

# **XTOP – 2021**

## **Conference Proceedings**



*Date: Friday May 7, 2021 18:15 to Saturday May 8, 21:00*

*Venue: Far East Telecommunications Building, Yuan Ze University (YZU)*

*135 Yuang Dong Dr, Zhong-Li District, Taoyuan City, Taiwan, ROC*

*Room YZU-R70101 Website: <http://xtop.kejiyingwen.com>*

*Sponsored by*

*International Program in Electrical and Communication Engineering,*

*Yuan Ze University, Chung-Li, Taiwan*

# About the XTOP Conferences

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## Overview

The XiaoTu Conference of Science and Engineering with Open Participation (XTOP), held since 2005 at leading universities in Taiwan, provides an opportunity for students in the field of engineering to present in English to their peers in a friendly setting. The conference endeavors to promote technical exchange in English among students. A unique feature of this conference is that presenters have the opportunity to receive written feedback on their presentations from established researchers, – native English speakers as well as their peers.

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## Motivation

The organization of this conference was prompted by two trends in Science and Engineering – *globalization*, and the rise of *interdisciplinary* research. Its purpose is thus 2-fold.

1. To provide students a chance to present (orally) their research in *English* in a standard conference setting. The hope is that this experience will give students greater confidence in presenting their work in an international setting.
2. To provide a venue in which students can meet and *network* with students in other universities. The hope is that these relationships will in the future give rise to fruitful collaborations.

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## Presentation Format

Talks (12 min talk + 3 min for questions) will be scheduled in related sessions and chaired by fellow students. All abstracts will be published electronically and archived. In general, one should prepare 12-15 view graphs for a talk:

1. Title Page (Include a picture of your supervisor/coauthors)
2. Outline of the talk
3. General Introduction
4. General Introduction and Importance of the Research
5. Overview of the Research area
6. Overview of the Research area
7. Experimental techniques
8. Experimental techniques
9. Key Research Results
10. Key Research Results
11. Key Research Results
12. Conclusions & importance of the work
13. Next steps (e.g. what is to be done next / what you will do next)
14. Possibilities for future collaboration

## Award Winners

	Student's Choice Awards*			Teacher's Choice Awards*		
<b>Gold</b>	Siyanda Masuku		1073832	Jerry Lin	林傑立	1083738
<b>Silver</b>	Snow Xue Er	雪兒	1083746	Yi Cheng Tsai	蔡易澂	1083705
	Brent Liu	劉軒佑	1083713	Eric Chung	鍾宙穎	1083719
<b>Bronze</b>	Jeffery Kao	高梓傑	1083725	Margo Hsieh	謝佳妤	1083708

\*Winners of the Student's Choice Award are not eligible for the Teacher's Choice Award

## Session Chairs

Session	Session Chair	YZU Student ID
Post Deadline	Stanley Hsieh	1083711
S1	Siyanda Masuku	1073832
S2	Eric Chung	1083719
S3	Vincent Lin	1083737
S4	Siyanda Masuku	1083719
S5	Eric Chung	1073832

## Schedule

Time	Activity
18:15 ~ 18:30	Friday Conference Registration: Sign In
18:30 ~ 20:15	Friday Post-Deadline Papers: High Quality, High Impact!
08:00 ~ 08:15	Saturday Conference Registration
08:15 ~ 09:45	Session 1: Newton & Faraday
09:45 ~ 10:15	Coffee Break
10:15 ~ 12:00	Session 2: Scientists: From Gauss to Musk
12:00 ~ 12:45	Lunch (Courtesy of the YZU International Program)
12:45 ~ 14:45	Session 3: Smorgasbord
14:45 ~ 15:00	Coffee Break
15:00 ~ 17:00	Session 4: In-depth Topics
17:00 ~ 18:00	Dinner Break
18:00 ~ 20:15	Session 5: Personal Research "CAPSTONE" projects AND Invited Talk: Prof <b>Chu Lung Chen</b> , Dept. of Electrical Engineering(C), YZU
20:15 ~ 20:30	Closing Remarks & Award Ceremony

