# Yap Wing Fen

*(ASSOC. PROF. DR.)*

## PERSONAL INFO


**Citizenship**
Malaysian

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**Affiliation**
Department of Physics,
Faculty of Science,
Universiti Putra Malaysia.

Institute of Advanced Technology,
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43400 UPM Serdang,
Selangor, Malaysia.


## PUBLICATION

*(as of July 2020)*

**H-index/Citation**
Scopus: 16/770
Google Scholar: 19/1050

**Journal**
Total: 92 (Citation Index Journal: 86)
Corresponding Author: 70
Q1/Q2: 53

**Intellectual Property**
5 (2 patent, 2 copyright, 1 trademark)

**Exhibition**
International: 4 Gold, 4 Silver
National: 7 Gold, 14 Silver, 1 Bronze

## EXPERTISE

• OPTICAL SENSOR • OPTICAL MATERIALS •
• OPTICAL CHARACTERIZATION • THIN FILM •
• PHYSICS EDUCATION •

## Educational background & Appointments

**2018 – Present:** Associate Professor (Universiti Putra Malaysia)

**2013 – Present:** Research Associate (Institute of Advanced Technology, UPM)

**2012 – 2018:** Senior Lecturer (Universiti Putra Malaysia)

**2009 – 2012:** Doctor of Philosophy (PhD) in Applied Optics
CGPA: 4.000 (Universiti Putra Malaysia)

**2004 – 2008:** Bachelor of Science with Education (Honours) Physics
CGPA: 3.903 (Universiti Putra Malaysia)

## Supervision

**Main Supervisor:**
**PhD** - 4 (1 graduated); **Masters** - 11 (7 graduated); **Degree** - 30 (27 graduated)

**Co-Supervisor:**
**PhD** - 4 (2 graduated); **Masters** - 5 (4 graduated)

## Research

**Head of Project:** 8 (> RM 450,000) **Co-Researcher:** 9 (> RM 1,000,000)

*Funder:*
*MOSTI (Science Fund), KPT (FRGS), Putra Grant (Berimpak, IPM, IPS, IPB)*

## Teaching

**8 years of teaching experience:**
Total number of courses (31-undergraduates); Total credit (105)

*Courses:*
*Modern Physics (PHY3105); Electromagnetism (PHY3401);*
*Physics I (PHY3103); Applied Electromagnetism (PHY4401);*
*Geometrical & Waves Optics (PHY4403); Industrial Training (PHY4901);*
*Volunteerism Development (QKU2203)*

## Professional Services

**Reviewer:** > 20 journals (International & National)

**Examiner:** 1 PhD, 7 Masters, 24 Degree

**Membership:** Lindau Alumni Network, Young Scientists Network-Academy of Sciences Malaysia (YSN-ASM), Malaysian Solid State Science & Technology Society, Institute of Physics, Institute of Advanced Technology.

**Extension:** Leader of high impact project – Putra Outreach Physics (2014 to present: > 2000 students benefit); Committee member of National Science Challenges, ASEAN +3 Junior Science Odyssey, Karnival Jom Sains, Le Tour of Science, I Love Physics, Adiwira STEM, UPM STEM etc.

**Involvement:** Advisor of UPM Faculty of Science Student Association, UPM Physics Club, Persatuan Mahasiswa Anak Sabah UPM, UPM Squash Club, Sport Secretariat KTDI UPM; Advisor of > 50 program (International, national, university, faculty and college level); College Fellow; Manager of UPM Squash.

# HONOURS AND AWARDS

| No. | Award/Recognition | Organization Awarded | Year |
|---|---|---|---|
| 1. | Gold Medal for the invention of "High Potential Metal Ion Detection using Novel Nanocrystalline Cellulose-SPR Based Optical Sensor" at Perlis International Engineering, Invention & Innovation Exhibition (Pi-ENVEX 2020) | Universiti Malaysia Perlis | 2020 |
| 2. | Gold Medal for the invention of "A Novel Integrated Sensor Chip with SPR Sensor for Rapid Detection of Dengue Virus" at Perlis International Engineering, Invention & Innovation Exhibition (Pi-ENVEX 2020) | Universiti Malaysia Perlis | 2020 |
| 3. | Silver Medal for the invention of "Waste to Wealth: ZnO-SiO2 Composite Derived from Waste Coconut Husk Ash" at Perlis International Engineering, Invention & Innovation Exhibition (Pi-ENVEX 2020) | Universiti Malaysia Perlis | 2020 |
| 4. | Silver Medal for the invention of "Incorporation of Gold-tyrosinase Immobilized Graphene Oxide Composite Thin Film with Surface Plasmon Resonance for the Detection of Phenol" at Perlis International Engineering, Invention & Innovation Exhibition (Pi-ENVEX 2020) | Universiti Malaysia Perlis | 2020 |
| 5. | Vice-Chancellor's Fellowship Research and Innovation Award - Young Researcher Category (Anugerah Fellowship Naib Canselor Penyelidikan dan Inovasi - Kategori Penyelidik Muda) | Universiti Putra Malaysia | 2019 |
| 6. | Gold Medal for the STEM Mentor-Mentee Award (Putra Outreach Physics: Magic or Physics) at Malaysia Technology Expo (MTE2019) | National STEM Movement | 2019 |
| 7. | Putra InnoCreative Awards (Best InnoCreative Educator in Immersive Learning Experience-Blended Immersive Learning Experience) at Putra InnoCreative Carnival in Teaching and Learning (PicTL2019) | Universiti Putra Malaysia | 2019 |
| 8. | Silver Medal for the invention of "New Innovative Optical Technology for Dengue Virus Detection" at Melaka International Intellectual Exposition (MIIEX2019) | Universiti Teknologi MARA | 2019 |
| 9. | Gold Medal for the invention of "Science Against Dengue: Emerging of Quantum Dots-Polyamidoamine Based SPR Sensor" at Materials Technology Challenges (MTC2019) | Malaysian Solid State Science and Technology Society (MASS) | 2019 |
| 10. | Gold Medal for the invention of "Nanocrystalline Cellulose-SPR Based Optical Sensor for Highly Sensitive Metal Ions Detection" at Materials Technology Challenges (MTC2019) | Malaysian Solid State Science and Technology Society (MASS) | 2019 |

