YU-CHENG(JUSTIN) CHIOU

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EDUCATION

Masdar Institute, Abu Dhabi, UAE — Sep. 2016 - Apr. 2018
Graduate School, Department of Micro System(withdrawal, family affair)

National Taiwan University, Taipei, Taiwan — Sep. 2013 - Feb. 2015
Graduate School, Department of MSE(auditor)

University of Manchester, Manchester, UK — Jun. 2010 - Dec. 2011
Master of Science in Advanced Engineering Materials, Degree earned: 2011

RESEARCH EXPERIENCE

2D Materials — Apr. 2019 - Nov. 2021

Project
Direct growth graphene on conventional semiconductor substrates

Power data analytics — Apr. 2019 - Nov. 2019

Project
Cooperated with tromsø kraft to study power shortage in an Arctic fish village via data science and data visualization

Graphene study — May. 2018 - Present

Project
Graphene growth on semiconductor substrates for remote epitaxy focused on Ge, GaN, and GaAs.(MIT-MI Flagship research project)

2D-Materials Growth, AFM, First Principle — Sep. 2016 - Apr. 2018

Project
The possibility of representing van der Waals force interaction via Hamaker constant

Nano-Materials Growth — Sep. 2013 - Feb. 2015

Project
Grew SiGe heterojunction 1-D nanowire and its applications

Microwave Dielectric Ceramics — Jun. 2010 - Dec. 2011

Master Thesis Project

WORK EXPERIENCE

University of Tromsø,, Tromsø, Norway — Apr. 2019 - Nov. 2021
Doctoral Research Fellow

Project

- Developed a visualization framework with Python for adaptive industrial and household electricity price plans in Arctic Norway.

· Investigated in transfer-free Graphene growth on the various semiconductor substrate.

Duty Work

· Led the hands-on experiments in two courses, Solar Energy and Energy Storage and undergraduate Physics.
· Installed and maintained Raman spectroscopy lab and designed the training courses.
· Rebuilt, refined, and maintained the solar cell measurement equipment.

Intel Microelectronic Asia Ltd., Taipei, Taiwan Feb. 2016 - Aug. 2016, Jan. 2013 - Aug. 2013
Senior Hardware Testing Engineer

· Developed new products and testing plans for new products.
· Coordinated resources for the USA headquarter and vendors, including Broadcom, Realtek, and Qualcomm, to fulfill new products' technical and quality requirements, and assist clients in phasing these new Intel products into their future product lines.
· Engineered sample fabrications, including soldiering, Jumper, etc.
· Implemented failure analysis, debugging, and product improvements of current products.
· Delivered NPI internal training to FAEs, AEs, and PMs as well as annual workshops to partners and clients.

Topco Scientific, Taipei, Taiwan Oct. 2013 - Jan. 2016
Executive Assistant to CEO

· Surveyed novel materials for future use in transistors, solar cells, and LEDs and reported to CEO directly.
· Investigated the market trend of the future semiconductor industry.

National Chiao Tung University, Hsinchu, Taiwan Apr. 2012 - Aug. 2012
Research Assistant

· Participated in wireless sensor networks design and application.
· Designed a wireless surveillance system with an information security mechanism.
· Investigated in super-capacitor recharge mechanism analysis-material selection.

Republic of China Air Force, Taipei, Taiwan Jul. 2008 - Jul. 2009
Sr. Aircraft Maintenance Aircraftman

Implemented routine maintenance.

Guang Hua Digital Plaza, Taipei, Taiwan Nov. 1998 - Apr. 2004
Technical Support Engineer and Sales

· Provided technical knowledge to customers (mainly 3C products and PC components).
· Customized computers for various customer needs.
· Issued reproduce and consult for clients.

SKILLS

Computer Skills	C/C++, Python, Scheme, Matlab
Simulation Skills	Sentaurus TCAD, Quantum Espresso, python-meep
Semiconductor Fabrication	CVD, ALD, Thermal and E-beam Evaporator
Analytical Instruments	SEM, Optic Microscopy, XRD, Raman Spectroscopy

PUBLICATION

Master Thesis

· Yu-Cheng Chiou, "Microwave Dielectric Ceramics," School of Materials, University of Manchester, 2011.

Journal Papers

· Sohail Shah, **Yu-Cheng Chiou**, Chia Yun Lai, Harry Apostoleris, Md.Mahfuzur Rahman, Hammad Younes, Ibraheem Almansouri, Amal Al Ghaferi, and Matteo Chiesa, "Impact of short duration, high-flow H 2 annealing on graphene synthesis and surface morphology with high spatial resolution assessment of coverage," ***Carbon*** 2017.

· Harry Apostoleris, **Yu-Cheng Chiou**, Matteo Chiesa, and Ibraheem Almansouri, "Spectral management for temperature control in photovoltaic systems," ***Optics for Solar Energy***, 2017.

· **Yu-Cheng Chiou**, Tuza Adeyemi Olukan, Mariam Ali Almahri, Harry Apostoleris, Cheng- Hsiang Chiu, Chia-Yun Lai, Jin-You Lu, Sergio Santos, Ibraheem Almansouri, and Matteo Chiesa, "Direct Measurement of the Magnitude of the van der Waals Interaction of Single and Multilayer Graphene," ***Langmuir***, 2018.

· Tuza Adeyemi Olukan, **Yu-Cheng Chiou**, Cheng-Hsiang Chiu, Chia-Yun Lai, Sergio Santos, Matteo Chiesa Chiesa, "Predicting the suitability of lateritic soil type for low cost sustainable housing with image recognition and machine learning techniques," ***Journal of Building Engineering***, 2020

· Odin Foldvik Eikeland, Filippo Maria Bianchi, Harry Apostoleris, Morten Hansen, **Yu-Cheng Chiou**, Matteo Chiesa Chiesa, "Predicting Energy Demand in Semi-Remote Arctic Locations," ***Energies***, 2021