

# CAP CENTRE OF EXCELLENCE (CoE)

- i. Meningkatkan Penulisan Penerbitan Ilmiah melalui Penyelidikan Berimpak dan Berkualiti



i  
IPTA  
Projek Agenda Kritikal  
KPI  
Tajuk Aktiviti

Universiti Malaysia Perlis (UniMAP)  
Centre of Excellence (CoE)  
Menghasilkan bilangan penulisan ilmiah atau tesis yang berkualiti untuk diterbitkan di jurnal berindeks tinggi atau SCOPUS.  
**MENINGKATKAN PENULISAN PENERBITAN ILMIAH MELALUI PENYELIDIKAN BERIMPAK DAN BERKUALITI.**



### Latar Belakang Aktiviti

Aktiviti ini dipilih untuk membantu mencapai taraf CoE dengan menjalankan penyelidikan secara usahasama penyelidikan dengan pusat penyelidikan sama ada di peringkat nasional dan antarabangsa. Dengan cara ini ia dapat mempercepatkan taraf pengantarabangsaan CoE dan juga meningkatkan bilangan hasil penulisan ilmiah atau jurnal yang bakal terhasil melalui kolaborasi tersebut dengan cara penyeliaan tesis bersama.

### Perancangan Aktiviti

Mengadakan usahasama dengan pusat penyelidikan yang terpilih secara kolaborasi tatacara penyeliaan tesis pelajar dan penyelidikan yang berkualiti tinggi.

### Pelaksanaan Aktiviti

1. Mengenalpasti pusat penyelidikan yang boleh bekerjasama dalam mewujudkan peluang penyelidikan yang sesuai dengan bidang penyelidikan di CoE.
2. Mengadakan lawatan susulan untuk merangka dan mengatur arah tuju penyelidikan bagi mencapai objektif kedua-dua belah pihak dan mencapai kata putus bagi tujuan kolaborasi.
3. Menandatangani MoA dan MoU bagi mengesahkan perjanjian dengan pusat penyelidikan.
4. Menjalankan penyelidikan secara usahasama dengan pusat penyelidikan terbabit dan menghasilkan penulisan ilmiah, tesis atau jurnal yang boleh diterbitkan di jurnal berwacit atau SCOPUS.
5. Menghasilkan bilangan pelajar pasca siswazah secara penyeliaan bersama.

### Pencapaian

1. MOU dan MOA di antara Universiti Malaya (UM) dan INEE, UniMAP.
2. MOU di antara Universiti Teknologi Malaysia (UTM) dan INEE, UniMAP.
3. MOU di antara National Centre of Physics, Pakistan dan INEE, UniMAP.



## Isu-Isu Pelaksanaan

1. Masalah dari segi isu kewangan di mana terdapatnya kekurangan bajet kerana aktiviti-aktiviti penyelidikan yang dirancang memerlukan belanja yang agak besar.
2. Masalah dari segi tenaga kerja di mana terdapatnya kekurangan pensyarah atau penyelidik untuk melaksanakan tugas-tugas penyeliaan secara sepenuh masa. Sehingga Mei 2012, INEE mempunyai seorang Profesor, seorang Profesor Madya, 2 orang Pensyarah Kanan dan 3 orang Pensyarah.
3. Masalah pemantauan kemajuan pelajar pascasiswazah yang berjumlah sebanyak 18 pelajar PhD dan 39 MSC sehingga Mei 2012.

## Penambahbaikan

1. Masalah dari segi isu kewangan di mana terdapatnya kekurangan bajet daripada peruntukan universiti dan peruntukan sendiri kerana aktiviti-aktiviti yang dirancang memerlukan belanja yang agak besar.
2. Memerlukan komitmen dan tenaga kerja yang boleh memberikan sepenuh perhatian terhadap kerja penyeliaan penyelidikan secara sepenuh masa.
3. Pemantauan kemajuan pelajar harus dilakukan dengan lebih efisien.

## Bahagian/Unit Bertanggungjawab

*Institute Nano Electronic Engineering (INEE)*  
Universiti Malaysia Perlis.

## Senarai Penerbitan

| BIL | NAMA STAF AKADEMIK         | TAHUN PENERBITAN | TAJUK PENERBITAN  | NAMA JURNAL   | PANGKALAN DATA |
|-----|----------------------------|------------------|---|---|----------------|
| 1   | Mohammad Nuzaihan Md. Noor | 2008             | <i>Design and process development of silicon nanowire based DNA biosensor using electron beam lithography</i>                                   | <i>2008 International Conference on Electronic Design, ICED 2008</i>                                    | Scopus         |
| 2   | Prof. Dr. Uda Hashim       | 2008             | <i>Mask design and fabrication of LiSFET for light sensor application</i>   | <i>2008 International Conference on Electronic Design, ICED 2008</i>                                    | Scopus         |
| 3   | Prof. Dr. Uda Hashim       | 2008             | <i>Characterization of intermetallic growth of gold ball bonds on aluminum bond pads</i>  | <i>International Journal of Mechanical and Materials Engineering</i>                                    | Scopus         |
| 4   | Prof. Dr. Uda Hashim       | 2008             | <i>Design and process development of silicon nanowire based DNA biosensor using electron beam lithography</i>                                   | <i>2008 International Conference on Electronic Design, ICED 2008</i>                                    | Scopus         |
| 5   | Prof. Dr. Uda Hashim       | 2008             | <i>Nanowire conductance biosensor by spacer patterning lithography technique for DNA hybridization detection: Design and fabrication method</i> | <i>Proceedings of the IEEE/CPMT International Electronics Manufacturing Technology (IEMT) Symposium</i> | Scopus         |
| 6   | Prof. Dr. Uda Hashim       | 2008             | <i>Silicon nitride gate ISFET fabrication based on four mask layers using standard MOSFET technology</i>  | <i>IEEE International Conference on Semiconductor Electronics, Proceedings, ICSE</i>                    | Scopus         |
| 7   | Prof. Dr. Uda Hashim       | 2008             | <i>Design and fabrication of Nanowire-based conductance biosensor using spacer patterning technique</i>   | <i>2008 International Conference on Electronic Design, ICED 2008</i>                                    | Scopus         |
| 8   | Prof. Dr. Uda Hashim       | 2008             | <i>Thermal aging study at 150 °C and 200 °C: Gold ball bonds to aluminum bond pad</i>   | <i>Proceedings - Electrochemical Society</i>  | Scopus         |
| 9   | Prof. Dr. Uda Hashim       | 2008             | <i>A simple oxidation technique for quantum dot dimension shrinkage and tunnel barriers generation</i>  | <i>Microelectronics Journal</i>   | Scopus         |