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| 11. | Gold Medal for the invention of "Optical Studies of Functionalized Graphene Quantum Dots and Their Implementation into an Optical System for Potential Sensing Application" at Materials Technology Challenges (MTC2019) | Malaysian Solid State Science and Technology Society (MASS) | 2019 |
| 12. | Silver Medal for the invention of "Scientific Approach of Production of SiO2 Derived from Agriculture Waste Products" at Materials Technology Challenges (MTC2019) | Malaysian Solid State Science and Technology Society (MASS) | 2019 |
| 13. | Silver Medal for the "Dirty Hand Project: DIY Dye Sensitized Solar Cells Utilizing Tropical Fruits and Vegetables" at Putra InnoCreative Competition (PicTL2019) | Universiti Putra Malaysia | 2019 |
| 14. | Excellent Service Award (*Anugerah Perkhidmatan Cemerlang*) 2017 | Universiti Putra Malaysia | 2018 |
| 15. | Gold Medal for the invention of "Novel High Potential Optical Technique for Early Detection of Dengue Virus" at Invention, Innovation and Design Exposition (iidex2018) | Universiti Teknologi MARA | 2018 |
| 16. | Silver Medal for the invention of "Kretchmann Configuration Surface Plasmon Resonance: From Fundamental Study to Potential Sensing Application" at Invention, Innovation and Design Exposition (iidex2018) | Universiti Teknologi MARA | 2018 |
| 17. | Silver Medal for the invention of "Surface Plasmon Resonance: A Versatile Technique for Biosensor Applications" at International Conference and Exposition on Invention of Institutions of Higher Learning (Pecipta'17) | Ministry of Higher Education Malaysia | 2017 |
| 18. | High Impact Industry and Community Networking Award 2016 – Putra Bakti: Outreach Physics as High Impact Community Project | Universiti Putra Malaysia | 2017 |
| 19. | Gold Medal for the invention of "Surface Plasmon Resonance: A Versatile Technique for Biosensor Applications" at Invention, Research and Innovation Exhibition (PRPI'16) | Universiti Putra Malaysia | 2016 |
| 20. | Silver Medal for the invention of "High Novel Potential and Low Cost Material for LED Phosphor" at Invention, Research and Innovation Exhibition (PRPI'16) | Universiti Putra Malaysia | 2016 |
| 21. | Young Teacher Award (*Anugerah Adi Pengajar Muda*) | Faculty of Science, Universiti Putra Malaysia | 2015 |

