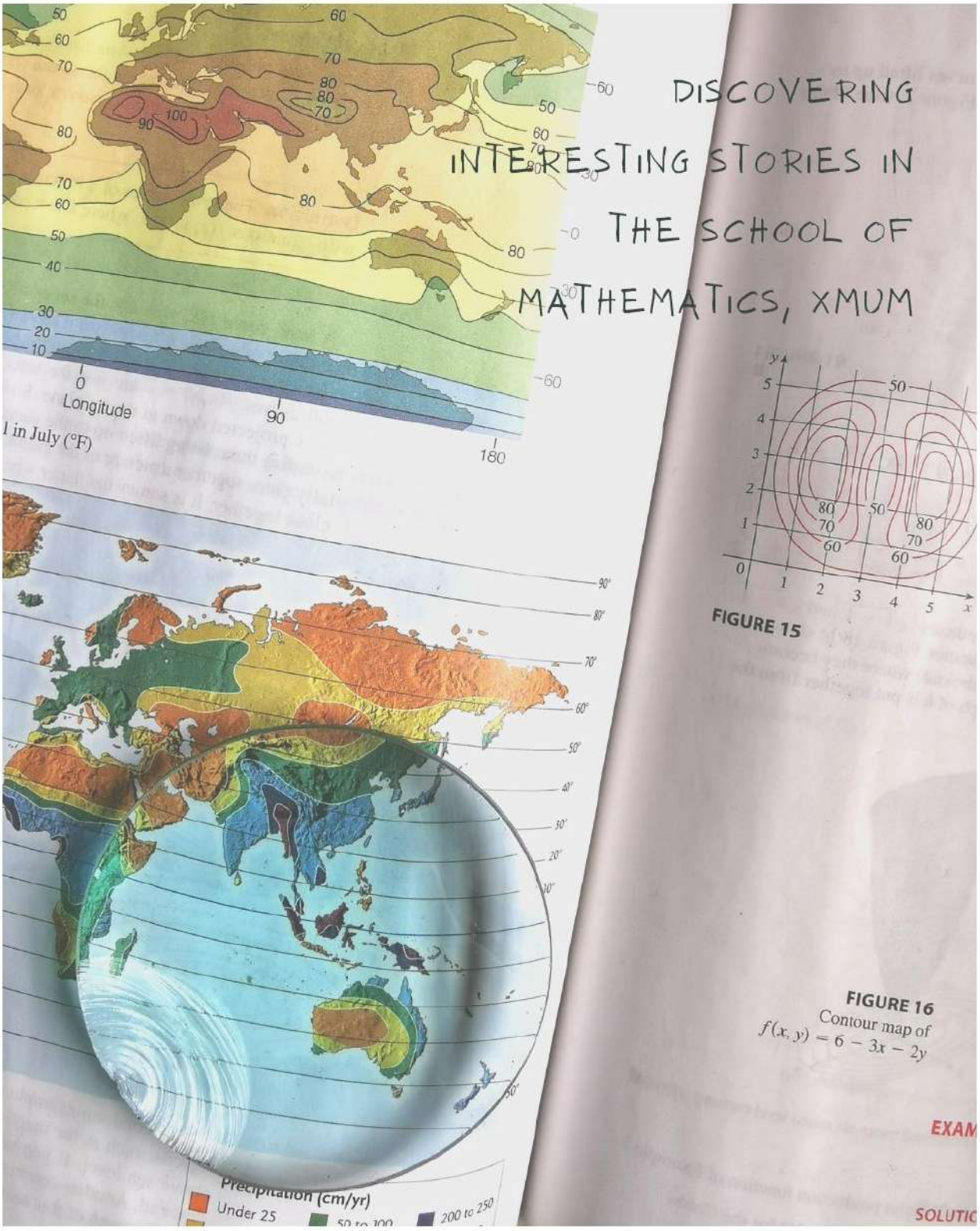
FEBRUARY 2022 | VOLUME 1

UNEARTHED AXIS



XIAMEN UNIVERSITY MALAYSIA, SCHOOL OF MATHEMATICS

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EDITOR'S LETTER

A 2015 McKinsey report on 366 public companies found that those in the top quartile for ethnic and racial diversity in management were 35% more likely to have financial returns above their industry mean.

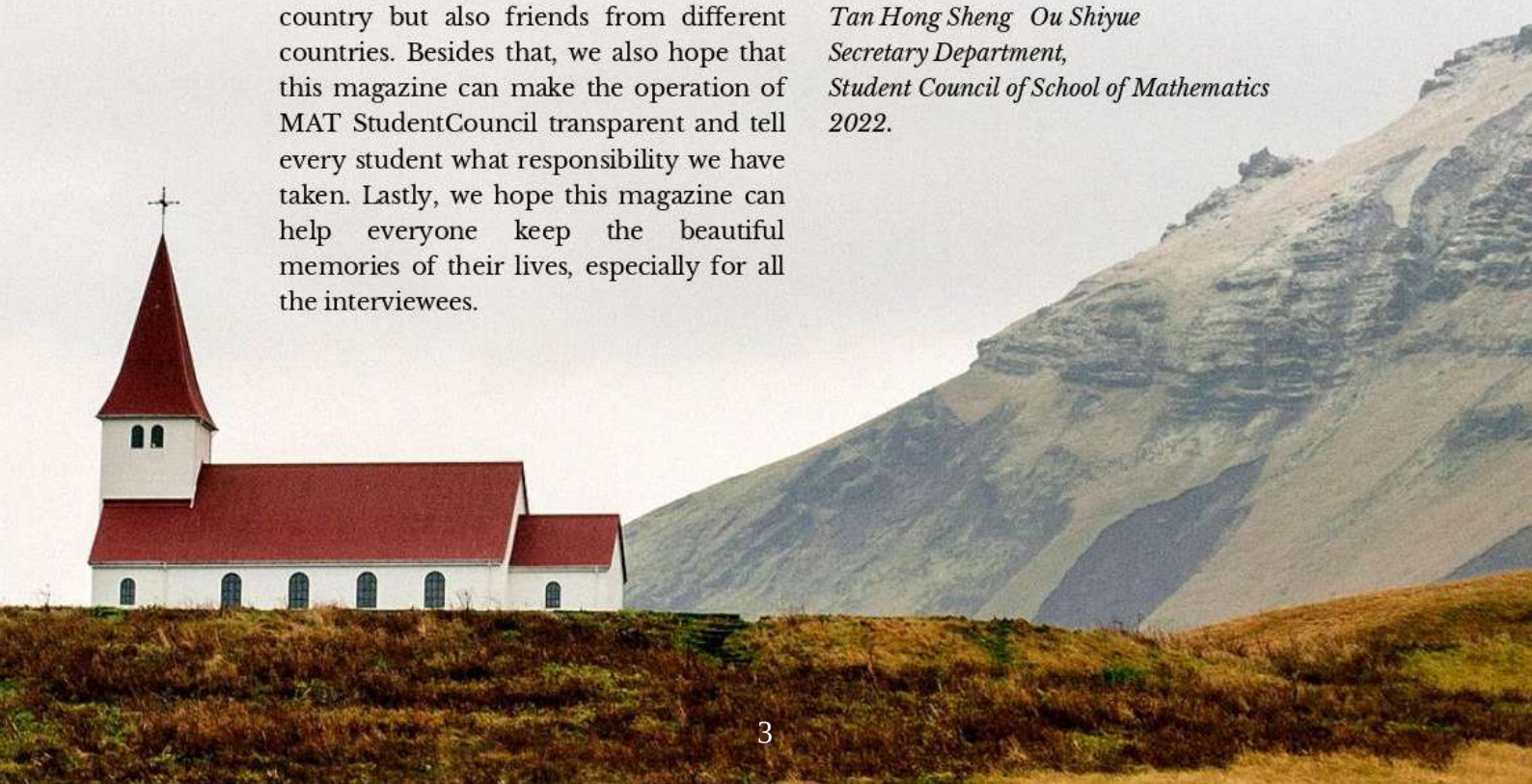
"Diverse teams are smarter." A 2015 McKinsey report on 366 public companies found that those in the top quartile for ethnic and racial diversity in management were 35% more likely to have financial returns above their industry mean. As a student of the School of Mathematics of XMUM, we are lucky enough because we have precious opportunities to cooperate with students from different cultures. School of Mathematics consists of students from 3 other countries: Malaysia, China, and Indonesia. All of us leverage our strengths to make this newborn family better.

