNICAL TALK**



## IQM COUNCIL 2023/2024

Mr Chen Nyet Lin Hj Nurul Huda bin Romli Dato' Prof Ir Ts Dr Eric Goh En Mohammad Faiz Bin Zainuddin Ir Norhamidi Md Din Mr Pang Kang Ngen Mr Lee Wen Han, Vincent Mr Baljeet Singh Kernail Singh Ir Toh Kar Wai President Deputy President (Corporate Networking) Deputy President (Professional Development) Hon Secretary Hon Treasurer Council Member Council Member Council Member Council Member





With the immense success and popularity of the Quarry Directory 2022, IQM is now introducing yet another issue of the **Quarry Directory Malaysia 2023**. Companies who wish to advertise in the next issue of the Directory can contact the IQM Secretariat at 603-80624194 / 5 or email to <u>admin@iqm.com.my</u> to enquire on the rates and artwork. You could also visit our website to download the **Space Order Form** at <u>www.iqm.com.my</u>. If your company is not listed in the Directory, and you think it should be, send us your updated details by completing the form on the next page.

QUARRY DIRECTORY MALAYSIA 2023

The Directory is sold at RM50 a book. Additional RM6 will be charged for postage and RM10 for courier within Peninsular Malaysia and RM13 for East Malaysia.

#### Institute of Quarrying Malaysia

23, Jalan Utama 1/7, Taman Perindustrian Puchong Utama (Puchong Perdana), 47100 Puchong, Selangor

QUARRY DIRECTORY MALAYSIA 2023 ORDER FORM				
IPrinter International Internationa International International Intern International International Internationa International Internationa International Internationa				
for RM being purchase of copy / copies of QUARRY DIRECTORY				
MALAYSIA 2023 payable to "IQM VEENTURES SDN BHD".				
Kindly mail book to :				
Tel				
<u>Note:</u> Payment by cheque / bank transfer to <b>Maybank - Account Name : IQM Ventures Sdn Bhd, Account No : 014187114874</b> (kindly fax / email bank transaction advice)				
GET LISTED IN THE OUARRY DIRECTORY				

#### Quarry Name : \_\_\_\_\_\_ Office Address : \_\_\_\_\_\_ Telephone No : \_\_\_\_\_\_ Site Address : \_\_\_\_\_\_ Telephone No : \_\_\_\_\_\_ Rock Type : \_\_\_\_\_

*Kindly email the above info to:* MDM NIRMALA DEVI email : <u>nirmala@iqm.com.my</u> / cc : <u>nirmaladevimuniappan@yahoo.com</u>





CPD Hours: 15 IQM CONEX 2023 QEX 5.0

## **QUARRY EXCELLENCE 5.0**

Environmental Social Governance & Industry 5.0

> 24 - 25 October 2023 Palm Garden Hotel IOI Resort City, Putrajaya, Malaysia

> > Supported By

DEPARTMENT OF MINERAL &

Organised By

INSTITUTE OF QUARRYING



INTERNATIONAL AFFILIATIONS:

We look forward to seeing all of you at the quarry conference & exhibition. DO NOT MISS OUT

## **Caernarfon Award**

**The Caernarfon Award** is presented annually for the best paper given at an Institute conference, seminar, meeting etc. anywhere in the world which is adjudged to have contributed the most to the advancement of some aspect of the industry - either technical, environmental, strategic, etc.

Originally, the **Caernarfon Award** was endowed by the North Wales branch and it is named after the town where the very first Institute meeting took place in 1917. The endowed sum was residual income from the branch's successful seminar on the Quarries (Explosives) Regulations in 1987. The first award was made in 1989. The award has been made by Council in the UK in the past, but in 1998, responsibility for the adjudication was assumed by the Presidents' Committee.

For the purposes of the Caernarfon Award, a paper is defined as:

- a published article in a peer reviewed journal related to the extractive industry;
- a presentation of approximately 30+ mins (either virtually or in person) with content covering unique concepts and learnings.