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| 22. | Silver Medal for the invention of "Optical and Thermal Properties of Virgin Coconut Oil: Comparative Study to Olive Oil" at Invention, Research and Innovation Exhibition (PRPI'14) | Universiti Putra Malaysia | 2014 |
| 23. | Silver Medal for the invention of "A Simple Technique to Produce High Quality with Good Optical and Thermal Properties of Virgin Coconut Oil" at Invention, Research and Innovation Exhibition (PRPI'14) | Universiti Putra Malaysia | 2014 |
| 24. | Silver Medal for the invention of "Novel Ionophore-based Selective Optical Sensor for Metal Ion Measurement" at Invention, Research and Innovation Exhibition (PRPI'14) | Universiti Putra Malaysia | 2014 |
| 25. | Excellent Fellow Award 2013/2014 | Kolej Tun Dr. Ismail, Universiti Putra Malaysia | 2014 |
| 26. | Excellent Service Award (*Anugerah Perkidmatan Cemerlang*) 2013 | Universiti Putra Malaysia | 2014 |
| 27. | Gold Medal for the invention of "Novel Heavy Metal Ions Sensor Chips" at International Conference and Exposition on Invention of Institutions of Higher Learning (Pecipta'13) | Ministry of Education Malaysia | 2013 |
| 28. | Silver Medal for the invention of "Hot-Wire Laser Beam Displacement Technique for Measuring Thermal Conductivity and Thermal Diffusivity of Nanofluid" at Malaysian Innovation Expo (MIExpo) | Universiti Putra Malaysia | 2013 |
| 29. | Gold Medal for the invention of "New Active Nanolayer for Sensitive and Selective Metal Ion Detection" at Malaysian Innovation Expo (MIExpo) | Universiti Putra Malaysia | 2013 |
| 30. | Silver Medal for the invention of "A New Technique to Synthesize Silver/Polyvinyl Alcohol Nanocomposite: Characterizarion and Nonlinear Optical Properties" at Competition & Exhibition of Research, Invention, Innovation & Design (RIID) | Universiti Teknologi MARA | 2012 |
| 31. | Silver Medal for the invention of "A High-Potential Metal Ion Detector Using the Combination of Low Cost Biopolymer and Surface Plasmon Resonance Technique" at Competition & Exhibition of Research, Invention, Innovation & Design (RIID) | Universiti Teknologi MARA | 2012 |
| 32. | Silver Medal for the invention of "A Novel Optical Sensor for Sensitive Detection of Essential Metal Ions" at Invention, Research and Innovation Exhibition (PRPI'12) | Universiti Putra Malaysia | 2012 |

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| 33. | **Silver Medal** for the invention of "Surface Plasmon Resonance Spectroscopy: Fundamental Studies for High Potential Sensing Application" at Invention, Research and Innovation Exhibition (PRPI'12) | Universiti Putra Malaysia | 2012 |
| 34. | **Bronze Medal** for the invention of "New Sensor for Detection of Heavy Metal Ions in Drinking Water" at Malaysia Technology Expo (MTE) | The Malaysian Association of Research Scientists | 2012 |
| 35. | Dean's Gold Award | Faculty of Science, Universiti Putra Malaysia | 2012 |
| 36. | **Silver Medal** for the invention of "Detection of Heavy Metal Ions Using Surface Plasmon Resonance Spectroscopy" at Invention, Research and Innovation Exhibition (PRPI'11) | Universiti Putra Malaysia | 2011 |

## PUBLICATIONS

CITED JOURNALS

| No. | Title | Database/Quartile |
|---|---|---|
| 1. | Hazwani Suhaila Hashim, **Yap Wing Fen***, Nur Alia Sheh Omar, Jaafar Abdullah, Wan Mohd Ebtisyam Mustaqim Mohd Daniyal, Silvan Saleviter. Detection of phenol by incorporation of gold modified-enzyme based graphene oxide thin film with surface plasmon resonance technique. Optics Express 28, 9738-9752, 2020. | JCR-ISI Web of Knowledge Q1 |
| 2. | Nurul Illya Muhamad Fauzi, **Yap Wing Fen***, Nur Alia Sheh Omar, Silvan Saleviter, Wan Mohd Ebtisyam Mustaqim Mohd Daniyal, Hazwani Suhaila Hashim, Mohd Nasrullah. Nanostructured Chitosan/Maghemite Composites Thin Film for Potential Optical Detection of Mercury Ion by Surface Plasmon Resonance Investigation. Polymers 12(7), 1497, 2020. | JCR-ISI Web of Knowledge Q1 |
| 3. | Nur Alia Sheh Omar, **Yap Wing Fen***, Jaafar Abdullah, Yasmin Mustapha Kamil, Wan Mohd Ebtisyam Mustaqim Mohd Daniyal, Amir Reza Sadrolhosseini, Mohd Adzir Mahdi. Sensitive Detection of Dengue Virus Type 2 E-Proteins Signals Using Self-Assembled Monolayers/ Reduced Graphene Oxide-PAMAM Dendrimer Thin Film-SPR Optical Sensor. Scientific Reports 10, 2374, 2020. | JCR-ISI Web of Knowledge Q1 |
| 4. | Muhammad Faris Syazwan Mohd Shofri, Mohd Hafiz Mohd Zaid, Rabiatul Adawiyah Abdul Wahab, Khamirul Amin Matori, Sidek Hj Ab Aziz, **Yap Wing Fen**. The effect of boron substitution on the glass-forming ability, phase transformation and optical performance of zinc-boro-soda-lime-silicate glasses. Journal of Materials Research and Technology 9(4), 6987-6993, 2020. | JCR-ISI Web of Knowledge Q1 |