# Talks

## ***FD: 18:30 ~ 20:15 POST DEADLINE - Chair: Stanley Hsieh***

	Time	Speaker	Title	Mark
1	18:30 ~ 18:45	Joy	Friction	
2	18:45 ~ 19:00	Angel	Robot	
3	19:00 ~ 19:15	Vivian	the usage of smartphone	
4	19:15 ~ 19:30	Bao Le	Towards the Provision of Healthy Lighting	
5	19:30 ~ 19:45	App	IoT Control System for Lighting	WITHDRAW
6	19:45 ~ 20:00	Ali	Using Accelerometry to monitor activity and sleeping	
7	20:00 ~ 20:15	Anu	Statistical Analysis of Accelerometric and Bed Exit Data	

Main Conference Begins....

## ***S1: 08:15 ~ 09:45 Newton and Faraday - Chair: Siyanda Masuku***

	Time	Speaker	Title	Mark
1	8:15 ~ 8:30	Jon	Welcome Speech	0→10
2	8:30 ~ 8:45	Ethan	Newton	
3	8:45 ~ 9:00	Stanley	Isaac Newton	
4	9:00 ~ 9:15	Harry	Generator pioneer	
5	9:15 ~ 9:30	James	Purely Curiosity	
6	9:30 ~ 9:45	Eric	Michael Faraday: Greatest "experimental physics" scientist in history	

## ***S2: 10:15 ~ 12:00 From Gauss to Musk - Chair: Eric Chung***

	Time	Speaker	Title	Mark
1	10:15 ~ 10:30	Edward	Johann Carl Friedrich Guass (Gauss's law)	
2	10:30 ~ 10:45	Sean	Nikola Tesla - The man who invented 20th century	
3	10:45 ~ 11:00	Larry	Nikola Tesla	
4	11:00 ~ 11:15	Vincent	Maria Curie's science contribution	
5	11:15 ~ 11:30	Jason	Madame Curie-the pioneer in the field of science	
6	11:30 ~ 11:45	Jeff	Elon Musk's contribution and work ethics	
7	11:45 ~ 12:00	Luke	Elon Musk: The future world designed for us by the world's richest man	

**S3: 12:45 ~ 14:45 Smorgasboard - Chair: Vincent Lin**

	Time	Speaker	Title	Mark
1	12:45 ~ 13:00	Chris	The invent of telegraph	
2	13:00 ~ 13:15	Jerry	artificial intelligence use in our life	
3	13:15 ~ 13:30	Margo	How students select personal computer	
4	13:30 ~ 13:45	Tom	Are e-cigarettes healthier than cigarettes?	
5	13:45 ~ 14:00	Walter	The impact of lack of sleep on human body	
6	14:00 ~ 14:15	Tank	Technology used in medical	
7	14:15 ~ 14:30	Alan	Taiwan's success in epidemic prevention	
8	14:30 ~ 14:45	Kenny	Information war	

**S4: 15:00 ~ 17:00 In-Depth Topics - Chair: Siyanda Masuku**

	Time	Speaker	Title	Mark
1	15:00 ~ 15:15	Martin	Graphics Card	
2	15:15 ~ 15:30	Mandy	The Applications of IoT	
3	15:30 ~ 15:45	Alex	5G	WITHDRAW
4	15:45 ~ 16:00	Michelle	application of medical technology	
5	16:00 ~ 16:15	Bruce	Some simple bitcoin economics	WITHDRAW
6	16:15 ~ 16:30	Snow	Applying Deep Learning To Recognize Whether People Wear Mask Or Not	
7	16:30 ~ 16:45	Matt	Plastics and microplastics in the oceans: From emerging pollutants to emerged threat	
8	16:45 ~ 17:00	Jeffery	communicate with the dog	