However, misunderstanding always costs a lot; this is why most of us refuse to step out of our comfort zone to cooperate with friends from other countries. In this magazine, the goal with the highest priority is always to be helping every student gets to know each other better, knows not only friends from the same country but also friends from different countries. Besides that, we also hope that this magazine can make the operation of MAT StudentCouncil transparent and tell every student what responsibility we have taken. Lastly, we hope this magazine can help everyone keep the beautiful memories of their lives, especially for all the interviewees.

Roughly speaking of the content, in the main body of this magazine, we have invited seven outstanding interviewees to share their experiences. Qu Fangyu, Ho Wei Lam, Zheng Zongqi, are the top students from their batches. After graduating from Xiamen University Malaysia, they received their own very enviable offer. After that, Michael, Edoardo, Zhu Jingyi, and Tan Li Wei will also share their meaningful life and values in their own country with us.

Footprints show where one has been! We hope that everyone can keep improving themselves and this beloved family will become better and stronger. Lastly, we would like to thank readers who spend their time reading the magazine, and we will be appreciated it if we can get any feedback from the readers.

Best Regard,
Tan Hong Sheng Ou Shiyue
Secretary Department,
Student Council of School of Mathematics
2022.



IMPRESSUM

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Zhu Jingyi

Interviewee:

Qu Fangyu **Ho Wei Lam**

Zheng Zongqi **Michael**

Edoardo **Zhu Jingyi**

Tan Li Wei

MESSAGE

PROF DR. TEO LEE PENG, HEAD OF DEPARTMENT

I am very glad to see that we finally have a magazine that belongs to this mathematics family of Xiamen University Malaysia.

The Bachelor of Science in Mathematics and Applied Mathematics (Honours) programme of Xiamen University Malaysia was established in September 2018, two and a half years after Xiamen University Malaysia was established. From the first batch of 40 students, we have grown to a big family with over 200 undergraduate students and 20 faculty members. In September this year, we also welcomed our first batch of master students.

Over the past three years, we have gone through some big challenges. The unprecedented pandemic has forced all of us to adopt new norm of life. For the pioneering 1809 batch of students, they spent half of their university studies online. After a few months of stumbling, we finally adapted to new technologies needed for online teaching and learning.

After our first batch of students finished their studies in August this year, we can look back and scrutinize what can be improved. Some students have gone to work, some are taking a break, and some are applying for graduate schools. There are a lot of stories, memories, and experiences to share. It comes timely when students told me they want to run this magazine.

I believe this magazine can foster closer relations among the students, especially among those from different batches. It will witness the struggle and the growth of this young department. Hopefully, it will become a good memory for everyone that ever lives together in this family.

MESSAGE

PRESIDIUM OF XMUM MAT STUDENT COUNCIL 2021/2022

2021 has been an amazing year for us, we, as the representative of MAT Student Council would like to express our gratitude to all of our supporters, especially the professors and students from the Mathematics Department of Xiamen University Malaysia. This would not be possible without all your support, care and trust. Also, thank you to the board of directors of this magazine for sacrificing their efforts and time in producing this awesome and wonderful magazine for the department of Mathematics.

There is a long way for us to go in the field of mathematics. On behalf of the MAT Student Council, we appreciate all of you who have chosen Mathematics as your major. "Help will always be given in the MAT Family as long as you ask for it", all of our colleagues and professors in the department are kind and willing to provide any help as long as they are capable of doing so. Hence, be more patient and passionate to explore the beauty of Mathematics, we promise you that you will never regret your choice of choosing Mathematics as your undergraduate program and all the effort you have put in will be paid off.

Lastly, we hope this magazine could bring a smile on your face today. Enjoy and have a nice day!

"Together we are MAT, together we conquer everything!"

MESSAGE

ONG GIAP SIONG, PRESIDENT OF XMUM MATHEMATICS ALUMNI ASSOCIATION

It's an honor for me to have a speech here on the very first magazine of MAT. Please enjoy reading the following contents in this magazine. As a senior who successfully survived the 3-year MAT course, I would like to share some words with the people who are ongoing their journey of mathematics. I hope that these simple pieces of advice would help you in any aspect.

In my opinion, Mathematics is a language of science, it reveals the theories and truths which are concealed in nature. It is a common language for human beings to communicate about science. Most of the time, people around me would accuse how difficult and complicated Mathematics' formulas are; in the earlier age, I agreed to them straight away, but after analyzing and understanding the formulas, I realized those formulas are already the simplest form to record the facts,

if the formulas didn't express in that specific way, some information would be lost. Hence, as for me, understanding a formula is like enjoying a poem from a poet, feeling the beauty of the equation, and knowing the ideas and thoughts of the mathematicians when they were doing their jobs.

Mathematics is a challenging subject that requires one's tremendous amount of effort and indomitable will to master. Due to this reason, I think telling yourself 'it is okay to rest or make mistake' is an important attitude while we are studying mathematics.

So, one should find his or her own way to release the stress and pressure, always adjust the mental health in a good condition.

But on the other hand, I would think mathematics is a beautiful and interesting subject, which means there must be somewhere in the path of exploring, one will notice the beauty of it. Hope that all of you have managed to find the interest in Mathematics. Also, whenever we encounter obstacles in the studies, we should discuss and share our ideas to our teachers or colleagues, as the third party can most likely provide a different point of view and ideas to us, as the discussion broadens our eyesight.

To conclude, the message I am trying to convey is, you are never alone on the journey in studying mathematics. Together, all the MAT students and professors, are just like a family, which will always be with you while facing any obstacles, hope this kind of warmhearted relationship can be passed on by every batch of MAT members.

Last but not least, I want to take this opportunity to wish my fellow juniors to enjoy being in MAT family, and at the same time, look forward to witnessing the works accomplished by MAT. As we are MAT, we Make Amazing Things.

“As we are MAT,
we Make Amazing Things.”

PRESIDENTIAL ELECTION

In the early September of 2021, a formal election had been held by the Department of Mathematics and Applied Mathematics (MAT) to elect new presidents and vice presidents for the MAT student council. Compared to the previous elections, new rules were imposed for this election - there will be two presidents and vice presidents, where one of the presidents and vice presidents has to be a Malaysian, while the other is an International Student.