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| 5. | Muhammad Fahmi Anuar, **Yap Wing Fen***, Mohd Hafiz Mohd Zaid, Khamirul Amin Matori, Rahayu Emilia Mohamed Khaidir. The Physical and Optical Studies of Crystalline Silica Derived from the Green Synthesis of Coconut Husk Ash. Applied Sciences 10, 2128, 2020. | JCR-ISI Web of Knowledge Q2 |
| 6. | Nur Alia Sheh Omar, **Yap Wing Fen***, Jaafar Abdullah, Amir Reza Sadrolhosseini, Yasmin Mustapha Kamil, Nurul'Illya Muhamad Fauzi, Hazwani Suhaila Hashim, Mohd Adzir Mahdi. Quantitative and Selective Surface Plasmon Resonance Response Based on a Reduced Graphene Oxide–Polyamidoamine Nanocomposite for Detection of Dengue Virus E-Proteins. Nanomaterials 10, 569, 2020. | JCR-ISI Web of Knowledge Q1 |
| 7. | Rahayu Emilia Mohamed Khaidir, **Yap Wing Fen***, Mohd Hafiz Mohd Zaid, Khamirul Amin Matori, Nur Alia Sheh Omar, Muhammad Fahmi Anuar, Siti Aisyah Abdul Wahab, Aisyah Zakiah Khirel Azman. Addition of ZnO nanoparticles on waste rice husk as potential host material for red-emitting phosphor. Materials Science in Semiconductor Processing 106, 104774, 2020. | JCR-ISI Web of Knowledge Q1 |
| 8. | Faten Bashar Kamal Eddin, **Yap Wing Fen***. The Principle of Nanomaterials Based Surface Plasmon Resonance Biosensors and Its Potential for Dopamine Detection. Molecules 25(12), 2769, 2020. | JCR-ISI Web of Knowledge Q2 |
| 9. | Nur Alia Sheh Omar, **Yap Wing Fen***, Silvan Saleviter, Yasmin Mustapha Kamil, Wan Mohd Ebtisyam Mustaqim Mohd Daniyal, Jaafar Abdullah, Mohd Adzir Mahdi. Experimental evaluation on surface plasmon resonance sensor performance based on sensitive hyperbranched polymer nanocomposite thin films. Sensors and Actuators A: Physical 303, 111830, 2020. | JCR-ISI Web of Knowledge Q2 |
| 10. | Muhammad Fahmi Anuar, **Yap Wing Fen***, Mohd Hafiz Mohd Zaid, Nur Alia Sheh Omar, Rahayu Emilia Mohamed Khaidir. Sintering Temperature Effect on Structural and Optical Properties of Heat-Treated Coconut Husk Ash Derived SiO2 Mixed with ZnO Nanoparticles. Materials 13(11), 2555, 2020. | JCR-ISI Web of Knowledge Q2 |
| 11. | Nur Ain Asyiqin Anas, **Yap Wing Fen***, Nor Azah Yusof, Nur Alia Sheh Omar, Nur Syahira Md Ramdzan, Wan Mohd Ebtisyam Mustaqim Mohd Daniyal. Investigating the Properties of Cetyltrimethyl ammonium Bromide/Hydroxylated Graphene Quantum Dots Thin Film for Potential Optical Detection of Heavy Metal Ions. Materials 13(11), 2591, 2020. | JCR-ISI Web of Knowledge Q2 |
| 12. | Nur Syahira Md Ramdzan, **Yap Wing Fen***, Nur Ain Asyiqin Anas, Nur Alia Sheh Omar, Silvan Saleviter. Development of Biopolymer and Conducting Polymer-Based Optical Sensors for Heavy Metal Ion Detection. Molecules 25(11), 2548, 2020. | JCR-ISI Web of Knowledge Q2 |
| 13. | Faten Bashar Kamal Eddin, **Yap Wing Fen***. Recent Advances in Electrochemical and Optical Sensing of Dopamine. Sensors 20, 1039, 2020. | JCR-ISI Web of Knowledge Q1 |
| 14. | Hazwani Suhaila Hashim, **Yap Wing Fen***, Nur Alia Sheh Omar, Wan Mohd Ebtisyam Mustaqim Mohd Daniyal, Silvan Saleviter, Jaafar Abdullah. Structural, optical and potential sensing properties of | JCR-ISI Web of Knowledge Q3 |