#### Judging Criteria

The **Caernarfon Award** is the highest international award that The Institute of Quarrying (IQ) awards annually to the best conference presentation in that year. Since 1989, the Caernarfon Award is presented to someone who the international IQ Presidents have adjudged to have contributed the most to the advancement of the science and practise of the quarrying industry. Foo Kheng Sin Chairman of FYS Marketing Sdn Bhd, presented at the IQM CONEX 2022 in Putrajaya. His presentation "**Quarrying in the ESG Era – The way forward**".

#### **Caernarfon Award Winners**

2020	Sean Taylor	IQA	Let's talk about equality and diversity
2021	Gavin Hartley	IQNZ	Quarrying way down south
2022	Tegan Smith	IQA	Changing perspectives
2023	Foo Kheng Sin (FIQ)	IQM	Quarrying in the ESG Era – The way forward

#### The Real Story of FYS from Complain To Champion

Taking FYS quarry as a real case of public complain scenario. The founder late Mr. Foo Yen Soo (FYS) is engaged in surface quarrying operation of granite aggregates that supply to local market. It operation started since 1960's where at that time the quarry was operated in a remote area. As the country development progress, housing development was encroached to the quarry which made the newly moved in residents very close to the quarry site. In 2012, FYS still operating quarry in conventional manner which received complaint from local community who has moved in their new houses in 2008 that were built with less than 500 meters buffer distance from quarry boundary. The complaint was brought up to the Seberang Perai City Council (MBSP) related to the environmental and safety issues. It was the toughness challenges to FYS after operating 50 years which may possible face closure of quarry if the crisis was not well managed. FYS faced the challenges optimistically and innovatively by transforming the conventional manner of operating quarry to combine Manufacturing System and Tourism Concepts into quarrying practices to minimise the environmental concern and safety impact to local community by implementing ESP Best Practices model.

#### **Caernarfon Award**

#### **Beyond Conventional Quarry towards Malaysia First Quarry Tourism**

General public perceive tourism industry positively but quarry negatively due to quarry operation will impact the environmental and safety aspect to the local community. Hence, we should do something new normal to engage community accept us and value our contribution to the society and country.

To promote quarry tourism and co-existence with community, fundamental environmental condition of quarry premises must be cleaner, greener, safer, healthier and happier manner. ESP model provide quarry operators recommended solution to minimize environmental impact, safety issues in order to continue providing raw material to national development and create jobs opportunity to local community. Quarry Tourism is a concept of having a functioning quarry which serves simultaneously as a tourist attraction differs from the conventional rehabilitation concept where the quarry site is revitalized only after depletion of closure. It simply means have fun by "Educational, Sightseeing and Photo shooting" at quarry even though quarry still in operating.

ESP model is in line with ESG that promotes all aspect of sustainability by focusing on Environmental, Safety and Productivity (ESP) that not only minimize the impact of the environment but also improve liveability of local community for co-existence. Ultimately, the way forward of the model can lead to rebranding Malaysia Quarry Industry and upgrading Quarryman career professionalism for Malaysia and Malaysian.

The IQA nominated Foo Kheng Sin, Fellow Institute of Quarrying (FIQ) for the Caernarfon Award based on the quality of the presentation, feedback and what he is doing to help shape the industry. The International Presidents from all IQ offices judged the award, with overwhelming support for the topic, the style in which he shared the information and the outcome he is achieving to bring real change.

#### **International IOQ Presidents:**

- 1. Malaysia : Mr Chen Nyet Lin, FIQ
- 2. United Kingdom : Mr Viv Russell, FIQ
- 3. Australia : Mr Duncan Harris, FIQ
- 4. New Zealand : Mr Tim Kennedy, FIQ
- 5. Southern Africa : Mr Jeremy Hunter-Smith, FIQ
- 6. Hong Kong : Mr Andrew Woodfine, FIQ

Prepared by Foo Kheng Sin, FIQ Chairman of FYS Marketing Sdn Bhd





### The 6th Global Aggregates Information Network (GAIN™) Meeting

FYS Marketing SD Bhd was invited by Jim O'Brien, Convenor of the Global Aggregates Information Network (GAIN<sup>™</sup>) and Wayne Scott, Chief Executive Officer of the Aggregate and Quarry association of New Zealand (AQA) to the Sixth Global Aggregates Information Network (GAIN<sup>™</sup>) Meeting "Charting the GAIN Strategy to 2023" from 2 to 5 Jul 2023 which will take place at Rydges Hotel, Queenstown, New Zealand.