Electoral campaigns began on 30th August and lasted till 7th September, where the candidates had to prepare a self-nomination form, an essay regarding their visions and missions, and also a video to promote themselves. Eventually, the department had received 4 nominations. All active MAT students cast their votes and each candidate had undergone an interview by the Head of the Department, Professor Teo Lee Peng. The candidates passed the interview successfully and became members of the presidium of the MAT Student Council. Here are the visions and missions of the new presidium:

President:

"More effective activities should be held to improve the relationship between all of the students. I will fight to inspire society with Mathematics and spread my passion."

President:

"I promise I will keep in contact with teachers to hold all of the possible activities. Besides that, I will keep in contactwith all of my colleagues to know their needsand provide my help."

Vice President:

"My vision is to make everyone have a more fulfilling college life and feel the atmosphere among classmates even in online courses."

Vice President:

"My vision is to promote a sense of community within MAT Department and provide leadership, services and resources in support of this beloved family."

MAT Online Welcoming Party

As the new semester approaches, the Department of Mathematics and Applied Mathematics (MAT) welcomed the new students of the 2021/09 intake with their first online party on 2th October, 2021.

The event commenced with an opening speech by the Programme Coordinator, Prof. Teo Lee Peng, followed by the MAT Student Council Presidium, Liew Yi Qing and Li Chengyi. Then came the session for online games. All participants were asked to switch on their webcams to participate in the first two ice-breaking games, "This or That" and "Never have I ever...", which gave the participants a chance to interact and get to know each other. After that, the party ended with a draw-and-guess game on Gartic.io, where participants tried to guess specific words based on the drawings of other participants.

Albeit the short duration of 1.5 hours and the minor problems that popped up occasionally, the welcoming party ended smoothly. Not only does the Student Council hope that the event may help students to adapt to university life, the council also hopes that this welcoming party will be a memorable and heart-warming experience for all participants, especially during tough times of the pandemic, when there is limited interaction and opportunities to mingle around.

TRICK OR TREAT: MAT STUDENT COUNCIL BONDING SESSION

In conjunction with Halloween, the MAT student Council held a Halloween-themed bonding session on October 30th, 2021, to create closer rapport among the council members (and of course, to have some fun and take a break from studying). To get everyone into the Halloween spirit, the members could dress-up for Halloween as any character they like, or share a picture of a character that they wished they could dress up as.

The bonding session began with a game called 'Find Your Stuff.' After the game master asks a question, players must find an item in their surroundings that is relevant to the question within 10 to 15 seconds. Anyone who failed to find a relevant item within the given time frame would be "penalized" by answering a question by the game master. Meanwhile, the game master can also randomly pick anyone to introduce themselves. This gives all members an opportunity to get to know each other better through the items showcased during the game.

Next, before the session ended, the council played a game called 'Wondering around the Garden', where the game master would give a theme (for example, zoo), and according to a fixed sequence, players must provide a word related to the theme (for example, tiger) within 3 seconds. Those who lost track or couldn't come up with a term within the given time will have to answer questions by the host of the game as a "punishment".

After a night of "spooks" and fun, everyone got to know each other better. The organizers hope that such an activity can aid in the cooperation of council members and create a warm and joyous environment for members to work in.

"A NIGHT OF SPOOKS & FUN!"

关于保研：从厦马到浙大，数学系首届毕业学姐的分享

2021-11-26

Introduction

受访人：屈芳宇

届别：2018 级

专业：数学与应用数学专业

保研院校 offer：	**浙江大学（最终选择）**	**数据科学与工程专业**
	武汉大学	应用统计专业
	厦门大学	人工智能专业
	四川大学	人工智能专业

Questions

1.什么时候决定保研？ 经历的挫折与获得的收获？	2.选择数据科学方向的原因？ 如何找到合适的研究生方向？
3.保研的准备及建议？ 计科方向保研建议？	4.保研可利用的学校资源？
5.保研坚持的动力？	6.保研的收获？以后的规划？

Interview

Q1: (1) 学姐从什么时候决定要保研并为之努力？

(2) 在这个过程中是否经历过挫折或有什么意外收获？

A1: (1) 我**开始准备**保研材料是在 **5 月中旬**，但对于想要保研的同学来说，这个时间稍微有点晚。有些**夏令营在 3 月或 4 月第一轮就截止**了，想要保研的同学建议**大三下学期的 2 月份**就着手把文书和相关材料准备起来。

我在大三下学期前没想过要保研，因为我们 base 在海外，大多数同学都会选择出国留学，保研名额也相对较少。因为疫情原因，以及去年(其他专业)的学长学姐保研去向都非常好，我也萌生了想要保研的想法。

(2) 一开始我对于能否保研到梦校是持怀疑态度的，**一来**，我们学习的教材和国内的不太一样。**二来**，我不太想继续读数学，在申请出国的学校定位中，我选择的都是 DS（Data Sceience）相关专业，但对于跨专业保研我没有什么底气。所以我在**夏令营投递的基本都是数院下的专业**。夏令营里拿到 offer 后，在 **9 月份的预推免**中我才投递计科相关专业。

Q2: (1) 研究生选择数据科学与工程专业的原因？

(2) 如何找到适合自己的研究生方向（专业，学校）？

A2: (1)数学系的同学在研究生阶段可能会有三个大方向：**数学、金融、计算机科学**。(2)我在大一大二时**选修了一些金融和计算机课程**，后来发现还是更喜欢计算机一点。于是就有了在数据科学、机器学习方面深造的目标。

Q3: (1) 保研前期做了哪些准备？有没有给希望保研上岸的同学的建议？

(2)有没有给同样想往计算机方向保研/申研的数学系同学的建议？

A3: (1) 在投递学校时，**文书**是很重要的一部分，学校要求上传的文书至少需要：**个人简历**（中英）、**个人陈述**（中英）、**推荐信**（两封，中文或英文均可，我提交的都是中文）。

以及后续**面试**中要准备：**自我介绍**（中英）、**自我介绍 ppt**（中文或英文均可，我用的是中文）。自我介绍我准备了三份，分别是 **3 分钟，5 分钟，和 10 分钟**的。

(2) 对于想要**跨保计科**的同学，在 ME 和 GE 中，可以考虑多选修一些**计算机相关课程**，比如 Data Structure, Database, Principles of AI, 以及 MATLAB。如果想要在**机器学习和数据科学**方面深造，**特别推荐** Statistics、Regression Analysis、Time Series 这几门课程，以及 Stochastic Processes。我就是因为很喜欢 Lim Min 老师的 Statistics，才决定要去**学计算机和统计的结合领域。**

此外，**FYP（Final Year Project）**也可以找有**机器学习相关背景**的导师。比如 Gloria，Gloria 人超好！真的非常感谢 Gloria 的帮助和指导，Gloria 超耐心，也超温柔！在她的指导下做 FYP 让我收获了很多很多！并且保研面试中老师都会对我的 FYP 提问，因为在 Gloria 的指导下做的很认真，所以关于 FYP 的问题大多都没有难倒我~

Q4: 关于保研，有没有什么学校资源是可以利用的？

A4: (1)首先想到的会是**推荐信**，可以找学校的老师写推荐信。

(2)还有是**已经保研的学长学姐**，我在保研期间问了韩学姐很多问题，韩学姐一直很耐心地给我解答，超感动！

(3)同学们也可以积极参加**美国大学生数学建模竞赛**，国内大学对它的认可度也蛮高的。

Q5: 保研过程很漫长，需要很长期的努力，是如何一直坚持一路走来的?