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| | tyrosinase immobilized graphene oxide thin film on gold surface. Optik 212, 164786, 2020. | |
| 15. | Suria Mohd Saad, Jaafar Abdullah, Suraya Abd Rashid, **Yap Wing Fen**, Faridah Salam, Lau Han Yih. A carbon dots based fluorescence sensing for the determination of Escherichia coli O157: H7. Measurement 160, 107845, 2020. | JCR-ISI Web of Knowledge Q2 |
| 16. | Muhammad Fahmi Anuar, **Yap Wing Fen***, Mohd Hafiz Mohd Zaid, Nur Alia Sheh Omar. Optical studies of crystalline ZnO-SiO2 developed from pyrolysis of coconut husk. Materials Research Express 7, 055901, 2020. | JCR-ISI Web of Knowledge Q3 |
| 17. | Fahad Usman, John Ojur Dennis, Abdelaziz Yousif Ahmed, Khe Cheng Seong, **Yap Wing Fen**, Amir Reza Sadrolhosseini, Fabrice Meriaudeau, Pradeep Kumar, Olumide Bolarinwa Ayodele. Structural characterization and optical constants of p-toluene sulfonic acid doped polyaniline and its composites of chitosan and reduced graphene-oxide. Journal of Materials Research and Technology 9, 1468-1476, 2020. | JCR-ISI Web of Knowledge Q1 |
| 18. | Amir Reza Sadrolhosseini, Pooria Moozarm Nia, Mahmoud Naseri, Ahmad Mohammadi, **Yap Wing Fen**, Suhidi Shafie, Halimah Mohamed Kamari. Surface Plasmon Resonance Sensor Based on Polypyrrole–Chitosan–BaFe2O4 Nanocomposite Layer to Detect the Sugar. Applied Sciences 10, 2855, 2020. | JCR-ISI Web of Knowledge Q2 |
| 19. | Suria Mohd Saad, Jaafar Abdullah, Suraya Abd Rashid, **Yap Wing Fen,** Faridah Salam, Lau Han Yih. A fluorescence quenching based gene assay for *Escherichia coli* O157:H7 using graphene quantum dots and gold nanoparticles. Microchimica Acta 186, 804, 2019. | JCR-ISI Web of Knowledge Q1 |
| 20. | Rahayu Emilia Mohamed Khaidir, **Yap Wing Fen***, Mohd Hafiz Mohd Zaid, Khamirul Amin Matori, Nur Alia Sheh Omar, Muhammad Fahmi Anuar, Siti Aisyah Abdul Wahab, Aisyah Zakiah Khirel Azman. Exploring Eu3+-doped ZnO-SiO2 glass derived by recycling renewable source of waste rice husk for white-LEDs application. Results in Physics 15, 102596, 2019. | JCR-ISI Web of Knowledge Q1 |
| 21. | Mohd Hafiz Mohd Zaid, Khamirul Amin Matori, Sidek Hj Ab Aziz, Halimah Mohamed Kamari, **Yap Wing Fen**, Yazid Yaakob, Nor Kamilah Sa'at, Ali Gürol, Erdem Şakar. Effect of heat treatment temperature to the crystal growth and optical performance of Mn3O4 doped α-Zn2SiO4 based glass-ceramics. Results in Physics 15, 102569, 2019. | JCR-ISI Web of Knowledge Q1 |
| 22. | Nur Ain Asyiqin Anas, **Yap Wing Fen***, Nur Alia Sheh Omar, Nur Syahira Md Ramdzan, Wan Mohd Ebtisyam Mustaqim Mohd Daniyal, Silvan Saleviter, Afiq Azri Zainudin. Optical properties of chitosan/hydroxyl-functionalized graphene quantum dots thin film for potential optical detection of ferric (III) ion. Optics and Laser Technology 120, 105724, 2019. | JCR-ISI Web of Knowledge Q1 |
| 23. | Silvan Saleviter, **Yap Wing Fen***, Wan Mohd Ebtisyam Mustaqim Mohd Daniyal, Jaafar Abdullah, Amir Reza Sadrolhosseini, and Nur Alia Sheh Omar . Design and analysis of surface plasmon resonance optical sensor for determining cobalt ion based on chitosan-graphene oxide | JCR-ISI Web of Knowledge Q1 |