## Attendees from FYS-Penang, CAA-China, AAK-South Korea, NSSGA-USA, APAC-Canada, ASOGRAVAS-Colombia, CEMINCOR-Argentina, AE-UEPG, AQA-NZ.







Zeems presenting FYS quarryman mascot to Jim O'Brien, Convenor of the Global Aggregates Information Network (GAIN<sup>™</sup>)

The conference events hosted by The Aggregates & Quarry Association of New Zealand (AQA). There were 8 modules covered for the 2 days conference.

Module 1 & 2: Regional Introductory Presentation Module 3: Sustainability Challenges Module 4a: Economic Challenges Module 4b: technical Challenges Module 5: Health, Safety & Social Challenges Module 6: PR & Communications Challenges Module 7: Brainstorming GAIN Role & Activities Module 8: GAIN Strategy to 2023

#### Module 3: 19A Restoration, Biodiversity

Zeems outlined the pioneering initiatives being taken by his company, FYS Quarry, in Penang Malaysia, focusing on maintaining the quarry zoning, its closure having been threatened by adjacent residential developments. The initial campaign successfully demonstrated that quarries are not dirty and dangerous places. Then they demonstrated that quarrying activity does not destroy biodiversity, rather enhances it. Their quarry site now embraces an "Agro-Park", featuring biodiversity, aquaponics, hydroponics, a fish pond, bee-keeping, all in the context of restoration plans, water management, leading to its unique "Quarry Tourism" activities.

#### Module 6: 39 Improving image - FYS case study

Zeems summarized the FYS Quarry story, based on the threatened closure of the plant due to local housing expansion. FYS launched an intensive public relations campaign which has not only kept the plant in operation but has greatly enhanced its reputation both at home and abroad. Their success lay in explaining the positive role of the quarry, not only in terms of its products, but also on its many positive effects on the local community and society. Overall, it is an example to be emulated.





Prepared by Foo Kheng Sin (Zeems), FIQ Chairman of FYS Marketing Sdn Bhd

#### Dust-Control Techniques in Quarrying: The Imperative for Extraordinary Standards and Professionalism

Mumini Babatunde Saka1, and Mohd Hazizan Mohd Hashim2\* 1,2 School of Materials and Mineral Resources Engineering, Universiti Sains Malaysia, Penang, Malaysia. 1sakamumini@student.usm.my, 2\*mohd\_hazizan@usm.my

#### **Introduction**

Effective dust management solutions are critical in the quarrying sector to protect the health and safety of workers, adjacent communities, and the environment [1]. Quarrying operations involve a variety of operations that produce substantial volumes of dust, potentially creating health risks, safety problems, and environmental concerns. This article investigates the significance of robust dust-controlling systems in quarrying, emphasizing the importance of extreme measures, standardization, and professionalism to assure the best results.

#### **Understand Dust Generation in Quarry**

Quarrying operations generate dust naturally as a result of activities such as drilling, blasting, crushing, and material handling [2].



Figure 1: Silicosis [3]

Depending on the nature of the extracted materials, the size and composition of the dust particles produced can vary. When dust particles, particularly respirable crystalline silica, are inhaled by employees and adjacent communities, they pose serious health concerns. It is critical to understand the individual causes and features of dust formation in quarrying activities in order to create appropriate control strategies.

#### Health and Safety Implication

Quarrying dust can cause a variety of health concerns, including respiratory disorders, lung ailments, and silicosis [4]. These factors can have both short-term and long-term effects on workers' well-being. Furthermore, dust build-up can produce hazardous conditions such as decreased visibility, increased slip and fall risks, and machinery failures [5]. Quarrying firms can reduce health hazards, improve worker safety, and demonstrate a commitment to a professional and responsible work environment by prioritizing dust management solutions [6].