A5: 保研真的是一场持久战，从 5 月一直到 9 月底，我的心情也随着保研进程起起伏伏，6 月到 7 月一度非常焦虑，游走在崩溃的边缘。那段时间学业压力很重，期末考试、论文答辩、夏令营全部撞在一起，每天早上起来我都问自己什么时候是个头。有的时候我会想，是不是申请国外学校会更好，至少不会这么焦虑。**其实走哪一条路都不容易，既然选择了远方，就只顾风雨兼程，一定要坚信我们的道路正确。**

正因为那段时间心态很脆弱，并且处于论文答辩的前夕，我放弃了很多已经入营的夏令营，现在回想起来感觉很可惜。

特别是北航和人大，两个位于我最想去的城市的学校。虽然可惜，**但我也不后悔，当时的我就像是糖饼，针扎一下可能真的就碎了，放弃一些夏令营，让自己稍微轻松些未尝不是一件好事。**

> **“**
>
> **其实走哪一条路都不容易，**
>
> **既然选择了远方，就只顾风雨兼程，**
>
> **一定要坚信我们的道路正确。**
>
> **”**

Q6: (1) 保研带给你最大的收获是什么?
(2) 今后有什么规划?

A6: (1) 收获了研究生 offer（研究生有学上了，真开心~）。
(2) 研究生后的规划大致是工作或者去美国读博。

Ho Wei Lam is an outstanding year 3 student in Mathematics & Applied Mathematics at XMUM that is soon to graduate. With great passion and interest for Mathematics, he aspires to further his studies and research on Differential Geometry in his graduate studies.

MATHEMATICS IS A BATTLE OF CONCEPTS

A conversation with Ho Wei Lam

Interviewer: It is a great honour that Mr. Ho Wei Lam is with us today. He is one of the 2020 Chinese Ambassador Scholarship holders. Good afternoon, Wei Lam, can you introduce yourself?

Ho Wei Lam: Hello! I am Wei Lam, a year three student of Mathematics and Applied Mathematics at Xiamen University Malaysia. I feel fortunate that I have a chance to study mathematics at XMUM. Although my undergraduate studies are coming to an end, my study career never ends. I will continue my learning path on Differential Geometry after my graduation.

Interviewer: Why did you choose to study at XMUM and how was your experience studying at XMUM?

Ho Wei Lam: I am glad that I had met professor Teo Lee Peng when I was studying at my secondary school. She gave me a book when I received a reward at the Chen Jinrun Mathematics Competition at XMUM. The book inspired me to pursue an undergraduate degree in XMUM.

Honestly, I really enjoyed the 3 years in XMUM. However, not everything went smoothly, and I faced some difficulties in year 2; I believe everyone agrees that the courses in year 2 are far more complicated than

year 1. But I enjoy this year very much, and I believe that the more difficult mathematics is, the more fun it will get.

Interviewer: Can you tell us why you want to focus your research on Differential Geometry after graduation?

Ho Wei Lam: At first, my interest was in mathematical physic, but unfortunately, I had problems choosing physic as my major elective. However, my final goal is that I hope I can master the Theory of Relativity. Differential Geometry actually plays a vital role in the Theory of Relativity. So, this is why I want to focus my research on Differential Geometry. (If students are interested in this, they can watch the film produced by the Discovery channel, "Genius: Einstein (2017)", to get more insight about this theory.)

Besides that, I am also learning topology; topology can be used in physics even though many people believe that there is no relevance between these two subjects. Some holders of the Nobel Prize in Physics used topology in their research.

Also, I would especially like to thank Professor Chang Ching Hao, as he taught me a lot about abstract algebra and differential geometry. Aside from guiding me throughout my final year project, he is my mentor who inspired me to do research.

Interviewer: Can you give some tips on how to learn differential geometry and why differential geometry is important?

Ho Wei Lam: Pure mathematics is fundamental to all applied mathematics. If you can build up a solid foundation, it is not difficult to apply mathematics in your life and do well in Differential Geometry. As an example, some mathematical concepts in differential geometry like curvature and torsion play important roles in AI Facial Recognition System.

I think the key to studying pure mathematics is changing the abstract concept to a concrete example. I remembered that Professor Teo always mention that if you can't understand some concepts, you can first focus on some examples. After you have enough examples, you can discover some rules to understand these concepts.

> The key to studying pure mathematics is changing abstract concepts to concrete examples.

Interviewer: Can you give some tips on how to plan our future path after graduation? (For example, whether to pursue graduate studies in Pure Mathematics/Applied Mathematics or join the workforce directly after graduation etc.)

Ho Wei Lam: We can't force anyone to choose pure mathematics or applied mathematics – it depends on your interest. Understanding mathematics on a deeper level is like swimming in the sea; if you want to dive deeper into mathematics, it requires a lot of patience and perseverance, which is not easy for many people. Instead, you can continue your studies in different fields like computer science and finance, which also have some relevance to mathematics.

However, anyone who would like to choose pure mathematics needs some mental preparation. You need to spend much time and accumulate your knowledge step by step and digest some abstract concepts. Besides that, compared with other schools, the job opportunities for students who study pure mathematics are much lesser. If you want to learn pure mathematics, don't give up! If you wish to continue your studies in other fields, go ahead!

Interviewer: Which step do you think is the most difficult in the entire process of applying for a graduate school? Do you have any experience or tips that you would like to share with us?

Ho Wei Lam: Firstly, you need to pay attention to when your preferred university application is due. In general, you need to submit your application from September to January for universities in the United States. For universities in Australia, the application will due in December, if I'm not mistaken. Next, you need to prepare a personal statement (provide some reasons on why the school should choose you and write about your future plans), two to three mandatory reference letters from your lecturers, some certificates that prove your language proficiency like TOFEL or IELTS, and a financial statement.

You can start taking some language tests one year before you graduate since it needs some time and fees. Besides that, you need to stay focus on your lectures and make a good impression on your lecturers. Also, attempt to have some conversations with your lecturers after your classes because it is your responsibility to let your lecturers be familiar with you so that they can provide reference letters for you. Moreover, when you write your personal statement, you need to be honest about yourself.

Interviewer: Time flies! 3 years have ended quite quickly! Can you conclude

> Understanding mathematics on a deeper level is like swimming in the sea.

your university life in XMUM? Moreover, is there anything or anyone that you would specifically like to thank?

Ho Wei Lam: I will graduate in March 2022; learning mathematics in XMUM means a lot. I want to thank Professor Teo, Professor Chang, and all my lecturers. They gave me many opportunities and led me into the world of mathematics which broaden my horizons.

I know that everyone learning in this school faces much pressure, and many of us don't have time for leisure. However, when you look back to this journey after a few years, I believe that you will enjoy this journey; you will find that you have learnt many things that are not so easy and continuously surprise yourself by exceeding your capabilities. I hope everyone can appreciate the beauty of mathematics. Don't just focus on your scores and As. Try loving the mathematics and enjoy the process!

Wei Lam, who has won the runner-up prize at XMUM's first Mathematics competition in 2019.

How to get an internship in an Internet company?