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| | decorated quantum dots-modified gold active layer. Optics Express 27(22), 32294-32307, 2019. | |
| 24. | Yasmin Mustapha Kamil, Sura Hmoud Al-Rekabi, Husam Abduldaem Mohamed, Muhammad Hafiz Abu Bakar, Samikannu Kanagesan, **Yap Wing Fen**, Mohd Adzir Mahdi. Di-Iron Trioxide Hydrate-Multi-Walled Carbon Nanotube Nanocomposite for Arsenite Detection Using Surface Plasmon Resonance Technique. IEEE Photonics Journal 11(4), 1-9, 2019. | JCR-ISI Web of Knowledge Q1 |
| 25. | Wan Mohd Ebtisyam Mustaqim Mohd Daniyal, **Yap Wing Fen***, Jaafar Abdullah, Nur Alia Sheh Omar, Nur Ain Asyiqin Anas, Nur Syahira Md Ramdzan. Highly Sensitive Surface Plasmon Resonance Optical Sensor for Detection of Copper, Zinc, and Nickel Ions. Sensor Letters 17(7), 497-504, 2019. | JCR-ISI Web of Knowledge Q4 |
| 26. | Nur Alia Sheh Omar, **Yap Wing Fen***, Jaafar Abdullah, Wan Mohd Ebtisyam Mustaqim Mohd Daniyal, Nur Ain Asyiqin Anas, Mohd Adzir Mahdi. Surface Plasmon Resonance Sensing of Dengue Virus Based on Iron Oxide-Cellulose Nanocrystals Composite Thin Film. Sensor Letters 17(7), 573-579, 2019. | JCR-ISI Web of Knowledge Q4 |
| 27. | Nur Alia Sheh Omar, **Yap Wing Fen***, Jaafar Abdullah, Mohd Hazani Mat Zaid, Wan Mohd Ebtisyam Mustaqim Mohd Daniyal, Mohd Adzir Mahdi. Sensitive surface plasmon resonance performance of cadmium sulfide quantum dots-amine functionalized graphene oxide based thin film towards dengue virus E-protein. Optics and Laser Technology 114, 204-208, 2019. | JCR-ISI Web of Knowledge Q1 |
| 28. | Mohammad Danial Aizad Roshidi, **Yap Wing Fen***, Wan Mohd Ebtisyam Mustaqim Mohd Daniyal, Nur Alia Sheh Omar, Mujawwidin Zulholinda. Structural and optical properties of chitosan-poly(amidoamine) dendrimer composite thin film for potential sensing $Pb^{2+}$ using an optical spectroscopy. Optik 185, 351-358, 2019. | JCR-ISI Web of Knowledge Q3 |
| 29. | Wan Mohd Ebtisyam Mustaqim Mohd Daniyal, **Yap Wing Fen***, Jaafar Abdullah, Amir Reza Sadrolhosseini, Silvan Saleviter, Nur Alia Sheh Omar. Label-free optical spectroscopy for characterizing binding properties of highly sensitive nanocrystalline cellulose-graphene oxide based nanocomposite towards nickel ion. Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy 212, 25-31, 2019. | JCR-ISI Web of Knowledge Q1 |
| 30. | Rahayu Emilia Mohamed Khaidir, **Yap Wing Fen***, Mohd Hafiz Mohd Zaid, Khamirul Amin Matori, Nur Alia Sheh Omar, Muhammad Fahmi Anuar, Siti Aisyah Abdul Wahab, Aisyah Zakiah Khirel Azman. Optical band gap and photoluminescence studies of $Eu^{3+}$-doped zinc silicate derived from waste rice husks. Optik 182, 486-495, 2019. | JCR-ISI Web of Knowledge Q3 |
| 31. | Sura Hmoud Al-Rekabi, Yasmin Mustapha Kamil, Mohd Hafiz Abu Bakar, **Yap Wing Fen**, Hong Ngee Lim, S. Kanagesan, Mohd Adzir Mahdi. Hydrous ferric oxide-magnetite-reduced graphene oxide nanocomposite for optical detection of arsenic using surface plasmon resonance. Optics and Laser Technology 111, 417-423, 2019. | JCR-ISI Web of Knowledge Q2 |
| 32. | Nur Syahira Md Ramdzan, **Yap Wing Fen***, Nur Alia Sheh Omar, Nur Ain Asyiqin Anas, Wan Mohd Ebtisyam Mustaqim Mohd Daniyal, | JCR-ISI Web of Knowledge |

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| | Silvan Saleviter, Afiq Azri Zainudin. Optical and surface plasmon resonance sensing properties for chitosan/carboxyl-functionalized graphene quantum dots thin film. Optik 178, 802-812, 2019. | Q3 |
| 33. | Wan Mohd Ebtisyam Mustaqim Mohd Daniyal, **Yap Wing Fen***, Nur Ain Asyiqin Anas, Nur Alia Sheh Omar, Nur Syahira Md Ramdzan, Hideki Nakajima, Mohd Adzir Mahdi. Enhancing the sensitivity of a surface plasmon resonance-based optical sensor for zinc ion detection by the modification of a gold thin film. RSC Advances 9, 41729-41736, 2019. | JCR-ISI Web of Knowledge Q2 |
| 34. | Fahad Usman, John Ojur Dennis, Khe Cheng Seong, Abdelaziz Yousif Ahmed, Thomas L Ferrell, **Yap Wing Fen**, Amir Reza Sadrolhosseini, Olumide Bolarinwa Ayodele, Fabrice Meriaudeau, Aminu Saidu. Enhanced Sensitivity of Surface Plasmon Resonance Biosensor Functionalized with Doped Polyaniline Composites for the Detection of Low-Concentration Acetone Vapour. Journal of Sensors 2019, 5786105, 2019. | JCR-ISI Web of Knowledge Q2 |
| 35. | Amiruddin Ashil Mastar, Jaafar Abdullah, Nor Azah Yusof, **Yap Wing Fen**. An Optical Sensor Based on Graphene Quantum Dots for Hydrogen Peroxide Detection. Malaysian Journal of Analytical Sciences 23(4), 572-579, 2019. | JCR-ISI Web of Knowledge Q4 |
| 36. | Nur Ain Asyiqin Anas, **Yap Wing Fen***, Nur Alia Sheh Omar, Wan Mohd Ebtisyam Mustaqim Mohd Daniyal, Nur Syahira Md Ramdzan, Silvan Saleviter. Development of Graphene Quantum Dots-Based Optical Sensor for Toxic Metal Ion Detection. Sensors 19, 3850-3879, 2019. | JCR-ISI Web of Knowledge Q1 |
| 37. | Nur Alia Sheh Omar, **Yap Wing Fen***, Silvan Saleviter, Wan Mohd Ebtisyam Mustaqim Mohd Daniyal, Nur Ain Asyiqin Anas, Nur Syahira Md Ramdzan, Mohammad Danial Aizad Roshidi. Development of a Graphene-Based Surface Plasmon Resonance Optical Sensor Chip for Potential Biomedical Application. Materials 12, 1928-1941, 2019. | JCR-ISI Web of Knowledge Q2 |
| 38. | Amir Reza Sadrolhosseini, Suhaidi Shafie, **Yap Wing Fen**. Nanoplasmonic Sensor Based on Surface Plasmon-Coupled Emission: Review. Applied Sciences 9(7), 1497-1509, 2019. | JCR-ISI Web of Knowledge Q2 |
| 39. | Mohammad Danial Aizad Roshidi, **Yap Wing Fen***, Nur Alia Sheh Omar, Silvan Saleviter, Wan Mohd Ebtisyam Mustaqim Mohd Daniyal. Optical studies of graphene oxide/poly(amidoamine) dendrimer composite thin film and its potential for sensing $Hg^{2+}$ using surface plasmon resonance spectroscopy. Sensors and Materials, 31(4), 1147-1156, 2018. | JCR-ISI Web of Knowledge Q4 |
| 40. | Mohd Nasrullah, AW Zularisam, Santhana Krishnan, Mimi Sakinah, Lakhveer Singh, **Yap Wing Fen**. High performance electrocoagulation process in treating palm oil mill effluent using high current intensity application. Chinese Journal of Chemical Engineering 27, 208-217, 2019. | JCR-ISI Web of Knowledge Q3 |
| 41. | Wan Mohd Ebtisyam Mustaqim Mohd Daniyal, **Yap Wing Fen***, Jaafar Abdullah, Amir Reza Sadrolhosseini, Silvan Saleviter, Nur Alia Sheh Omar. Exploration of surface plasmon resonance for sensing copper | JCR-ISI Web of Knowledge Q1 |