| BIL | NAMA STAF AKADEMIK            | TAHUN PENERBITAN | TAJUK PENERBITAN   | NAMA JURNAL  | PANGKALAN DATA |
|-----|-------------------------------|------------------|--|--|----------------|
| 10  | Prof. Dr. Uda Hashim          | 2008             | <i>Fabrication and characterization of Si quantum dots and SiO<sub>2</sub> tunnel barriers grown by a controlled oxidation process</i> | <i>Nanotechnology</i>  | Scopus         |
| 11  | Prof. Madya Dr. Yarub A-Douri | 2008             | <i>Optical investigations using ultra-soft pseudopotential calculations of Si0.5Ge0.5 alloy</i>  | <i>Solid State Communications</i>  | Scopus         |
| 12  | Prof. Madya Dr. Yarub A-Douri | 2008             | <i>Swift heavy ion effects in gallium nitride</i>  | <i>International Journal of Nanoelectronics and Materials</i>                  |                |
| 13  | Nur Hamidah Abdul Halim       | 2009             | <i>Chemoenzymatic and microbial dynamic kinetic resolutions</i>  | <i>Chirality</i>   | Scopus         |
| 14  | Prof. Dr. Uda Hashim          | 2009             | <i>Development of nanogap automated permittivity measurement system for DNA hybridization detection kit</i>                            | <i>International Conference for Technical Postgraduates 2009, TECHPOS 2009</i> | Scopus         |
| 15  | Prof. Dr. Uda Hashim          | 2009             | <i>A silicon-oxide-silicon vertically separated electrode nanogap device structure</i>   | <i>AIP Conference Proceedings</i>  | Scopus         |
| 16  | Prof. Dr. Uda Hashim          | 2009             | <i>CdS film thickness characterization by R.F. magnetron sputtering</i>  | <i>AIP Conference Proceedings</i>  | Scopus         |
| 17  | Prof. Dr. Uda Hashim          | 2009             | <i>Organic thin film transistor memories with carbon nanodots fabricated by focused ion beam chemical vapor deposition</i>             | <i>AIP Conference Proceedings</i>  | Scopus         |
| 18  | Prof. Dr. Uda Hashim          | 2009             | <i>Nanowire formation using electron beam lithography</i>  | <i>AIP Conference Proceedings</i>  | Scopus         |
| 19  | Prof. Dr. Uda Hashim          | 2009             | <i>Electrode design and planar uniformity of anodically etched small area porous silicon</i>   | <i>AIP Conference Proceedings</i>  | Scopus         |
| 20  | Prof. Dr. Uda Hashim          | 2009             | <i>Pressure effect on Si quantum-dot potential</i>   | <i>AIP Conference Proceedings</i>  | Scopus         |

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|-----|-------------------------------|------------------|---|---|----------------|
| 21  | Prof. Dr. Uda Hashim          | 2009             | <i>Design of digital display system for ISFET pH sensor by using PIC microcontroller unit (MCU)</i>   | <i>2009 1st Asia Symposium on Quality Electronic Design, ASQED 2009</i> | Scopus         |
| 22  | Prof. Dr. Uda Hashim          | 2009             | <i>Nano-silver microcavity enhanced UV GaN light emitter</i>  | <i>International Journal of Nanomanufacturing</i>                       | Scopus         |
| 23  | Prof. Dr. Uda Hashim          | 2009             | <i>Statistical design of ultra-thin SiO<sub>2</sub> for nanodevices</i>   | <i>Sains Malaysiana</i>   | Scopus         |
| 24  | Prof. Madya Dr. Yarub A-Douri | 2009             | <i>Pressure effect on Si quantum-dot potential</i>  | <i>AIP Conference Proceedings</i>                                       | Scopus         |
| 25  | Prof. Madya Dr. Yarub A-Douri | 2009             | <i>Structural, elastic, electronic, optical and thermal properties of c-SiGe2N4</i>   | <i>European Physical Journal B</i>                                      | Scopus         |
| 26  | Prof. Madya Dr. Yarub A-Douri | 2009             | <i>FP-APW + lo calculations of the elastic properties in zinc-blende III-P compounds under pressure effects</i>   | <i>Computational Materials Science</i>                                  | Scopus         |
| 27  | Prof. Madya Dr. Yarub A-Douri | 2009             | <i>Electronic properties of orthorhombic LiGaS<sub>2</sub> and LiGaSe<sub>2</sub></i>   | <i>Applied Physics A: Materials Science and Processing</i>              | Scopus         |
| 28  | Ruslinda A.Rahim              | 2009             | <i>Organic thin film transistor memories with carbon nanodots fabricated by focused ion beam chemical vapor deposition</i>  | <i>AIP Conference Proceedings</i>                                       | Scopus         |
| 29  | Prof. Dr. Uda Hashim          | 2009             | <i>Defining of vinyl functional organic inorganic hybrid sol gel materials for fabrication of integrated optical circuits.</i>                                    | <i>Accepted for Elsevier Journal of Optical Materials</i>               |                |
| 30  | Prof. Dr. Uda Hashim          | 2009             | <i>Optical transmittance of organic inorganic hybrid thin film materials at NIR for photonic waveguide applications.</i>  | <i>Journal of Non-Crystalline Solids</i>                                | Scopus         |
| 31  | Prof. Dr. Uda Hashim          | 2009             | <i>Micropatterning of organic-inorganic hybrid sol gel film with incorporation of chelated titanium alkoxides for fabrication of intergrated optical circuits</i> | <i>Journal of Sol-Gel Science and Technology</i>                        | Scopus         |