**S5: 18:00 ~ 20:15 Personal Research Work & Invited - Chair: Eric Chung**

	Time	Speaker	Title	Mark
1	18:00 ~ 18:15	Oscar	New generation display technology - MiniLED	
2	18:15 ~ 18:30	Brent	Privacy Preserving with kNN algorithm	
3	18:30 ~ 18:45	Siyanda	Clinical and genetic variability for people with partial albinism	
4	18:45 ~ 19:00	Kevin	What is the Internet of Things?	
5	19:00 ~ 19:15	Even	electromagnetic brick	
6	19:15 ~ 19:30	Howard	Recurrence relation	
7	19:30 ~ 19:45	Raven	Morris Chang: important person of semiconductor manufacture	
8	19:45 ~ 20:00	Chu Lung Chen (Prof)	Common English Problems for Taiwanese Students	
	20:00 ~ 20:15			

## Abstracts

### ***FD 18:30 ~ 20:15 Post Deadline Papers***

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#### ***Friction***

Presenter: Joy Wang Jia Row]u (王佳柔)

Submission Type: Famous Scientist and His Contribution

The people can normally walk or run ,all from friction. For the object can stay firmly in the same place, all with the help of friction. If we live in a world which doesn't have friction, I think people may keep falling and object will steadily sliding on the ground. Guillaume Amontons was the first discover, and make a series of studies. The friction force in later studies found that it is related to physical factors.

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#### ***Robot***

Presenter: Angel Pei Yu Chung (鍾珮郁)

Submission Type: My Research Work

With the improve of technology, there are more and more robots made for particular purpose. Some robots can help people finish those tedious work, such as robot vacuum, industrial robot, and so on. What's more, there are also robots made to company people. This kind of robots usually highly smart. They not only talk with people, but also do something their owners assigned. I will present the reason why the robot exit, and what it bring to us.

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#### ***the usage of smartphone***

Presenter: Vivian Huang Wei En (黃微恩)

Submission Type: First Semester Research Paper for Advanced Written

Since the first mobile cellphone came out until now, mobile phones has taken a huge part in our regular lives. According to the survey of students use smartphone, we can discuss students use smartphone frequency and grades. In this report we are going to talk about the cellphone usage among students, including the impacts. What and when will students use their mobile phone.

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#### ***Towards the Provision of Healthy Lighting***

Presenter: Bao Le (黎宝)

Submission Type: My Research Work

TBA

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#### ***Using Accelerometry to Monitor Activity and Sleeping***

Presenter: Ali Gulsatar (阿沙塔)

Submission Type: My Research Work

TBA

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#### ***Statistical Analysis of Accelerometric and Bed Exit Data***

Presenter: Anushiya Marimuthu (瑪希亞)

Submission Type: My Research Work

TBA

## **Session S1 08:15 ~ 09:45: Famous Scientists: Newton and Faraday**

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### **Newton**

Presenter: Ethan -Linyichen (林奕辰)

Submission Type: Famous Scientist and His Contribution

Isaac Newton was a British mathematician physicist and astronomer. His works explored from chronology, alchemy, to Biblical interpretation. He developed the principles of modern physics through his studies on mathematics, optics and motion. His book is often cited as the most influential document on physics. Isaac Newton is most famous for his law of gravitation and his contribution to calculus

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### **Isaac Newton**

Presenter: Stanley-Hsieh Xiang Quan (謝翔全)

Submission Type: Famous Scientist and His Contribution

Issac Newton is one of the most famous scientists in the world. His research field covers from physics to math, and most of his theories have been applied widely nowadays. So I decided to see more information about Issac Newton's research and how those theories are applied in modern technology.

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### **Generator pioneer**

Presenter: Harry-Shi-Xun (Lin)

Submission Type: Famous Scientist and His Contribution

The reason why we can use electricity so easily nowadays is that we have generators to help us generate electricity. And who invented the generator first? He was Faraday, who found the initial model of the electric generator, which led to the evolution of later generators to the present power plants or independent generators.

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### **xPurely Curiosity**

Presenter: James-Jun-Yuan-Wang (王俊諺)

Submission Type: Famous Scientist and His Contribution

A legend of Electromagnetism, depend on his curiosity he develops magnetic field. Even he never has formal education. Everything is beginning in why? how? what? His contribution not only in Electromagnetism but also science, like Faraday's law, magnet induction, we can have convenience life he has lots of contribution. Like electric generator, motor.