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| | ion based on nanocrystalline cellulose-modified thin film. Optics Express 26, 34880-34893, 2018. | |
| 42. | Silvan Saleviter, **Yap Wing Fen***, Nur Alia Sheh Omar, Wan Mohd Ebtisyam Mustaqim Mohd Daniyal, Jaafar Abdullah, Mohd Hazani Mohd Zaid. Structural and optical studies of cadmium sulfide quantum dots-graphene oxide-chitosan nanocomposite thin film as novel SPR spectroscopy active layer. Journal of Nanomaterials 2018, 4324072, 2018. | JCR-ISI Web of Knowledge Q2 |
| 43. | Afiq Azri Zainudin, **Yap Wing Fen***, Nor Azah Yusof, Sura Hmoud Al-Rekabi, Mohd Adzir Mahdi, Nur Alia Sheh Omar. Incorporation of surface plasmon resonance with novel valinomycin doped chitosan-graphene oxide thin film for sensing potassium ion. Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy 191, 111-115, 2018. | JCR-ISI Web of Knowledge Q1 |
| 44. | Nur Alia Sheh Omar, **Yap Wing Fen***, Jaafar Abdullah, Nur Ain Asyiqin Anas, Nur Syahira Md Ramdzan, Mohd Adzir Mahdi. Optical and structural properties of cadmium sulphide quantum dots based thin films as potential sensing material for dengue virus E-protein. Results in Physics 11, 734-739, 2018. | JCR-ISI Web of Knowledge Q2 |
| 45. | Nur Alia Sheh Omar, **Yap Wing Fen***, Jaafar Abdullah, Che Engku Noramalina Che Engku Chik, Mohd Adzir Mahdi. Development of an optical sensor based on surface plasmon resonance phenomenon for diagnosis of dengue virus *E*-protein. Sensing and Bio-Sensing Research 20, 16-21, 2018. | JCR-ISI Web of Knowledge Q2 |
| 46. | Nurul Hida Zainuddin, **Yap Wing Fen***, Ali Abdulkhaleq Alwahib, Mohd Hanif Yaacob, Noriah Bidin, Nur Alia Sheh Omar, Mohd Adzir Mahdi. Detection of adulterated honey by surface plasmon resonance optical sensor. Optik 168, 134-139, 2018. | JCR-ISI Web of Knowledge Q3 |
| 47. | Wan Mohd Ebtisyam Mustaqim Mohd Daniyal, Silvan Saleviter, **Yap Wing Fen***. Development of surface plasmon resonance spectroscopy for metal ion detection. Sensors and Materials, 30(9), 2023-2038, 2018. | JCR-ISI Web of Knowledge Q3 |
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| 36. | W. Mahmood Mat Yunus, **Yap Wing Fen**, Nor Azah Yusof. Detection of mercury and copper ions using surface plasmon resonance optical sensor. In the Malaysian Science and Technology Congress (MSTC2010), pp. 140, 9-11 November 2010, Petaling Jaya, Selangor, Malaysia. (Oral Presenter) |