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|-----|----------------------|------------------|---|--|----------------------|
| 32  | Prof. Dr. Uda Hashim | 2009             | <i>Photochromism of 6-nitro BIPs in organic nanomatrix siloxane system derived from vinylic functional triethoxysilane.</i>   | <i>Journal of Nano Research</i>                                      |                      |
| 33  | Prof. Dr. Uda Hashim | 2009             | <i>Shallow junction determination and boron profiling using electrochemical capacitance voltage (ECV).</i>  | <i>Jurnal Fizik Malaysia</i>   |                      |
| 34  | Prof Dr. Uda Hashim  | 2009             | <i>Design of digital display for ISFET pH sensor by using PIC microcontroller</i>   | <i>MASAUM Journal of Basic and Applied Sciences</i>                  |                      |
| 35  | Prof Dr. Uda Hashim  | 2009             | <i>Design of hand-held ISFET pH meter based on embedded system</i>  | <i>MASAUM Journal of Computing</i>                                   | MASAUM Network       |
| 36  | Prof. Dr. Uda Hashim | 2009             | <i>Investigation of the absorption coefficient, refractive index, energy band gap, and film thickness for Al<sub>0.11</sub>Ga<sub>0.89</sub>N, Al<sub>0.03</sub>Ga<sub>0.97</sub>N, and GaN by optical transmission method.</i> | <i>International Journal Nanoelectronics and Materials</i>           |                      |
| 37  | Prof. Dr. Uda Hashim | 2009             | <i>Optical properties on rapid densification of SiO<sub>2</sub>:TiO<sub>2</sub> thin film prepared by sol gel-spin coating technique</i>  | <i>International Journal of Microengineering and Nanoelectronics</i> |                      |
| 38  | Prof. Dr. Uda Hashim | 2009             | <i>Design and fabrication of quantum dot single electron transistor structure using e-beam nanolithography.</i>   | <i>International Journal Nanoelectronics and Materials</i>           |                      |
| 39  | Prof Dr. Uda Hashim  | 2009             | <i>Alignment system in mix and match lithography for realization of nano- and micrometer structures.</i>  | <i>International Journal of Microengineering and Nanoelectronics</i> | Serials Publications |
| 40  | Prof Dr. Uda Hashim  | 2009             | <i>Application of synopsys' taurus TCAD in developing CMOS fabrication process module.</i>  | <i>International Journal Nanoelectronics and Materials</i>           |                      |
| 41  | Prof Dr. Uda Hashim  | 2009             | <i>Between multimedia presentation and simulation: new paradigm or new approach in engineering education</i>  | <i>MASAUM Journal of Computing</i>                                   | MASAUM Network       |

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|-----|---|------------------|--|--|----------------|
| 42  | Prof. Madya Dr. Yarub A-Douri               | 2009             | <i>Electronic and positronic studies of zinc-blend boron phosphide BP under pressure</i>   | <i>International Journal of Nanoelectronics and Materials</i>  |                |
| 43  | Prof. Madya Dr. Yarub A-Douri               | 2009             | <i>Investigation of the absorption coefficient, refractive index, energy band gap, and film thickness for Al0.11Ga0.89 N, Al0.33 Ga0.97 and GaN by optical transmission method</i>       | <i>International Journal of Nanoelectronics and Materials</i>  |                |
| 44  | Mohammad Nuzaihan Md. Noor                  | 2010             | <i>Development of carbon nanotube based biosensor fabrication for medical diagnostics application</i>  | <i>2010 International Conference on Enabling Science and Nanotechnology, ESCiNano 2010 - Proceedings</i> | Scopus         |
| 45  | Mohammad Nuzaihan Md. Noor, Nurhamidah, Uda | 2010             | <i>Top-down approach: Fabrication of silicon nanowires using scanning electron microscope based electron beam lithography method and inductively coupled plasma-reactive ion etching</i> | <i>AIP Conference Proceedings</i>  | Scopus         |
| 46  | Prof. Dr. Uda Hashim                        | 2010             | <i>Development of carbon nanotube based biosensor fabrication for medical diagnostics application</i>  | <i>2010 International Conference on Enabling Science and Nanotechnology, ESCiNano 2010 - Proceedings</i> | Scopus         |
| 47  | Prof. Dr. Uda Hashim                        | 2010             | <i>An ab initio study of the electronic structure and optical properties of CdS<sub>1-x</sub>Tex alloys</i>  | <i>Solar Energy</i>  | Scopus         |
| 48  | Prof. Dr. Uda Hashim                        | 2010             | <i>A study for optimum productivity yield in 0.16<math>\frac{1}{4}</math>m mixed of wafer fabrication facility</i>   | <i>IEEE International Conference on Semiconductor Electronics, Proceedings, ICSE</i>                     | Scopus         |
| 49  | Prof. Dr. Uda Hashim                        | 2010             | <i>A review on the electrochemical sensors and biosensors composed of nanogaps as sensing material</i>   | <i>Journal of Optoelectronics and Advanced Materials</i>   | Scopus         |