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### **Michael Faraday: The greatest "experimental physics" science in history**

Presenter: Eric-Chung Chou Yin (鍾宙穎)

Submission Type: Famous Scientist and His Contribution

"Faraday is one of the most influential scientists in history." I believe no one object to this sentence. He devoted all his life to scientific research and his research affect our lives. Some people call Faraday the "father of electricity", but do you know how many innovative insights he put forward in the field of electricity? In this presentation, I will introduce lots of things about Faraday. I will also talk about my opinion and my reflection on Faraday.

## **Session S2 10:15 ~ 12:00: Famous Scientists**

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### ***Johann Carl Friedrich Guass (Gauss's Law)***

Presenter: Edward-Liao Min-Cheng Liao (廖敏丞)

Submission Type: Famous Scientist and His Contribution

Gauss has been very talented since his childhood. He has discovered many theories when he is little. Gauss's law is also called Gauss's Flux Theorem (Gauss's Flux Theorem), which is mainly about the relationship between mutual interactions. Content description: the electric flux passing through any enclosed surface is directly proportional to the charge inside the enclosed area. This Theory laid the foundation for the future of electromagnetic.

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### ***Nikola Tesla – The man who invented 20th century***

Presenter: Sean-Tsang Chen Hsiang (臧晨翔)

Submission Type: Famous Scientist and His Contribution

Nikola Tesla was an engineer and inventor who is highly regarded in energy history for his development of alternating current electrical systems. He also made extraordinary contributions in the fields of electromagnetism and wireless radio communications. I am going to talk about his entire life and take a deeper look at all his greatest contributions to society.

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### ***Nikola Tesla***

Presenter: Larry-Yu-Rui Lai (賴昱叡)

Submission Type: Famous Scientist and His Contribution

We use computer, light and air condition, all of them need electricity. Could you imagine how we live without electricity? Thank to Nikola Tesla, he improved and invented Alternating Current(AC), so we can use electricity. Not only AC, he also had many inventions, including remote control... In short, he really is a great inventor.

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### ***Maria Curie's science contributions***

Presenter: Vincent Lin Tzu Hao (瑪西亞)

Submission Type: Famous Scientist and His Contribution

Maria Curie, who invented the radiation theory, has made a huge progress for the nuclear power. She found out that the X element may checkup the injury from bullet wound and fracture. This discovery had provide first timing medical care for those victim at the battle front. Her two main inventions are not only discovering Ra and Po, but also finding out how dangerous radiation elements. The radiation elements are so dangerous because of the poison. Thus, this poison had caused the death of Maria Curie. After those incident, people have known more about the radiation elements. The knowledge of the elements also made people know how to use nuclear power quicker and safer. These success from Maria Curie made her one of the most meaningful scientist, also became the basic of the new inventions and technologies nowadays.



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### ***Madame Curie-The pioneer in the field of science***

Presenter: Jason Liu kai chi (劉楷祺)

Submission Type: Famous Scientist and His Contribution

Madame Curie, the Polish-born French physicist, and chemist. She was the first woman who got two Nobel prizes in history. Her achievement includes created the theory of Radioactivity and found two new elements which are Polonium(Po) and Radium(Ra). Her behavior really makes a huge contribution to the 20 and 21 centuries.

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### ***Elon Musk's contribution and work ethics***

Presenter: Jeff-Chen Chien Yuan (陳建源)

Submission Type: Famous Scientist and His Contribution

As a successful businessman and an entrepreneur of several renowned company, he has gone through a lot to be who he is today. Elon Musk is a South African-born American entrepreneur and businessman who founded X.com in 1999 (which later became PayPal), SpaceX in 2002 and Tesla Motors in 2003. Musk became a multimillionaire in his late 20s when he sold his start-up company, Zip2, to a division of Compaq Computers. through this talk i will introduce how he succeed.