## INTELLECTUAL PROPERTY (IP):
## PATENT / COPYRIGHT / TRADE MARK / INDUSTRIAL DESIGN

| No. | Title | Date | Application No. | IP Type |
|---|---|---|---|---|
| 1. | Optical Sensor for Surface Plasmon Resonance Spectroscopy | 13 July 2012 | PI2012003191 | Patent |
| 2. | Putra Outreach Physics: Modul Dinamik | 3 August 2017 | LY2017003989 | Copyright |
| 3. | UPMSTEM | January 2018 | 2018004255 | Trademark |
| 4. | Biosensor Element for Use with Surface Plasma Resonance | 30 September 2019 | PI2019005737 | Patent |
| 5. | Magik atau Fizik | July 2019 | LY2019007589 | Copyright |

## RESEARCH PROJECTS

| No. | Title | Role | Sponsor / Grant | Amount (RM) | Period / Status |
|---|---|---|---|---|---|
| 1. | Sensitivity Enhancement of Surface Plasmon Resonance Using Modified Nanocrystalline Cellulose for Potential Detection of Environmental Pollutants | Project Leader | FRGS | 146,300 | 2019 – 2022 (3 years) On-going |
| 2. | Knowledge Transfer for Teaching and Learning in Physics without memorizing (Projek Pemindahan Ilmu Pengajaran dan Pembelajaran Fizik tanpa Hafalan) | Project Leader | KTGS | 10,000 | 2019 – 2020 (1 year) On-going |
| 3. | Optical studies of nano-crystalline cellulose/ graphene oxide based composite thin film and the potential for metal ions sensing using surface plasmon resonance spectroscopy | Project Leader | Putra Grant (IPS) | 25,000 | 2018 – 2020 (2 years) On-going |
| 4. | Synthesis, structural and optical studies of willemite based glass-ceramics derived from waste coconut shell as potential phosphor materials | Project Leader | Putra Grant (IPS) | 23,000 | 2018 – 2020 (2 years) On-going |
| 5. | Study on novel graphene quantum dots based thin films for potential detection of toxic chemicals using surface plasmon resonance technique | Project Leader | Putra Grant (Berimpak) | 90,960 | 2017 – 2019 (2 years) Completed |
| 6. | Optical investigation on detection of DENV II E-protein using surface plasmon resonance spectroscopy | Project Leader | Putra Grant (IPS) | 20,000 | 2017 – 2019 (2 years) Completed |
| 7. | Development of novel ionophore doped graphene based bionanocomposites | Project Leader | MOSTI Grant (Sciencefund) | 100,100 | 2014 – 2016 (2 years) Completed |

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| | films for selective detection of essential metal ions | | | | |
| 8. | Investigation of active nanolayer in combination with surface plasmon resonance system for detection of essential metal ions in solution | Project Leader | Putra Grant (IPM) | 50,000 | 2014 – 2015 (2 years) Completed |
| 9. | Enhancement on thermal and optical properties of willemite glass-ceramic incorporated dysprosium oxide nanoparticles for possible application in phosphor host technology | Co-researcher | FRGS | 60,800 | 2019 – 2021 (2 years) On-going |
| 10. | Fabrication and characterization of willemite based glass-ceramic doped rare earth ions derived from waste glass as potential phosphor materials in optoelectronic industry | Co-researcher | Putra Grant (Berimpak) | 100,000 | 2017 – 2019 (2 years) Completed |
| 11. | Graphene quantum dots for energy storage and biosensing platform<br><br>Study of novel graphene quantum dots based material conjugated enzymes for biosensing system | Co-researcher | Putra Grant (IPB) | 500,300<br><br>115,000 | 2016 – 2018 (2 years) Completed |
| 12. | Development of transparent superhydrophobic functional coating for consumer applications<br><br>Prototype development of graphene-based superhydrophobic nanocoating for consumer application | Co-researcher | Putra Grant (IPB) | 445,200<br><br>126,000 | 2015 – 2017 (2 years) Completed |
| 13. | Microstrip LC (Inductor Capacitor) Sensor incorporating chitosan film for detection of heavy metal ion | Co-researcher | Putra Grant (IPM) | 49,900 | 2013 – 2015 (2 years) Completed |

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| 14. | Affordable, ultrasensitive and non-invasive detection system for Mycobacterium Tuberculosis for future decentralization healthcare services<br><br>DNA and immune based biosensors system for ultrasensitive, non-invasive and affordable detection of Mycobacterium Tuberculosis (TB) | Co-researcher | Putra Grant (IPB) | 500,000<br><br>231,000 | 2013 – 2015 (2 years) Completed |
| 15. | Fabrication of Willemite-based visible LED from vitreous waste<br><br>Optical and electrical studies of Willemite-based glass ceramics | Co-researcher | Putra Grant (IPB) | 400,000<br><br>124,000 | 2013 – 2015 (2 years) Completed |
| 16. | Investigation of novel high potential optical sensor for detection of heavy metal ions in solution | Co-researcher | MOSTI Grant (Sciencefund) | 110,600 | 2013 – 2015 (2 years) Completed |
| 17. | Laser induced thermal and optical non-linearity in nanofluids and nanocomposite | Co-researcher | RUGS | 99,000 | 2012 – 2014 (2 years) Completed |