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|-----|-------------------------------|------------------|--|--|----------------|
| 50  | Prof. Dr. Uda Hashim          | 2010             | <i>Theoretical and experimental study towards fabrication of nanogap dielectric biosensor by reversed spacer lithography</i>   | <i>AIP Conference Proceedings</i>  | Scopus         |
| 51  | Prof. Dr. Uda Hashim          | 2010             | <i>Top-down approach: Fabrication of silicon nanowires using scanning electron microscope based electron beam lithography method and inductively coupled plasma-reactive ion etching</i> | <i>AIP Conference Proceedings</i>  | Scopus         |
| 52  | Prof. Madya Dr. Yarub A-Douri | 2010             | <i>An ab initio study of the electronic structure and optical properties of CdS<sub>1-x</sub>Tex alloys</i>  | <i>Solar Energy</i>  | Scopus         |
| 53  | Ruslinda A.Rahim              | 2010             | <i>Aptamer-based biosensor for sensitive PDGF detection using diamond transistor</i>   | <i>Biosensors and Bioelectronics</i>   | Scopus         |
| 54  | Prof. Madya Dr. Yarub A-Douri | 2010             | <i>Quantum dot potential calculation of ZnxCd1-xSe</i>   | <i>Journal of Materials Science and Engineering</i>  |                |
| 55  | Prof Dr. Uda Hashim           | 2010             | <i>Optical properties on rapid densification of SiO<sub>2</sub>:TiO<sub>2</sub> thin film prepared by sol gel-spin coating technique.</i>  | <i>Journal of Microengineering and Nanoelectronics</i>   |                |
| 56  | Prof Dr. Uda Hashim           | 2010             | <i>Alignment system in mix and match lithography for realization of nano and micrometer structures</i>   | <i>Journal of Microengineering and Nanoelectronics</i>   | Scopus         |
| 57  | Dr. Mohd Nazree Derman        | 2010             | <i>Primary study on machiability of aluminium matrix composite using WEDM</i>  | <i>International Journal of Engineering and Technology</i>   |                |
| 58  | Prof Dr. Uda Hashim           | 2011             | <i>The alignment of carbon nano tube between Aluminum electrodes using AC dielectrophoresis method</i>   | <i>2011 IEEE Regional Symposium on Micro and Nanoelectronics, RSM 2011 - Programme and Abstracts</i> |                |
| 59  | Prof Dr. Uda Hashim           | 2011             | <i>The characterization study of functionalized multi-wall carbon nanotubes purified by acid oxidation</i>   | <i>2011 IEEE Regional Symposium on Micro and Nanoelectronics, RSM 2011 - Programme and Abstracts</i> | Scopus         |

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|-----|---------------------|------------------|---|--|----------------|
| 60  | Prof Dr. Uda Hashim | 2011             | <i>Polysilicon nanogap capacitive biosensors for the pH detection</i>   | <i>2011 IEEE Regional Symposium on Micro and Nanoelectronics, RSM 2011 - Programme and Abstracts</i> | Scopus         |
| 61  | Prof Dr. Uda Hashim | 2011             | <i>Colorimetric sensor for label free detection of porcine PCR product (ID: 18)</i>   | <i>AIP Conference Proceedings</i>  | Scopus         |
| 62  | Prof Dr. Uda Hashim | 2011             | <i>ZnO nanoporous structure growth, optical and structural characterization by aqueous solution route</i>   | <i>AIP Conference Proceedings</i>  | Scopus         |
| 63  | Prof Dr. Uda Hashim | 2011             | <i>Design and fabrication of nano biologically sensitive field-effect transistor (nano bio-FET) for bio-molecule detection</i>  | <i>AIP Conference Proceedings</i>  | Scopus         |
| 64  | Prof Dr. Uda Hashim | 2011             | <i>Fabrication and characterization of a-Si micro and nano-gap structure for electrochemical sensor</i>   | <i>AIP Conference Proceedings</i>  | Scopus         |
| 65  | Prof Dr. Uda Hashim | 2011             | <i>Analysis of Pork Adulteration in Commercial Burgers Targeting Porcine-Specific Mitochondrial Cytochrome B Gene by TaqMan Probe Real-Time Polymerase Chain Reaction</i> | <i>Food Analytical Methods</i>   | Scopus         |
| 66  | Prof Dr. Uda Hashim | 2011             | <i>Swine-Specific PCR-RFLP Assay Targeting Mitochondrial Cytochrome B Gene for Semiquantitative Detection of Pork in Commercial Meat Products</i>                         | <i>Food Analytical Methods</i>   | Scopus         |
| 67  | Prof Dr. Uda Hashim | 2011             | <i>Nanobiosensor for the detection and quantification of specific DNA sequences in degraded biological samples</i>  | <i>IFMBE Proceedings</i>   | Scopus         |
| 68  | Prof Dr. Uda Hashim | 2011             | <i>Polysilicon nanogap formation using size expansion technique for biosensor application</i>   | <i>IFMBE Proceedings</i>   | Scopus         |

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|-----|---------------------|------------------|--|---|----------------|
| 69  | Prof Dr. Uda Hashim | 2011             | <i>Optimization of input process parameters variation on threshold voltage in 45 nm NMOS device</i>                    | <i>International Journal of Physical Sciences</i>           | Scopus         |
| 70  | Prof Dr. Uda Hashim | 2011             | <i>5 nm gap via conventional photolithography and pattern-size reduction technique</i>                                 | <i>International Journal of Physical Sciences</i>           | Scopus         |
| 71  | Prof Dr. Uda Hashim | 2011             | <i>Nanobiosensor for detection and quantification of DNA sequences in degraded mixed meats</i>                         | <i>Journal of Nanomaterials</i>                             | Scopus         |
| 72  | Prof Dr. Uda Hashim | 2011             | <i>Fabrication of lateral polysilicon gap of less than 50nm using conventional lithography</i>                         | <i>Journal of Nanomaterials</i>                             | Scopus         |
| 73  | Prof Dr. Uda Hashim | 2011             | <i>Fabrication and characterization of gold nano-gaps for ssDNA immobilization and hybridization detection</i>         | <i>Journal of New Materials for Electrochemical Systems</i> | Scopus         |
| 74  | Prof Dr. Uda Hashim | 2011             | <i>Sensitivity of A-549 human lung cancer cells to nanoporous zinc oxide conjugated with Photofrin</i>                 | <i>Lasers in Medical Science</i>                            | Scopus         |
| 75  | Prof Dr. Uda Hashim | 2011             | <i>Functionalised zinc oxide nanotube arrays as electrochemical sensors for the selective determination of glucose</i> | <i>Micro and Nano Letters</i>                               | Scopus         |
| 76  | Prof Dr. Uda Hashim | 2011             | <i>Nanoparticle sensor for label free detection of swine DNA in mixed biological samples</i>                           | <i>Nanotechnology</i>                                       | Scopus         |
| 77  | Prof Dr. Uda Hashim | 2011             | <i>Fabrication and characterization of 50 nm silicon nano-gap structures</i>   | <i>Science of Advanced Materials</i>                        | Scopus         |
| 78  | Prof Dr. Uda Hashim | 2011             | <i>Probing the Ph measurement of self-aligned polysilicon nanogap capacitor</i>  | <i>Advanced Materials Research</i>                          | Scopus         |
| 79  | Prof Dr. Uda Hashim | 2011             | <i>Low cost diffuser based micropump using pinch actuation</i>   | <i>Advanced Materials Research</i>                          | Scopus         |