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### ***Elon Musk: The future world designed for us by the world's richest man***

Presenter: Luke-Chin-Ru Wu (吳致儒)

Submission Type: Famous Scientist and His Contribution

Everyone all heard Musk who is a serial entrepreneur. taking charge of several companies. From universe(SpaceX) to ground (Telsa) then underground(Boring Company). He always had lots of novel ideals. These made he extraordinary and full of mystery. Let us see how Musk's invention change our world.

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## ***Session S3 12:45 ~ 14:45: Smorgasboard***

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### ***The invent of telegraph***

Presenter: Chris-Zih Chian Wang (王子謙)

Submission Type: Famous Scientist and His Contribution

Early communication is very inconvenient. It may take tens of days for a letter to be sent to another person. This makes people unable to immediately receive important information. We will discuss who solved this problem and how he resolved it, also if he did not invent it, who will?

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### ***Artificial intelligence use in our life***

Presenter: Jerry-linjieli (林傑立)

Submission Type: First Semester Research Paper for Advanced Written

Artificial Intelligence appear in our life, it makes us become convenience. In this report, it will show what applications use in AI. In particular, the report will show how SIRI is being used on cell phones, the age distribution of users, etc.

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### ***How students select personal computer***

Presenter: Margo -Chia Yu Hsieh (謝佳妤)

Submission Type: First Semester Research Paper for Advanced Written

In this generation, almost everyone has at least one PC, so do students. Students have many restrictions on choice. So we made a form do some survey. Test two hypotheses. One is that the percentage of students has extra income buying PC by their own money probably more than students do not have. Second is gender may have different priority on PC consideration. After the survey, we can direct know computer sellers and manufacturers strategies on the student groups.

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### ***Are e-cigarettes healthier than cigarettes?***

Presenter: Tom-huang cheng hung (黃政閔)

Submission Type: Indepth topic study

Since the advent of e-cigarettes, many people will start to compare the difference between it and cigarettes. Except that e-cigarettes do not have the problem of second-hand smoke, some people think that e-cigarettes are better than cigarettes without tar and other harmful substances. The actual comparison is really true. Is that so?

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### ***The impact of lack of sleep on human body***

Presenter: walter-wu chen xuan (吳晨瑄)

Submission Type: Indepth Topic Study

Modern people are affected by living habits, study, and work pressure. Many people suffer from insufficient sleep or even insomnia. They are affected by a variety of subjective or objective factors, especially the problem of insufficient sleep among our college students. Research reports have shown that respiratory diseases may occur. Physical diseases such as headaches, headaches, etc. will affect students' mental health. Problems such as inattention, memory loss, and emotional distortion will have a great negative impact on students' study and life.

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### ***Technology used in medical***

Presenter: Tank-SHIH-HO-YUAN (施賀元)

Submission Type: Indepth Topic Study

As people's lifespan grows, people pay more and more attention to health. And the progress of science and technology, has also brought about many medical services, with more accurate judgments, and better technology and equipment. And the application such as Robotic surgery, 3-D printing, Artificial organs...

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### ***Taiwan's success in epidemic prevention***

Presenter: Alan-Cheng chao yang (鄭兆洋)

Submission Type: Indepth Topic Study

In the era of the epidemic, compared with other countries, Taiwan's people can lead a normal life, and sports events can be held as scheduled under orderly control; the most important thing is that the people can stand by themselves and abide by the epidemic prevention rules, even if there are difficulties in the process. , All people share the same responsibility. In addition to the people, the epidemic command center also made every effort to implement epidemic prevention measures, demonstrating Taiwan's success in international epidemic prevention.

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### ***Information war***

Presenter: kennty-Huang Zi YU (黃子育)

Submission Type: Indepth Topic Study

I think people should know about the war can't just be some fatal weapon like guns or bullet, Information war are also a fatal ways to attack people, especially in Taiwan, we have a huge threat from China, I think we should more careful when we search any website to prevent some big problem.