#### The Need for Extraordinary Dust-Control Measures

Because of their dynamic character and diverse geological conditions, quarrying sites frequently face unique obstacles. Meanwhile, [7] opined extraordinary steps are called for to adequately control dust in these situations. These could include:

- 1. Advanced Dust Suppression Systems: Implementing high-performance dust suppression systems that limit dust emissions during operations by combining water sprays, chemical additives, and atomized misting.
- 2. Building enclosures and physical barriers around dust-producing locations, like crushers and conveyors, to stop dust from spreading and reduce exposure.
- 3. Controlled Blasting Techniques: Using improved blasting techniques reduces dust formation and fragmentation, minimizing overall dust fallout from quarry operations.

#### ARTICLE

4. Site Design and Layout: Incorporating strategic site design elements such as windbreaks, vegetation barriers, and optimized traffic flow to limit dust dispersion and reduce its impact on neighbouring areas. Conversely, dust control techniques could be adopted through the Hierarchy control measures as shown in Figure 2.



Figure 2: Hierarchy of Dust Controls [8]

#### Standardization and Professionalism

Establishing standardized practices and promoting professionalism throughout company operations is critical to accomplish effective dust control in quarrying. This includes the following:

- 1. Regulation Compliance: Adherence to local, regional, and national regulations and recommendations for dust management, occupational health, and environmental protection. [2] [6] [1] [7] [4] [5]
- 2. Training and Education: Providing thorough training programs on dust control techniques, safe work practices, and the right use of personal protective equipment (PPE) for employees, supervisors, and management staff.
- 3. Regular Monitoring and Assessment: Put in place routine dust monitoring and assessment programs to evaluate the effectiveness of control measures, identify areas for improvement, and assure standard compliance.
- 4. Collaboration and Knowledge Sharing: Fostering collaboration among quarrying firms, industry groups, and regulatory bodies in order to share best practices, research findings, and novel dust control technology.

#### **Conclusion**

Prioritizing dust control measures in the quarrying industry is critical for preserving the health and safety of workers, nearby communities, and the environment. To solve the special issues given by quarrying operations, extraordinary measures. standardization and professionalism are required. Quarrying companies can effectively mitigate dust-related hazards, demonstrate their commitment to responsible practices, and ensure the industry's long-term growth by utilizing advanced dust suppression systems, integrating enclosures and barriers, employing controlled blasting techniques, and promoting industry-wide standardization and professionalism.

#### References

- [1] A. C. Bofinger, "In Increasing Occupational Health and Safety in Workplaces," Occupational health and safety in the mining sector, pp. 201-218, 2019.
- [2] A. H. Ambastha, "Emission of respirable dust from stone quarrying, potential health effects, and its management," Environmental Science and Pollution Research, pp. 1-8, 2021.
- [3] S. V. Hospital, "Silicosis," 8 June 2023. [Online]. Available: https://www.svhlunghealth.com.au/conditions/silicosis.
- [4] Eshiwani, "Effects of quarrying activities on the environment in Nairobi County: a case study of Embakasi district," Doctoral dissertation, University of Nairobi., Nairobi, 2014.
- [5] K. P. K. W. A. N. Pollard, "Operators' views of mobile equipment ingress and egress safety.," International Journal of industrial ergonomics, 72, pp. 272-280., 2019.
- [6] S. A. P. Bae, "Promoting the Quarry Workers' Hazard Identification Through Formal and Informal Safety Training," Safety and Health at Work, pp. 12(3), 317-323., 2021.
- [7] Eckhoff, "Dust explosions in the process industries: identification, assessment, and control of dust hazards.," Elsevier, 2003.
- [8] SonicAire, "Ranking Six Combustible Dust Control Measures from Least to Most Effective," June 2023. [Online].
- Available: https://www.sonicaire.com/ranking-combustible-dust-control-measures/.