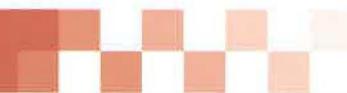


| BIL | NAMA STAF AKADEMIK   | TAHUN PENERBITAN | TAJUK PENERBITAN   | NAMA JURNAL  | PANGKALAN DATA |
|-----|----------------------|------------------|--|--|----------------|
| 80  | Prof Dr. Uda Hashim  | 2011             | <i>Species Authentication Methods in Foods and Feeds: the Present, Past, and Future of Halal Forensics</i>                     | <i>Food Analytical Methods</i>   | Scopus         |
| 81  | Prof Dr. Uda Hashim  | 2011             | <i>Gold nanoparticle sensor for the visual detection of pork adulteration in meatball formulation</i>                          | <i>Journal of Nanomaterials</i>  | Scopus         |
| 82  | Prof Dr. Uda Hashim  | 2011             | <i>Morphological, optical, and Raman characteristics of ZnO nanoflakes prepared via a sol-gel method</i>                       | <i>Physica Status Solidi (A) Applications and Materials</i>  | Scopus         |
| 83  | Prof. Uda bin Hashim | 2011             | <i>The characterization study of functionalized multi-wall carbon nanotubes purified by acid oxidation</i>                     | <i>2011 IEEE Regional Symposium on Micro and Nanoelectronics, RSM 2011 - Programme and Abstracts</i> | Scopus         |
| 84  | Prof. Uda bin Hashim | 2011             | <i>Polysilicon nanogap capacitive biosensors for the pH detection</i>  | <i>2011 IEEE Regional Symposium on Micro and Nanoelectronics, RSM 2011 - Programme and Abstracts</i> | Scopus         |
| 85  | Prof. Uda bin Hashim | 2011             | <i>Colorimetric sensor for label free detection of porcine PCR product (ID: 18)</i>  | <i>AIP Conference Proceedings</i>  | Scopus         |
| 86  | Prof. Uda bin Hashim | 2011             | <i>ZnO nanoporous structure growth, optical and structural characterization by aqueous solution route</i>                      | <i>AIP Conference Proceedings</i>  | Scopus         |
| 87  | Prof. Uda bin Hashim | 2011             | <i>Design and fabrication of nano biologically sensitive field-effect transistor (nano bio-FET) for bio-molecule detection</i> | <i>AIP Conference Proceedings</i>  | Scopus         |
| 88  | Prof. Uda bin Hashim | 2011             | <i>Fabrication and characterization of a-Si micro and nano-gap structure for electrochemical sensor</i>                        | <i>AIP Conference Proceedings</i>  | Scopus         |

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|-----|----------------------|------------------|---|---|----------------|
| 89  | Prof. Uda bin Hashim | 2011             | <i>Analysis of Pork Adulteration in Commercial Burgers Targeting Porcine-Specific Mitochondrial Cytochrome B Gene by TaqMan Probe Real-Time Polymerase Chain Reaction</i> | <i>Food Analytical Methods</i>                              | Scopus         |
| 90  | Prof. Uda bin Hashim | 2011             | <i>Swine-Specific PCR-RFLP Assay Targeting Mitochondrial Cytochrome B Gene for Semiquantitative Detection of Pork in Commercial Meat Products</i>                         | <i>Food Analytical Methods</i>                              | Scopus         |
| 91  | Prof. Uda bin Hashim | 2011             | <i>Nanobiosensor for the detection and quantification of specific DNA sequences in degraded biological samples</i>  | <i>IFMBE Proceedings</i>                                    | Scopus         |
| 92  | Prof. Uda bin Hashim | 2011             | <i>Polysilicon nanogap formation using size expansion technique for biosensor application</i>   | <i>IFMBE Proceedings</i>                                    | Scopus         |
| 93  | Prof. Uda bin Hashim | 2011             | <i>Optimization of input process parameters variation on threshold voltage in 45 nm NMOS device</i>   | <i>International Journal of Physical Sciences</i>           | Scopus         |
| 94  | Prof. Uda bin Hashim | 2011             | <i>5 nm gap via conventional photolithography and pattern-size reduction technique</i>  | <i>International Journal of Physical Sciences</i>           | Scopus         |
| 95  | Prof. Uda bin Hashim | 2011             | <i>Nanobiosensor for detection and quantification of DNA sequences in degraded mixed meats</i>  | <i>Journal of Nanomaterials</i>                             | Scopus         |
| 96  | Prof. Uda bin Hashim | 2011             | <i>Fabrication of lateral polysilicon gap of less than 50nm using conventional lithography</i>  | <i>Journal of Nanomaterials</i>                             | Scopus         |
| 97  | Prof. Uda bin Hashim | 2011             | <i>Fabrication and characterization of gold nano-gaps for ssDNA immobilization and hybridization detection</i>  | <i>Journal of New Materials for Electrochemical Systems</i> | Scopus         |