- Internship Experience Sharing

2021-12-13

Introduction

Interviewee	Batch	Major
Zheng Zongqi 郑宗琦	1809	Software Engineering (SWE)
Internship Offer	Tencent 腾讯 Alibaba 阿里巴巴 Baidu 百度 ByteDance 字节跳动 Huawei 华为	

Questions

1. - Internship Timeline	**2. - Job contents of each internship position** **- Additional knowledge required for Internships**
3. - Recommended ways to find an internship **- Preparation of resume content** **- XMU or XMUM?**	**4. - The process of applying for an internship** **- Interview experience sharing**
5. - Suggested time for juniors to participate in the first internship	**6. - Setbacks experienced during the internship**

Interview

Q1: What is the timeline of the internships you took during college?

Q2: (1) What are the job contents of each of the internship positions?
(2) Does it require any extracurricular knowledge?

A2: IT interns in Xin Dong Fang mainly do some "chores", which are somewhat similar to assistants. For example, **assembling computers** and **troubleshooting technical problems**. And also, be responsible for **asset registration**, such as warehousing computers, or registering computers or equipment borrowed by others. **No extracurricular knowledge is required.**

ByteDance's front-end development interns have higher requirements. Some of the courses it involves are **C language, C++, C++ programming**, and some fundamental computer courses such as **data structures** and **computer network algorithms**. The content of this internship is to **develop Android clients**, and the main language used is **Java**. So before applying for this internship, **I learned Java-related knowledge by myself**.

Tencent's internship is about **software R&D testing**. The **extracurricular knowledge** it involves is **similar** to what ByteDance needs. **Test development** is to test some Apps. For example, King Glory (A mobile game invented by Tencent) held an activity called "one yuan purchase", so we will test whether the entire **activity process** is smooth. And then **compare the amount of data.** For example, to detect whether the user can receive game items after payment.

Q3: (1) Are there any recommended ways for finding an internship?

(2) Are there any activities worth attending that can improve ones' resume?

(3) Which one did you use on your resume, XMU or XMUM?

A3: (1) I recommend submitting your resume to **the company's official recruitment website**. This channel is the most secure because it is official. Secondly, you can also use some third-party software, such as **Boss** (a job searching app), or send your resume on **Zhilian** (job searching platform), but you must **pay attention to its authenticity**.

For example, Tencent has **blue card interns** and **green card interns**. Generally, the green card interns sent their resumes to the mailbox of the third-party channel, and the blue card intern is applied through the official website.

There are **3** main differences between these two types of interns. The first is that their **wages vary** widely. The second point is that **the title is different**. The corporate WeChat of the green card intern will be marked by xxx outsourcing position, while the blue card intern is written as an employee of Tencent's xx department. The third is that blue card interns get **free dinners** and green card interns don't.

(2) If you have the opportunity, you can participate in the **Internet + competition**. I won a national **bronze medal** in the Internet+ competition in 2020.

(3) I used **XMUM** in my resume.

Q4: (1) What is the internship application process?

(2) Can you share some interview experience?

A4: (1) The **online application process** is to submit your resume first, and then some companies will conduct a written test first, and then screening according to your written test scores and resume.

Or some companies will conduct a resume screening first, and then conduct a written test or interview. If there is a written test, the written test will be done first, followed by the interview.

There are about **three** rounds of interviews. 2~3 rounds of the **technical interview** plus one round of **HR interview.** After the interview, the offer approval process will be carried out, and the application process will be generally over.

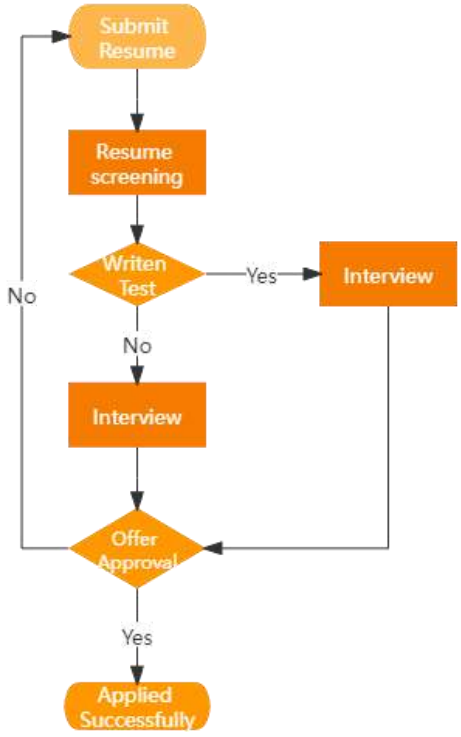

Figure: Internship Application Process

A4: (2) Regarding the experience of interviewing, both technical interviews and HR interviews are in the form of **answering questions**. The first interview is based on the **basic knowledge** in school textbooks. In addition to the basics, it will have some additional expertise. For example, if you choose back-end development, he will ask you for some back-end knowledge, or if you choose test development, he will ask you for some test-related knowledge. There may also be some **situational questions**, such as asking how you would design a system in a scenario.

The ByteDance interview first asked me what was on my **resume**. For example, ask me about the basic information of the Internet + competition, and then ask me about computer network-related knowledge. After the end of the computer network, he asked about the operating system, such as the difference between processes and threads, synchronization between processes, and communication between processes. Then the next question is about **design patterns**, but I don't understand design patterns, so I skip this question.

Next, I answered some questions about data structure and the principle of sorting. Finally, because my resume stated that I know Java, I talked about some Java-related knowledge. The entire interview **takes about 1-1.5 hours.**

Q5: (1) What time do you suggest for juniors to participate in the first internship?

A5: (1) Participating in internships requires relevant knowledge support, so it is generally recommended to start during the **summer vacation of Year 2**.

Q6: Did you experience any setbacks while applying for an internship?

A6: Yes. Before going to Tencent I want to leave ByteDance in Beijing. Because I am not very used to the living habits in Beijing, I especially want to leave my job there.

At that time, I went to Alibaba Company for an interview. I failed **5 times**, and it was only the **sixth** time that I got an offer from Alibaba. I also went to interview with NetEase Company twice, and **both failed**. At that time, it was a low period in my life, because I thought I had the title of ByteDance, but the interview with other companies kept failing. Fortunately, I finally got an offer from Tencent.

“Mathematika” in Indonesia

– Michael’s & Edoardo’s Journey in Mathematics

2021-12-13

Introduction

Interviewee	Batch	Major
Michael	1909	Mathematics & Applied Mathematics (MAT)
Edoardo	2009	Mathematics & Applied Mathematics (MAT)

Picture : Photo of Michael, he is the first Indonesia student of MAT programme.

Picture : Photo of Edoardo, he can speak many languages.

Questions

1. – Self-Introduction	**2. – Reasons for choosing Mathematics as major.**
3. – Indonesians’ perception of Mathematics.	**4. – Interesting ways to learn Mathematics in Indonesia.**
5. – The most surprising thing when studied at XMUM.	**6. – Online Classes in Indonesia or Physical Classes in Malaysia.**
7. – Plan after graduation, work or further studies.	**8. – The most touching story in the journey of learning Mathematics**

Interview

Q1: It is our great honour for having Mr. Michael & Mr. Edoardo here with us. Today, we want to discuss Mathematics in Indonesia. Can both of you give us some self-introduction so that we can be more familiar with you?

A1: Michael --- Hi, here is Michael from batch 1909, my hobbies are **playing tennis and badminton**. I love watching 90's, 00's movies and listening to folk-rock and country music.

A1: Edoardo --- Hi, I am Edoardo from batch 2009. An interesting fact about me is that I am **interested in everything related to East Asia**, like Chinese, Korean, Japanese and Taiwanese culture, language, etc.

Q2: What made you choose Mathematics as your major in the university?