### ***Session S4 15:00 ~ 17:00: In-Depth Topics***

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#### ***Graphics Card***

Presenter: Martin-Chén Bó Hàn (陳柏翰)

Submission Type: Indepth Topic Study

Graphics card is the most important part in the computer. It is an expansion card which generates a feed of output images to a display device. Graphics card is also the most important market in the technology industry. According to the ITA, it is expected to reach more than 830 billion US dollar by 2022. Even though it was affected by the shrinking of the overall PC market. Due to the global e-sports boom, the demand for medium and high-end graphics cards has greatly increased, coupled with the mining demand of blockchain technology, the graphics card market still maintains a certain amount of shipments.

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#### ***The application of IoT***

Presenter: Mandy-Yi Ning Huang (黃翊寧)

Submission Type: Indepth Topic Study

The Internet of Things can help people live and work smarter. In addition to smart assistants that can help home automation, the Internet of Things is also very important for enterprises. The Internet of Things provides companies with real-time information about the actual operation of the system. The Internet of Things allows companies to automate and reduce labor costs, as well as reduce waste and improve product quality, thereby reducing the cost of manufacturing and delivering goods.

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#### ***Application of medical technology***

Presenter: Michelle-Szu-Chen Yeh (葉思辰)

Submission Type: Indepth Topic Study

Medical image, telemedicine and remote patient monitoring are the applications of Medical technology. Medical technology is the application of AI, IoT and cloud computing, advance analysis and so on in the medical industry. It helps to solve the problems like efficiency, possibility of misdiagnosis and short-handed. There will be more practical applications to make a big change of the medical industry. the world now is facing covid-19, the importance of vaccine and its efficiency of development is what we care about. and medical technology may help a lot.

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### ***Applying deep learning to recognize whether people wear mask or not***

Presenter: Snow -Xue Er (雪兒)

Submission Type: Indepth Topic Study

The increase of Covid-19 cases reminds people of the importance of how to protect themselves from the Covid virus. Fortunately, one of the most effective and easiest methods is wearing a mask to avoid the virus. We will review one of the applications of using Deep Learning to let the program check whether a person wears a mask or not.

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### ***Plastics & micro plastics in the oceans: From emerging pollutants to emerged threat***

Presenter: Matt-Chang Chia Hsian (張嘉賢)

Submission Type: My research work

Plastic production has increased dramatically worldwide over the last 60 years and it is nowadays recognized as a serious threat to the marine environment. Plastic pollution is ubiquitous, but quantitative estimates on the global abundance and weight of floating plastics are still limited, particularly for the Southern Hemisphere and the more remote regions. Complex ecotoxicological effects are increasingly reported, but the fate and impact of micro plastics in the marine environment are still far to be fully clarified

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### ***Communicate with the Dog***

Presenter: Jeffery -kaotzuchieh (高梓傑)

Submission Type: Indepth Topic Study

Nowadays, more and more people kept a dog as a pet in the city. However, the dog that lives in a small place usually shows unstable emotion or even destroys things. Punishing the dog is the worst way to teach your pet. Word, what to tell your dog can be done by eye contact or gesture. We will the way how to communicate with your pet and how to teach them human manners.

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### ***Session S5 18:00 ~ 20:15: Personal Research “Capstone” Project***

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#### ***New generation display technology – Mini LED***

Presenter: YI CHENG TSAI (蔡易澂)

Submission Type: My research work

As the technology evolution, develop lots of different screen lighting technology, such like TN, IPS, and OLED. Each one has their own pros and cons; for example, TN's screen responds is quickly, but the color display on it is not very well; and the OLED display is very beautiful, but it has the common problem about color decay. Thus, I will discuss all of old and new technology, and analyze which display devices these different technologies are suitable for use in our daily life.

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### ***Privacy Preserving with kNN algorithm***

Presenter: Brent -Xuan-You Liu (劉軒佑)

Submission Type: My research work

Nowadays Machine Learning used in different varieties, such as surgery, social media, advertisements ...etc. In this research, we trying to use privacy preserving techniques in order to preserve sensitive data, meanwhile, we also try to maintain the kNN algorithm's accuracy to at least 80%. In the last stage of the research, we hope we can implement some performance improvements into the kNN algorithm in order to reduce the overhead that privacy preserving created.