| BIL | NAMA STAF AKADEMIK                | TAHUN PENERBITAN | TAJUK PENERBITAN   | NAMA JURNAL  | PANGKALAN DATA |
|-----|-----------------------------------|------------------|--|--|----------------|
| 98  | Prof. Uda bin Hashim              | 2011             | <i>Sensitivity of A-549 human lung cancer cells to nanoporous zinc oxide conjugated with Photofrin</i>                 | <i>Lasers in Medical Science</i>   | Scopus         |
| 99  | Prof. Uda bin Hashim              | 2011             | <i>Functionalised zinc oxide nanotube arrays as electrochemical sensors for the selective determination of glucose</i> | <i>Micro and Nano Letters</i>  | Scopus         |
| 100 | Prof. Uda bin Hashim              | 2011             | <i>Nanoparticle sensor for label free detection of swine DNA in mixed biological samples</i>                           | <i>Nanotechnology</i>  | Scopus         |
| 101 | Prof. Uda bin Hashim              | 2011             | <i>Fabrication and characterization of 50 nm silicon nano-gap structures</i>   | <i>Science of Advanced Materials</i>   | Scopus         |
| 102 | Dr Mohd Nazree bin Derman         | 2011             | <i>Growth of Cu-Zn5 and Cu5Zn8 intermetallic compounds in the Sn-9Zn/Cu joint during liquid state aging</i>            | <i>Advanced Materials Research</i>   | Scopus         |
| 103 | Dr Mohd Nazree bin Derman         | 2011             | <i>Characterization of porous anodic aluminium oxide film on aluminium templates formed in anodizing process</i>       | <i>Advanced Materials Research</i>   | Scopus         |
| 104 | Cik. Nurhamidah binti Abdul Halim | 2011             | <i>The alignment of carbon nano tube between Aluminum electrodes using AC dielectrophoresis method</i>                 | <i>2011 IEEE Regional Symposium on Micro and Nanoelectronics, RSM 2011 - Programme and Abstracts</i> | Scopus         |
| 105 | Cik. Nurhamidah binti Abdul Halim | 2011             | <i>The characterization study of functionalized multi-wall carbon nanotubes purified by acid oxidation</i>             | <i>2011 IEEE Regional Symposium on Micro and Nanoelectronics, RSM 2011 - Programme and Abstracts</i> | Scopus         |
| 106 | P.M. Dr Yarub Al Douri            | 2011             | <i>Electronic and positron properties of zinc-blende MgTe, CdTe and their alloy Mg<sub>1-x</sub>Cd<sub>x</sub>Te</i>   | <i>Advanced Materials Research</i>   | Scopus         |
| 107 | P.M. Dr Yarub Al Douri            | 2011             | <i>Structural and electronic properties of Ga<sub>x</sub>N<sub>As</sub><sub>1-x</sub> alloys</i>                       | <i>Applied Physics A: Materials Science and Processing</i>   | Scopus         |
| 108 | P.M. Dr Yarub Al Douri            | 2011             | <i>Calculated optical properties of GaX (X = P, As, Sb) under hydrostatic pressure</i>                                 | <i>Applied Physics A: Materials Science and Processing</i>   | Scopus         |

| BIL | NAMA STAF AKADEMIK     | TAHUN PENERBITAN | TAJUK PENERBITAN  | NAMA JURNAL                                     | PANGKALAN DATA |
|-----|------------------------|------------------|---|---|----------------|
| 109 | P.M. Dr Yarub Al Douri | 2011             | <i>New optical features to enhance solar cell performance based on porous silicon surfaces</i>                  | <i>Applied Surface Science</i>                  | Scopus         |
| 110 | P.M. Dr Yarub Al Douri | 2011             | <i>Investigated optical and elastic properties of Porous silicon. Theoretical study</i>                         | <i>Materials and Design</i>                     | Scopus         |
| 111 | P.M. Dr Yarub Al Douri | 2011             | <i>Nano and micro porous GaN characterization using image processing method</i>                                 | <i>Optik</i>                                    | Scopus         |
| 112 | P.M. Dr Yarub Al Douri | 2011             | <i>Investigated optical studies of Si quantum dot</i>   | <i>Solar Energy</i>                             | Scopus         |
| 113 | P.M. Dr Yarub Al Douri | 2011             | <i>Stiffness properties of porous silicon nanowires fabricated by electrochemical and laser-induced etching</i> | <i>Superlattices and Microstructures</i>        | Scopus         |
| 114 | Prof. Uda bin Hashim   | 2012             | <i>Probing the Ph measurement of self-aligned polysilicon nanogap capacitor</i>                                 | <i>Advanced Materials Research</i>              | Scopus         |
| 115 | Prof. Uda bin Hashim   | 2012             | <i>Low cost diffuser based micropump using pinch actuation</i>  | <i>Advanced Materials Research</i>              | Scopus         |
| 116 | Prof. Uda bin Hashim   | 2012             | <i>Nano Lab-on-Chip Systems for biomedical and environmental monitoring</i>                                     | <i>African Journal of Biotechnology</i>         | Scopus         |
| 117 | Prof. Uda bin Hashim   | 2012             | <i>Effect of different seed solutions on the morphology and electro-optical properties of ZnO Nanorods</i>      | <i>Journal of Nanomaterials</i>                 | Scopus         |
| 118 | Prof. Uda bin Hashim   | 2012             | <i>Structural and impedance spectroscopy study of Al-doped ZnO nanorods grown by sol-gel method</i>             | <i>Emerald Microelectronics International</i>   | Scopus         |
| 119 | Prof. Uda bin Hashim   | 2012             | <i>Resist Uniformity Evaluation through Swing Curve phenomena.</i>  | <i>Advances in Natural and Applied Sciences</i> | Scopus         |
| 120 | Prof. Uda bin Hashim   | 2012             | <i>Development of Swine-Specific DNA Markers for Biosensor-Based Halal Authentication</i>                       | <i>Genetics and Molecular Research</i>          | Scopus         |