A2: Michael --- Personally for me, in high school, math was my best subject. At that time, I really loved it and **I thought if I could do a job of something that I love**, it would be an enjoyable life.

A2: Edoardo --- Same with Michael, I am also one of the best students in my secondary schools, **learning math gives me a lot of satisfaction**. Besides that, everyone around me says that the **salary if taking math is good**. They always say something about data scientists, actuary and something like that.

Q3: (1) In Indonesia, what do people think about learning Mathematics in university?

(2) Do your parents agree with your choice of choosing Mathematics as your major?

A3: (1) Michael --- Actually, honestly speaking, I don't think many people in Indonesia really know about the major of Mathematics, **they did not know some related information, for example what's the possible future careers** for students in math major.

A3: (1) Edoardo --- For me, I think Indonesian **are used to think that Mathematics was always related to natural science**, like to become a professor or a researcher. Only in recent days, they realized that the application of Mathematics in **real-life scenarios**, but it is **only limited to actuary or data science**.

A3: (2) Michael --- For my parents, I think they are **very supportive of everything I choose**. I chose my path and they trust me one-hundred percent.

A3: (2) Edoardo --- Talking about my parents, previously they agreed with my decision to choose math because **they saw my performance in high school.** But now when they see me exhausted every day, they think that I should consider choosing another major in the future, for my master (haha).

Picture : Michel's family is very supportive for his decision.

Picture : Edoardo loves his family very much.

Q4: How do teachers in Indonesia teach Mathematics interestingly so that their students will love Mathematics?

A4: Michael --- Actually Edoardo and I were from the same high school, we had the same teachers. To be honest, I never found any teachers that teach Mathematics interestingly so far in my life, **but both of us still appreciate every teacher** that we've encountered in our lives.

I think the main reason why I had a passion for mathematics initially was a learning program **"Kumon"**, it provides various kinds of math courses in level. For example, level A is the easiest level and it's all about simple summation and subtraction. As the level goes higher, the course will become more and more difficult. **After I spent some time at Kumon, I felt like I was getting better in math**. I think when I was in fifth grade, actually I already learnt 3 levels above my current education level.

Q5: What things or people made you most surprised when you studied Mathematic at Xiamen University Malaysia? Why?

A5: Michael --- For me, I was the most surprised at my first semester, I was **shocked by some rigorous math courses**. In high school, I never learn deeply into the theorems, proofs, and stuff. So, I would say **there are a lot of differences compared with high school**. Besides that, I also spent some time to adapting to the different English accents of lecturers from different countries. These made me struggle for a while.

A5: Edoardo --- I also had the same experience, although some courses we already learnt in high school, yet I still **took some time to familiar with some proof** and that is actually a new experience for me.

Picture 5: Edoardo and his beloved pet.

Q6: If you have a chance to choose, would you like to study online in Indonesia or study offline in Malaysia?

A6: Michael --- For me, because I have had the experience of offline learning, I would say I will **choose offline in Malaysia but online for the assessments**. I really like online assessments because of the fact that I am a huge fan of open-book exams. It somehow **forces me to make a summary of the learning points** and this makes me learn more.

A6: Edoardo --- Actually I hope that we will **study offline together in Malaysia because we can meet our friends and have some discussions**, but sometimes I think that online learning also has advantages like you can open your book in the exam.

Q7: What is your plan after graduation? Would you go back to Indonesia to help your country develop Mathematics or Science?

A7: Michael --- For me, I am going to graduate soon and I am interested in going to the master program. However, I am in a dilemma to decide which major I want to pursue, so maybe I **will first work for a few years after graduation** and make my decision after I gain some experiences and if I still have enough motivation to do so.

A7: Edoardo --- For this one, whether I will take a master or look for a job first, and if talking about going back to Indonesia, I am not really sure about it. I love Indonesia very much and I am proud to be an Indonesian but honestly speaking, **the environment here is not really supportive for now** (but don't know in the future). I think I will not rush to make the decision, and we'll see later.

Picture 6:

Michael is going to graduate soon.

Q8: Can you share the most important/touching story related to your journey of learning Mathematics?

A8: Michael --- When I was in my first year, I underestimated this major because I think it will be similar to high school and at high school, I usually only needed to study for 1 to 2 hours to get full marks. I spent a lot of time in the XMUM Tennis Club because in Indonesia I don't really have many friends that can play tennis at a similar level as me. So, having a sort of community to develop my tennis skill is just awesome and I kind of shifted my focus there. Therefore, this caused me to not perform well basically the whole semester.

During the semester break, I received my result when I am on a family vacation and that was when I was in a car with the whole family going to a shopping mall in Singapore. I was so afraid that the result is going to be bad, and it was bad but at least not as bad as I expected. But still, it gave me some kinds of worries and disappointment and I still needed to hide it from my parents, especially.

After entering into my second semester, I decided to study harder, I know I can do better in this major if I put enough effort. Pandemic really helped my study, not because of the online exams, but it's because that I can finally focus 100% on academics as there are no tennis activities anymore at school. Moreover, being stuck at university during the pandemic really helped me to find who I really am and who I want to be in life, I got to know myself more during that period. And now, I am doing well, I'd say. I have no regrets continuing my journey in MAT, I felt like I learned a lot of things here, exposed to understanding difficult concepts, and I gain some skills that perhaps students in other majors do not possess.

Moreover, I would like to **specifically thank my academic advisor, professor Mounir Nisse**, I once told him that I considered changing major in my first semester because I don't think I would fit into a math major anymore. But there was one time when I started to gain my confidence more, and he said to me something that gave a glimmer of hope, not the exact words but it sounds like this, **"When I see you, I think that you actually can do it. You can understand the concepts but maybe you need to practice more, doing more homework."** Although these words might not sound very powerful, but at that time, I felt like he, as a professional in math, saw something in me and I held on to that belief as well. Then, I feel like I was ignited and rose like a phoenix from the ashes lol, now it's my turn to prove him right.

A8: Edoardo --- Ya, I agree with Michael. At first, I also **underestimate this major** because in the first semester it was only about the repetition of what we've learned in high school, but finally, I **realise that it is not as easy as I think**. I remembered when I did my first midterm and it is in Professor Teo class. I did it overtime and she told me to turn on my camera**. I think it was the first time I broke the rule due to overtime**. After that, I also learn how to rearrange and compile the document efficiently.

Picture 7: Dr Mounir Nisse's precious words always give Michael a lot of

Have you ever tried WORM JELLY?! Take a look at the fantastic food in Fujian, China.

2021-11-27

Introduction

Interviewee ： Zhu Jing Yi 朱静怡

Batch： 2009

Major： Mathematics & Applied Mathematics （MAT）

Q1: What **are** the **unknown** but **delicacies** in Xiamen?

A1: The ***sipunculid worm jelly*** [1] perhaps. It is a famous seafood snack in Quanzhou, Fujian. It's made of a kind of sea worm.

[1] ***The Sipunculid Worm Jelly***

[2] ***The Sausage with Sticky Rice***

Q2: What are the famous **snacks** in Fujian?

A2: Fujian snacks are famous all over China. Among which ***the sausage with sticky rice*** [2], ***Taro Pastry*** [3], ***Mochi*** [4], and **the Quanzhou *Shallot Pancake*** [5].

[3] ***Taro Pastry***

[4] ***Mochi***

[5] ***The Quanzhou Shallot Pancake***

Q3: What are the **specialty foods** in Fujian?