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### ***Clinical and genetic variability for people with partial albinism***

Presenter: Siyanda-Mǎ xīyǎ (瑪西亞)

Submission Type: Famous Scientist and His Contribution

Albinism is due to absence of melanin pigment in skin, hair and eyes. It's a medical condition for which genes are responsible . People who have ocular features of albinism and skin pigmentation based on their family background show a considerable diagnostic challenge. Timely diagnosis through genomic testing can help avoid diagnostic odysseys and enable exact genetic counseling. Here, I will review a report about the clinical and gene panel testing findings in children with presumed ocular albinism.

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### ***What is the Internet of things?***

Presenter: Chen-guan-zhi (陳冠志)

Submission Type: My research work

The IoT describes the network of physical objects—"things"—that are embedded with sensors, software, and other technologies for the purpose of connecting and exchanging data with other devices and systems over the Internet. Things have merge multiple technologies, machine learning, commodity sensors, and embedded systems.[1] Traditional fields of embedded systems, wireless sensor networks, control systems, automation, and others all contribute to enabling the IoT . IoT application including devices and appliances (such as lighting fixtures, thermostats, home security systems , and other home appliances) ,it can be controlled smartphones or smart speakers.

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### ***Electromagnetic brick***

Presenter: Even-Lin Yi Cheng (林以程)

Submission Type: My research work

In 2015, Taiwan's thermal power generation accounted for 80%, nuclear power generation accounted for 13%, and the remaining renewable energy accounted for 7%. Thermal power generation will cause air pollution, and some nuclear power generation methods are more dangerous, because if nuclear power is launched, that piece of land It will become impossible to produce, even the people living there may be exposed to radiation, causing genetic mutations and illnesses, and may not live long and die in pain. Therefore, we must actively develop renewable energy, increase its utilization rate, and let the earth Sustainable development. This research will introduce energy harvesting technology, which is a technology that recovers lost energy and reuses it. The most popular research is the electrical energy production technology that uses piezoelectric effect to convert mechanical energy into electrical energy. This technology has been used The UK has researched that although it is only low-power generation, it can provide us with an opportunity to find renewable energy in our lives.

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**Recurrence relation**

Presenter: Howard- Huang-kui-hao (黃奎浩)

Submission Type: My research work

According to the Fabernaci sequence, I extend an interesting rule, it takes two months for the ponies to grow into a horse. Only the horse is fertile. Two pairs of ponies are born in sequence and each horse can only give birth to three ponies after becoming a horse. Every horse on the horse has no sex, and all have reproductive ability then I found some patterns in the series.

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***Morris Chang: the important person of semiconductor manufacture***

Presenter: Raven-Lu-TeYang (盧德陽)

Submission Type: Famous Scientist and His Contribution

Past one hundred years, the electrical device's demand become more and more. Followed by the semiconductor manufacturing process's evolution. Morris Chang, the most famous people in republic of china now. He change the semiconductor manufacture's mode, and his choice completely changed the destiny of orphan of Asia

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***Invited Talk: Common English Problems for Taiwanese Students***

Presenter: Prof Chu-Lung Chen (陳祖龍)

English is the universal form of communication in science. English is currently the best way to share one's research findings with scientists in other parts of the world. However, English is often regarded as one of the most difficult languages to master. The presentation is specifically tailored to the needs of Asian students and can be retained as a practical writing reference guide.