| BIL | NAMA STAF AKADEMIK   | TAHUN PENERBITAN | TAJUK PENERBITAN  | NAMA JURNAL   | PANGKALAN DATA |
|-----|----------------------|------------------|---|---|----------------|
| 121 | Prof. Uda bin Hashim | 2012             | <i>Design and fabrication of single atom size polysilicon Nanowire</i>  | <i>Journal of Applied Sciences Research</i>                           | Scopus         |
| 122 | Prof. Uda bin Hashim | 2012             | <i>Design and fabrication of Passive Fluid Driven Microchamber for Fast Reaction Assays in Nano lab-on-chip Domain</i>  | <i>Journal of Applied Sciences Research</i>                           | Scopus         |
| 123 | Prof. Uda bin Hashim | 2012             | <i>Disposable Polymeric Electromagnetic Actuated Micropump</i>  | <i>Advance Science Letters</i>  | Scopus         |
| 124 | Prof. Uda bin Hashim | 2012             | <i>Dynamic Audio-Visual Client Recognition modeling</i>   | <i>International Journal of Computer Science and Security (IJCSS)</i> | Scopus         |
| 125 | Prof. Uda bin Hashim | 2012             | <i>Probe Real-Time Polymerase Chain Reaction Assay Targeting A Short-Segment of Mitochondrial Cytochrome B Gene for The Determination of Pork Adulteration in Chicken Nuggets</i> | <i>Journal of Food and Nutrition Research.</i>                        | Scopus         |
| 126 | Prof. Uda bin Hashim | 2012             | <i>Characterization and Identification of Soft Rot Bacterial Pathogens in Bangladeshi Potatoes</i>  | <i>African Journal of Microbiology Research</i>                       | Scopus         |
| 127 | Prof. Uda bin Hashim | 2012             | <i>Isolation, Characterization, and Identification of Biological Control Agent for Potato Soft Rot in Bangladesh</i>  | <i>The Scientific World Journal.</i>                                  | Scopus         |
| 128 | Prof. Uda bin Hashim | 2012             | <i>Nanobiosensor for the detection and quantification of pork adulteration in meatball formulation</i>  | <i>Journal of Experimental Nanoscience</i>                            | Scopus         |
| 129 | Prof. Uda bin Hashim | 2012             | <i>Potentiometric uric acid sensor based on ZnO nanoflakes with immobilized uricase.</i>  | <i>Sensors</i>  | Scopus         |
| 130 | Prof. Uda bin Hashim | 2012             | <i>Analysis of Pork Adulteration in Commercial Meatballs Targeting Porcine-Specific Mitochondrial Cytochrome B Gene by TaqMan Probe Real-Time Polymerase Chain Reaction</i>       | <i>Elsevier Meat Science Journal</i>                                  | Scopus         |

| BIL | NAMA STAF AKADEMIK   | TAHUN PENERBITAN | TAJUK PENERBITAN  | NAMA JURNAL                                    | PANGKALAN DATA |
|-----|----------------------|------------------|---|--|----------------|
| 131 | Prof. Uda bin Hashim | 2012             | <i>Polysilicon Nanogap Fabrication Using a Thermal Oxidation Process</i>  | <i>Emerald Microelectronics International</i>  | Scopus         |
| 132 | Prof. Uda bin Hashim | 2012             | <i>Fabrication of Amorphous Silicon Microgap Structure for Energy Saving Devices</i>                            | <i>Sains Malaysiana</i>                        | Scopus         |
| 133 | Prof. Uda bin Hashim | 2012             | <i>Further optical properties of CdX (X=S,Te) compounds under quantum dot diameter effect: ab initio method</i> | <i>Renewable Energy</i>                        | Scopus         |
| 134 | Prof. Uda bin Hashim | 2012             | <i>Shallow Junction Formation: A Simulation Based Study of Thermal Diffusion by Spinon-dopants technique.</i>   | <i>Journal of Applied Sciences Research</i>    | Scopus         |
| 135 | Prof. Uda bin Hashim | 2012             | <i>Species Authentication Methods in Foods and Feeds: The Present, Past, and Future of Halal Forensics</i>      | <i>Food Analytical Methods</i>                 | Scopus         |
| 136 | Prof. Uda bin Hashim | 2012             | <i>Micro/Nanoscale Biosensing in Microfluidics: Selection of Polymers and Microstructures.</i>                  | <i>Journal of Applied Sciences Research</i>    | Scopus         |
| 137 | Prof. Uda bin Hashim | 2012             | <i>Real-time polymerase chain reaction for the determination of pork adulteration in meat nuggets</i>           | <i>Journal of Food and Nutrition Research.</i> | Scopus         |
| 138 | Prof. Uda bin Hashim | 2012             | <i>Characterization, analysis and Optical properties of nanostructure ZnO using the sol-gel method</i>          | <i>Micro &amp; Nano Letters</i>                | Scopus         |
| 139 | Prof. Uda bin Hashim | 2012             | <i>Nanobioprobes for the determination of pork adulteration in burger formulations</i>                          | <i>Journal of Nanomaterials</i>                | Scopus         |
| 140 | Prof. Uda bin Hashim | 2012             | <i>Low Cost Diffuser Based Micropump Using Pinch Actuation</i>  | <i>Advanced Materials Research</i>             | Scopus         |
| 141 | Prof. Uda bin Hashim | 2012             | <i>Probing the Ph Measurement of Self-Aligned Polysilicon NanogapCapacitor</i>                                  | <i>Advanced Materials Research</i>             | Scopus         |