A3: I would recommend you try ***the Peng Hu Fried Wedding Cake*** [6], a symbol of good fortune and happiness, and ***the Ginger Duck*** [7].

[6] ***Peng Hu Fried Wedding Cake***

[7] ***Ginger Duck***

Q4: Are there any interesting **festive customs** you would like to share?

A4: Have you ever heard of the **Mooncake Gambling** [8]? It's a tradition of the **Mid-Autumn Festival** in Fujian. In modern times, the game's instructions are often printed on mooncake packaging, although the game is also played with prizes of daily necessities, household appliances, or money.

博　饼

Mooncake Gambling

[8] ***Mooncake Gambling***

XMUM Level Up Campaign on Last Spring and Summer

- MPU4.1 Community Service Experience Sharing

2021-12-13

Introduction

Interviewee	**Tan Li Wei 陈力维**
Batch	2104
Major	Mathematics & Applied Mathematics (MAT)
Community Service Team	XMUM Level Up Campaign
Position	Assistant Project Leader

Photo : Photo of Tan Li Wei, Assistant Project Leader of XMUM Level Up Campaign.

Photo : Official logo of XMUM Level Up Campaign.

Questions

1. About the team & the campaign • **Theme & objective** • **Members & departments**	**2. Motivation to choose this project.**
3. Details of works & the results.	**4. Most serve difficulty during the event & ways to overcome it.**
5. Advice for the students who will be taking the community services in the future.	**6. Scientific principles or methods that can improve our life.**
7. Reflection on the project • **Restart? (Yes/no)** • **Improvements that can be done.**	**8. Expression of gratitude & last word.**

Interview

Q1: (1) What is the theme and the objective of the campaign?

(2) How many members and departments are there in the team?

A1: (1) Our team is carrying out a **self-development themed** campaign called the Level Up Campaign.

The main objective of this campaign is to **spread awareness to the public on the importance of building good habits**. Our primary focus is on four specific themes: **social, physical, mental, and emotional.**

(2) We have **24 members** in our team which are from the school of Mathematics, Advertising, Computer Science, and Journalism. Besides that, our members come from 4 different countries, which are Indonesia, Korea, Malaysia and China.

Moreover, our team have **6 departments** in total which are Secretary, Event Planner, Publicity, Multimedia (Designers & Copywriters), Research and Videography/Photography.

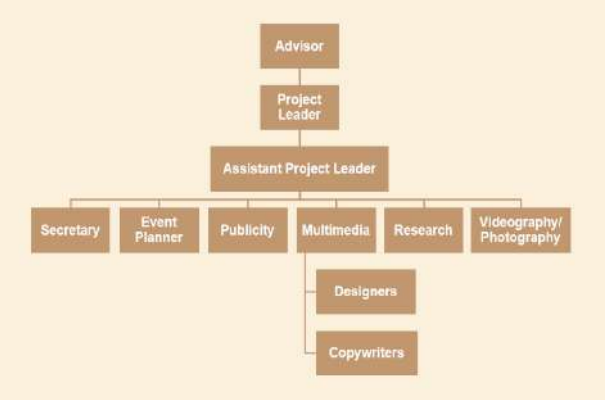

Figure : Organization Chart of XMUM Level Up Campaign Team.

Q2: What motivated your team to choose and carry out this meaningful project?

A2: Lockdowns and preventative measures have upended our lifestyle. Most of us are more isolated than ever before. This has led to a sharp **decrease in positive experiences and a corresponding rise in negative habits and mental distress**.

However, we have no choice but to stay strong and overcome the challenges that life throws at us. We need to find the motivation to make the most of it and better ourselves. **Self-development is the way for everyone to improve and become excellent. Our campaign "Level Up" is our attempt at becoming the best version of ourselves, and to build a brighter future for all of us.**

Q3: (1) Can you tell us some details about your team's daily work?

(2) Does these works gain some results?

A3: (1) We will **research tips and benefits of some good habits every week and post the information on our Instagram Account (XMUM_LEVELUP)**; we hope by doing this, people can start to make some minor changes in their lives.

(2) After putting in some effort, we are proud that people have started to be aware of our works. **Until 1st December, 300 peoples followed us on Instagram**. Besides that, **70 participants participated in our workshop related to emotional help**, which is far more than planned.

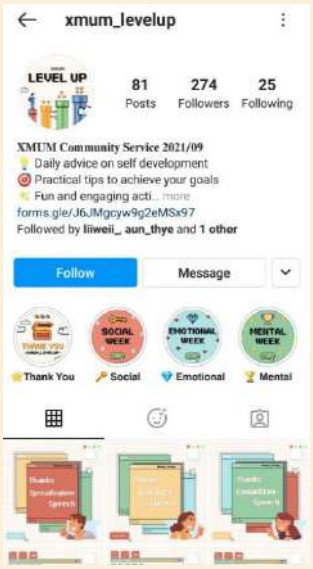

Photo : Official Instagram account of XMUM Level Up Campaign (XMUM_LEVELUP).

Photo : Some information posted on their Instagram account.

Q4: (1) What was the most severe difficulty that your team encountered during the event?

(2) How did your team overcome it?

(3) What had you learned from the difficulty?

A4: (1) The most severe difficulty that I had faced was that we **couldn't find speaker** that willing to give a talk. I had sent several emails but didn't get any reply. Besides that, **online class also made communication** between us become **more difficult**.

(2) Fortunately, a youth organization**, Spreading Love, accept our invitation finally**. The key to overcome all of these difficulties is **never give up and keep giving your effort**.

(3) I have learned **team spirit** in the whole process; 6 departments cooperate and carry an essential role in the project execution. The proudest thing for us is that **the public appreciates every department's effort.**

Q5: Can you give some advice for students who would like to join the community services in the future?

A5: Compared with other schools, students of the School of Mathematics were busier; we had more assignments, quizzes, and midterm. **Time management is essential**, don't try to do everything at the last minute; we should try to distribute our works into a few parts and complete it step by step.

Besides that, I encourage students to have **more collaboration with students from others school**, such as advertising, journalism. A diverse team and different perspectives always produce a good idea. Moreover, students from advertising and journalism have much experience managing social media, and we can learn much from them.

"

All the time management begins with planning.

-Tom Greening

"

Q6: In your opinion, what are the scientific principles or methods that can help everyone improve their lives?

A6: I want to talk something about **facing pressure and how to deal with many tasks in same time**. When we have many tasks, we first need to **calm down and ponder all tasks carefully**; which task is the most important and which can be delayed. For me, I will first **list out all the task and arrange them according the importance of works**. This method helps us remember every task and can manage our time easily.

Q7: (1) If everything could restart again, will you choose to execute this project again?

(2) Is there any improvement that can be made if this project were to organize again in the future?

A7: (1) **I will choose this project again** because I feel that pandemics make our lives worse, and I hope to change something.

(2) If the project needs to be organized again, I will **invite speakers earlier and focus on the volunteer-based organization** since they will be more willing to help others. Last but not least, I hope we can **prepare more high-quality knowledge for everyone**, so the world becomes better.

Q8: (1) Is there anyone that you would especially like to thank?

(2) Can you help us summarize up this interview by giving some last words?

A8: (1) I want to thank **all members**; everyone tried their best to complete the task, which made our project execute smoothly. I also would express my gratitude to **all the speakers**; they shared their precious knowledge and made our event more enjoyable.