## Appendix: Talk Feedback (COPY FOR TEACHER)

Session #: \_\_\_\_ Talk #: \_\_\_\_ Presenter Name: \_\_\_\_\_ ID: \_\_\_\_\_

Talk Title: \_\_\_\_\_ Comments Wanted? ☐ YES ☐ NO

Teacher to fill in below this line (Check YES box above if want comments, otherwise check NO)

§	Item		Actual Points										Max Points
			0.5 (1)		1.5 (3)		2.5 (5)		3.5 (7)		4.5 (9)		
WRT	Abstract												/5
WRT	View Graphs (clarity, beauty)												/5
CP	Content (Original, Appropriate)												/5
CP	Presentation Flow & Logic												/5
Time	[11 12 min]*	Time:											/10
GP	Grammar & Pronunciation												/10
FC	No Stumbling												/5
	Good Sentence Flow												
	Can be Heard Clearly												
	Eye Contact (not Reading)												
ADV	No Apologizing/Excuses												/5
	Natural Body Movement												
	Erect Posture (not slouched)												
	Friendly Tone (not monotone)												
	Avoid Fillers/Verbal Ticks												
	Reads the Audience												
-	Late Submission												-10%
TOTAL:													/50

\*Loss of 1 point for each 15s outside of range

§	Comments

WRT: Written English(10); CP:Logical Organization(10); Time(10); GP/FC/ADV: Oral English(20)

# XTOP-2020 PARTICIPANT LIST

Organizer: Jonathon David White, Dept. of Electrical Engineering, Yuan Ze University

Conference Sponsor: Yuan Ze University, Zhong-Li, Taoyuan, Taiwan 32003

## Post Deadline Talks

1083716	Joy Wang Jia Rou	(王佳柔)
1083703	Angel Pei Yu Chung	(鍾珮郁)
1083750	Vivian Huang Wei En	(黃微恩)
	Bao Le	(黎宝)
	Ali Gulsatar	(阿沙塔)
	Anushiya Marimuthu	(瑪希亞)

## Regular Talks (Bold for Conference Chairs)

<b>1073832</b>	<b>Siyanda Masuku</b>	<b>Mǎ xīyǎscar</b>	<b>瑪西亞</b>
1080957	Ethan	Linyichen	林奕辰
1083701	James	Jun-Yuan-Wang	王俊諺
1083705	Oscar	YI CHENG TSAI	蔡易澈
1083706	Larry	Yu-Rui Lai	賴昱叡
1083707	Edward	Min-Cheng Liao	廖敏丞
1083708	Margo	Chia Yu Hsieh	謝佳妤
1083709	Michelle	Szu-Chen Yeh	葉思辰
1083710	Luke	Chin-Ru Wu	吳致儒
<b>1083711</b>	<b>Stanley</b>	<b>Hsieh Xiang Quan</b>	<b>謝翔全</b>
1083713	Brent Liu	Xuan-You Liu	劉軒佑
1083714	Jeff	Chen Chien Yuan	陳建源
1083715	Martin	Chén Bó Hàn	陳柏翰
1083717	Matt	Chang Chia Hsian	張嘉賢
<b>1083719</b>	<b>Eric</b>	<b>Chung Chou Yin</b>	<b>鍾宙穎</b>
1083720	Kevin	Chen-guan-zhi	陳冠志
1083721	Even	Lin Yi Cheng	林以程
1083723	Mandy	Yi Ning Huang	黃翊寧
1083724	Tom	huang cheng hung	黃政閎
1083725	Jeffery	kaotzuchieh	高梓傑
1083727	Howard	Huang-kui-hao	黃奎浩
1083728	walter	wu chen xuan	吳晨瑄
1083729	Raven	Lu-TeYang	盧德陽
1083731	Sean	TSANG CHEN HSIANG	臧晨翔
1083734	Jason	Liu kai chi	劉楷祺
1083735	Tank	SHIH-HO-YUAN	施賀元
1083736	kennty	Huang Zi YU	黃子育
<b>1083737</b>	<b>Vincent</b>	<b>Lin Tzu Hao</b>	<b>林子皓</b>
1083738	Jerry	linjieli	林傑立
1083739	Chris	Zih Chian Wang	王子謙
1083740	Harry	Shi-Xun Lin	林士勛
1083746	Snow	Xue Er	雪兒
1083749	Alan	Cheng chao yang	鄭兆洋

**Invited Talk: Prof Chu-Lung Chen 陳祖龍 Professor and Chair**