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|-----|----------------------|------------------|---|---|----------------|
| 142 | Prof. Uda bin Hashim | 2012             | <i>Gold nanoparticle sensor for the visual detection of pork adulteration in meatball formulation</i>         | <i>Journal of Nanomaterials</i>   | Scopus         |
| 143 | Prof. Uda bin Hashim | 2012             | <i>Species Authentication Methods in Foods and Feeds: The Present, Past, and Future of Halal Forensics</i>    | <i>Journal Food Analytical Methods</i>  | Scopus         |
| 144 | Prof. Uda bin Hashim | 2012             | <i>Morphological, optical, and Raman characteristics of ZnO nanoflakes prepared via a sol-gel method</i>      | <i>Physica Status Solidi (A) Applications and Materials</i>                                   | Scopus         |
| 145 | Prof. Uda bin Hashim | 2012             | <i>Formation of Polysilicon Nanowires as Transducer for Biosensor using Plasma Trimming Process" prepared</i> | <i>IEEE-EMBS International Conference on Biomedical Engineering and Sciences</i>              |                |
| 146 | Prof. Uda bin Hashim | 2012             | <i>Low Cost Fabrication of Micromixer and Microchamber for Microfluidic Lab-On-Chip"</i>                      | <i>IEEE-EMBS International Conference on Biomedical Engineering and Sciences</i>              |                |
| 147 | Prof. Uda bin Hashim | 2012             | <i>Fabrication Techniques of Electrical Nanogap biosensor</i>   | <i>8th International Conference on Emerging Technologies (ICET2012)</i>                       |                |
| 148 | Prof. Uda bin Hashim | 2012             | <i>Reliability Study of Cu and Au wires used in Flash Memory Fine line BGA Package</i>                        | <i>IEEE COMPONENTS, PACKAGING, &amp; MANUFACTURING TECHNOLOGY SOCIETY (IEEE CPMT-Taipei).</i> |                |
| 149 | Prof. Uda bin Hashim | 2012             | <i>Reliability Challenges of Cu Wire Deployment in Flash Memory Packaging</i>                                 | <i>IEEE COMPONENTS, PACKAGING, &amp; MANUFACTURING TECHNOLOGY SOCIETY (IEEE CPMT-Taipei).</i> |                |
| 150 | Prof. Uda bin Hashim | 2012             | <i>Numerical Simulation of Microfluidic Devices</i>   | <i>IEEE Xplore</i>  |                |
| 151 | Prof. Uda bin Hashim | 2012             | <i>Recent Advancement In Micro To Nanogap Biosensor,</i>  | <i>ICSE2012</i>   |                |
| 152 | Prof. Uda bin Hashim | 2012             | <i>Growth of ZnO nanorods and effect of seed layer on interdigitated electrode (IDE) impedance</i>            | <i>International conference Nanotech 2012</i>   |                |

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|-----|----------------------|------------------|--|--|----------------|
| 153 | Prof. Uda bin Hashim | 2012             | <i>Synthesis and electro-optical characterization of n-ZnO nanoflakes/p-GaN heterojunction light emitting diode,</i>   | <i>International conference Nanotech 2012</i>  |                |
| 154 | Prof. Uda bin Hashim | 2012             | <i>Optical and electrochemical sensing characterization of ZnO nanoflakes.</i>   | <i>International conference Nanotech 2012</i>  |                |
| 155 | Prof. Uda bin Hashim | 2012             | <i>Structural Properties of Nanocrystalline CdS Thin Films Using Sol-Gel Method for Solar Cells Applications</i>   | <i>The Asian International Conference on Materials, Minerals, and Polymer 2012 (MAMIP2012).</i>    |                |
| 156 | Prof. Uda bin Hashim | 2012             | <i>Development of Polysilicon Nanowire Lab-On-Chip: from Nano Structure to Systems for Life Science Applications</i>   | <i>Proceeding 2nd Annual International Conference on Advances in Biotechnology (BioTech 2012).</i> |                |
| 157 | Prof. Uda bin Hashim | 2012             | <i>Fabrication and Characterization of Nano Lab-On-Chip for Bio Medical Diagnostics: From nano Structure to Systems</i>  | <i>Proceeding Book. International Scientific Spring (ISS-2012).</i>                                |                |
| 158 | Prof. Uda bin Hashim | 2012             | <i>Study of ZnO Thin Film on Silicon Substrate by Sol-Gel Spin Coating Method for Bio-Medical Application.</i>   | <i>International Conference on Biomedical Engineering (ICOBE 2012)</i>                             |                |
| 159 | Prof. Uda bin Hashim | 2012             | <i>Microstructure and Polymer Choice in Microfluidic Interfacing for Nanoscale Biosensing</i>  | <i>International Conference on Biomedical Engineering (ICOBE 2012)</i>                             |                |
| 160 | Prof. Uda bin Hashim | 2012             | <i>Designing an Artificial Neural Network Model for The Prediction of Kidney Problems Sympton through Patient's Metal Behavior for Pre-Clinical Medical Diagnostic</i> | <i>International Conference on Biomedical Engineering (ICOBE 2012)</i>                             |                |
| 161 | Prof. Uda bin Hashim | 2012             | <i>Photodynamic Damage in Liver Carcinoma HepG2 Cells</i>  | <i>International Conference on Biomedical Engineering (ICOBE 2012)</i>                             |                |

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|-----|------------------------|------------------|---|---|----------------|
| 162 | Prof. Uda bin Hashim   | 2012             | <i>Development of Highly Selective Electronic Nose Using Molecular Imprinted Polymer (MIP) for Recognition of Fruit ripeness</i>  | <i>Proceeding International Conference on Man-Machine Systems (ICOMMS 2012)</i>                             |                |
| 163 | Prof. Uda bin Hashim   | 2012             | <i>Recognition of Limonene Volatile Using Interdigitated Electrode Molecular Imprinted Polymer Sensor.</i>  | <i>Proceeding - 3rd International Conference on Intelligent Systems Modelling and Simulation, ISMS 2012</i> |                |
| 164 | Prof. Uda bin Hashim   | 2012             | <i>Effect of Sn doping on crystal structure and optical properties of ZnO thin films.</i>   | <i>14th IEEE International Multitopic Conference 2011, Pakistan</i>   |                |
| 165 | Prof. Uda bin Hashim   | 2012             | <i>Mask Design for the reproducible fabrication and reliable pattern transfer for polysilicon Nanowire.</i>   | <i>International Conference on Enabling Science and nanotechnology 2012 (ESciNanO 2012).</i>                |                |
| 166 | Prof. Uda bin Hashim   | 2012             | <i>Fabrication of PDMS multi-layer microstructure: The Electroosmosis mechanism in fluidics for life sciences</i>   | <i>International Conference on Enabling Science and nanotechnology 2012 (ESciNanO 2012).</i>                |                |
| 167 | P.M. Dr Yarub Al Douri | 2012             | <i>Density functional study of optical properties of beryllium chalcogenides compounds in nickel arsenide B8 structure</i>  | <i>Physica B: Condensed Matter</i>  | Scopus         |
| 168 | P.M. Dr Yarub Al Douri | 2012             | <i>Structural and electronic properties of zinc blende B<sub>x</sub>Al<sub>1-x</sub>N<sub>y</sub>P<sub>1-y</sub> quaternary alloys via first-principle calculations</i> | <i>Physica B: Condensed Matter</i>  | Scopus         |