(2) The last thing I want to share is that **if you're going to complete an item, you need to put effort**. **As long as you have given your effort, the good thing will come!**

Photo : Group photo of XMUM Level Up Campaign Team which contains all 24 members.

“

If you're going to complete an item,
you need to put effort.
As long as you have given your effort,
the good thing will come!

-Tan Li Wei

”

Publication List

MAT Department, 2021

Dr. Mounir Nisse

- **Document Title:** A natural topological manifold structure of phase tropical varieties
- **Source Title:** Journal Korean Math. Soc.
- **Date of Publication:** 2021.3.1
- **ISSN or ISBN:** 2234-3008
- **Role:** First author
- **Impact Factor(5-year):** 0.754

- **Document Title:** The zero-temperature limit of grand canonical ensembles via tropical geometry
- **Source Title:** Analysis and Math. Phy.
- **Date of Publication:** 2021.9.1
- **Role:** First author
- **Impact Factor(5-year):** 1.404

- **Document Title:** Light-ring pairs from A-discriminantal varieties
- **Source Title:** Phys. Rev. D
- **Date of Publication:** 2021.11.15
- **ISSN or ISBN:** 2470-0029
- **Role:** Co-author
- **Impact Factor(recent):** 5.296

- **Document Title:** Deacribing amoebas
- **Source Title:** Pacific Journal of Mathematics
- **Role:** First author
- **Impact Factor(5-year):** 1.492

Dr. Piyratane Hathurusinghege Dulip Bandara

- **Document Title:** Donaldson–Thomas invariants of abelian threefolds and Bridgeland stability conditions
- **Source Title:** Journal of Algebraic Geometry
- **Date of Publication:** 2021.9.14
- **ISSN or ISBN:** 1534-7486 (online) 1056-3911 (print)
- **Role:** Co-author
- **Impact Factor(5-year):** 2.903

Prof. Dr. Teo Lee Peng

- **Document Title:** Resolvent trace formula and determinants of n Laplacians on orbifold Riemann surfaces
- **Source Title:** SIGMA
- **Date of Publication:** 2021.9.13
- **ISSN or ISBN:** 1815-0659
- **Role:** Sole author
- **Impact Factor(recent):** 1.072

Dr. Liew Siaw Ching

- **Document Title:** Thermodynamic analysis of CaS production from various Ca-based precursors: A Prequel to SO2 reduction mediated by CaS/CaSO4 redox agents
- **Source Title:** Process Safety and Environmental Protection
- **Date of Publication:** 2021.3.1
- **ISSN or ISBN:** 0957-5820
- **Role:** Co-author
- **Impact Factor(5-year):** 6.046

Afterword

2021 is quite a precious year; although many people face some health issues, I would like to congratulate everyone that overcame every difficulty in 2021.

In producing this magazine, the editorial team had interviewed a few outstanding interviewees; we discovered that every interviewee used to face hard times; however, all of them showed their high ability to overcome adversity. I think this is why these interviewees are outstanding, and I believe everyone has this kind of ability in their heart. I would like to discuss with everyone, how can we discover or cultivate this kind of ability?

Having interview sections with interviewees broadens my horizons; I feel so lucky to have this chance to learn from all outstanding interviewees. I sincerely hope that sharing these interviewees' stories with everyone can help readers who face some difficulties. Lastly, I would like to express my gratitude to everyone contributing to this magazine. It is pretty lucky for me to have a chance to cooperate with all of you.

Tan Hong Sheng

Chief Editor

2021 is a year for me to find myself; I tried many new things new styles. Making this magazine was one of those attempts, and what I learned and experienced in it became part of me. Its birth gave me the opportunity to have conversations with more interesting, excellent people and found a lot of answers to my confusion. For example, I thought about the meaning of learning mathematics when interviewing Wei Lam, I found the motivation to stick to learning mathematics in interview with Fang Yu, I learnt never give up in the face of setbacks and low points in life when talking to Zong Qi , and I searched for the most ordinary happiness in our life talking with Nomi. Now I may still be a confused 19-year-old college student, but I have learned more about myself, about what kind of person I want to be, about how to live my life well.

Another reason for starting this magazine is that we hope to make a small effort to reduce the information gap. In 2021, I realized the influence of poor information. Some people miss many opportunities because of information gaps, and some fail to get rid of the distracting thoughts in their hearts because of poor information and constantly deny themselves. No mention we are going through an unending epidemic, so we hope that the appearance of this magazine will provide more information and give help to those who read it, no matter how small the influence would be.

May we all be better ourselves.

Ou Shiyue

Chief Editor

"MAY WE ALL BE BETTER OURSELVES."

" I'M SURE THAT YOU WON'T REGRET IT :) "

I was honored to work as a part of the editorial team to publish the first edition of this magazine. It was indeed a good experience for me to learn a lot of things and discover more interesting stuff that happened in MAT course. Even though I encountered with some hardship during the whole process but it was still a fun journey; I felt like all the hard work was paid off at the moment that the magazine was published. If the whole thing will be restarted, I will still choose the same choice by taking part in this activity again.

Next, I would like to express my gratitude to each and every member of the editorial team. By working together with them, I truly saw what a team spirit is. It was enjoyable and I hope to get a chance to work together with the team again in the future. Besides that, I would like to thank the interviewees and information contributors for their helps. It made the magazine more amazing and colorful. Last but not least, I would also like to thank all the readers for willing to give us a chance by reading this magazine. P.S.: If you find the magazine interesting, join the MAT student council and become a part of the editor team for the next edition of this magazine (if there is). I'm sure that you won't regret it. :)

Liew Yi Qing

Coeditor

In the beginning, I participated in the production of this magazine as an interviewee. After deeply understanding the purpose and significance of making this magazine, I decided to join the editorial team. So when I joined the team, the first issue of the magazine is almost ready to take shape. Although I didn't see the magazine go from idea to launch, I was honored and felt fortunate to be part of the editor team.

Another reason to join this team is that, as you can see, our main format is interviews, in this process, I can make friends with many excellent people, talk with them, learn from them, and listen to their experiences and ideas. At the same time, it is very good for my social skills and English.

About this magazine, I think its existence is necessary, because the first impression of the mathematics department is abstruse and boring, which is the stereotype of the mathematics department. And this magazine brings together interesting, talented people to give you a sense of the humor of the math department and the direction of the future of math, which I believe is what students of math and those who are about to learn math want to know.

"This magazine brings together interesting, talented people to give you a sense of the humor of the math department."

Zhu Jingyi

Coeditor

"Hopefully, the stories in this magazine can bring some comfort to those stuck at home and are trying to make it through online classes."

Many thanks to Shiyue and Hong Sheng for giving me the opportunity to help out with the magazine despite my limited editing and designing skills. Without their unwavering support and diligence, this project might have ended up in the drain. Also, my heartfelt thanks to Yi Qing and Jingyi with their immense effort and creative contributions, all interviewees who contributed their time to share their stories, and everyone who wrote a piece for this issue.

Due to the Covid-19 pandemic which has deprived us from having any forms of physical class and activities for quite a painstakingly long time, the Unearthed Axis magazine is an attempt to pen many moments and stories during this special time (and hopefully more in the future, even after the pandemic). Although this magazine is not close to perfect, I hope the stories in this magazine can bring some comfort to those stuck at home and are trying to make it through online classes. May all readers enjoy the debut of the magazine. Have fun reading.

Chang Jia Yi, Vicky

Coeditor