# CURRICULUM VITAE

| **A. BUTIR-BUTIR PERIBADI** ***(Personal Details)*** | | | |
|---|---|---|---|
| Nama Penuh *(Full Name)* | **Nizam Tamchek** | | Gelaran *(Title): Dr* |
| No. MyKad / No. Pasport *(Mykad No. / Passport No.)* **770306-04-5369** | Warganegara *(Citizenship)* **MALAYSIA** | Bangsa *(Race)* **MALAY** | Jantina *(Gender)* **MALE** |
| Jawatan *(Designation)* **Senior Lecturer** | | Tarikh Lahir *(Date of Birth)* | 6 Mac 1977 |

| Alamat Semasa *(Current Address)* | Jabatan/Fakulti *(Department/Faculty)* | E-mel dan URL *(E-mail Address and URL)* |
|---|---|---|
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| **B. KELAYAKAN AKADEMIK** ***(Academic Qualification)*** | | | |
|---|---|---|---|
| Nama Sijil / Kelayakan *(Certificate / Qualification obtained)* | Nama Sekolah Institusi *(Name of School / Institution)* | Tahun *(Year obtained)* | Bidang pengkhususuan *(Area of Specialization)* |
| BSc. | Kanazawa University, Japan | 2001 | Optics /Astrophysics |
| Msc | University of Malaya | 2004 | Photonics |
| PhD | University of Malaya | 2010 | Photonics |

| **F. ANUGERAH DAN HADIAH** *(Honours and Awards)* | | | | |
|---|---|---|---|---|
| *Name of awards* | *Title* | *Award Authority* | *Award Type* | *Year* |
| *MTE 2016* | Germanium Flat Fiber Dosimetry Kit: a new intelligent material for radiation detection and measurement forming a highly versatile wide-spectrum detector of unsurpassed capability | Malaysia Technology Expo 2016 | Gold | 2016 |
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| **G. SENARAI PENERBITAN (Sila masukan nama pengarang, tajuk, nama jurnal, jilid, muka surat dan tahun diterbitkan)** *(List of publications – author (s), title, journal, volume, page and year published)* | |
|---|---|
| *Journal* | 1- Gunawardena, D.S., Mat-Sharif, K.A., Lai, M.-H.,N.Tamchek, Abdul-Rashid, H.A., Ahmad, H., "Thermal Activation of Regenerated Grating in Hydrogenated Gallosilicate Fiber", IEEE Sensors Journal, Volume 16, Issue |

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2- Hashim, S., Mhareb, M.H.A., Ghoshal, S.K., Tamchek, N., Alzimami, K. , "Luminescence characteristics of Li2O-MgO-B2O3 doped with Dy3+ as a solid TL detector", Radiation Physics and Chemistry, 2015, 116, pp. 138-141

3- Alawiah, A., Bauk, S., Marashdeh, M.W., N. Tamchek, Wan Abdullah, W.S., Bradley, D.A., "The thermoluminescence glow curve and the deconvoluted glow peak characteristics of erbium doped silica fiber exposed to 70-130kVp x-rays", Applied Radiation and Isotopes, 2015,104, pp. 197-202

4- Razali, N.F., Abu Bakar, M.H., Tamchek, N., Zakaria, K., Mahdi, M.A., "Fiber Bragg grating for pressure monitoring of full composite lightweight epoxy sleeve strengthening system for submarine pipeline", Journal of Natural Gas Science and Engineering, 2015, 26, pp. 135-141

5- Mojdehi, M.S.a , Yunus, W.M.M.a, Fhan, K.S.b, Talib, Z.A.a, Tamchek, N., " Nonlinear optical characterization of phosphate glasses based on ZnO using the Z-scan technique", Chinese Physics B ,Volume 22, Issue 11, November 2013, Article number 117802

6- Siti Shafiqah, A.S., Amin, Y.M., Md Nor, R., Tamchek, N., Bradley, D.A. "Enhanced TL response due to radiation induced defects in Ge-doped silica preforms", Radiation Physics and Chemistry, 2015, 111, pp. 87-90

7- Alawiah, A., Alina, M.S., Bauk, S., N. Tamchek, Bradley, D.A., Marashdeh, M.W., "The thermoluminescence characteristics and the glow curves of Thulium doped silica fiber exposed to 10MV photon and 21MeV electron radiation", Applied Radiation and Isotopes, 2015, 98, pp. 80-86

8- Alawiah, A., Bauk, S., Abdul-Rashid, H.A., Tamchek, N., Bradley, D.A, "Potential application of pure silica optical flat fibers for radiation therapy dosimetry", Source of the Document Radiation Physics and Chemistry, 2015, 106, pp. 73-76

9- Gunawardena, D.S., Mat-Sharif, K.A., Tamchek, N., Lim, K.-S., Ahmad, H., "Photosensitivity of gallium-doped silica core fiber to 193 nm ArF excimer laser", Applied Optics, 2015, 54 (17), pp. 5508-5512

10- Dawaud, R.S.E.S., Hashim, S., Alajerami, Y.S.M., Mhareb, M.H.A., Tamchek, N., "Optical and structural properties of lithium sodium borate glasses doped Dy3+ ions", Journal of Molecular Structure, 2014, 1075, pp. 113-117

11- Reduan, S.A., Hashim, S., Ibrahim, Z., Dawaud, R.S.E.S., Tamchek, N., "Physical and optical properties of Li2O-MgO-B2O 3 doped with Sm3+", Journal of Molecular Structure, 2014, 1060 (1), pp. 6-10

12- Aljamimi, S.M., Anuar, M.S.K., Muhamad-Yassin, S.Z., N. Tamchek, Yusoff, Z., Abdul-Rashid, H.A., "Multiple soaking with different solution concentration in doped silica preform fabrication using modified chemical vapor deposition and solution doping", Fiber and Integrated Optics, 2014, 33 (1-2), pp. 105-119

13- Tee, D.C., Tamchek, N., Shee, Y.G., Adikan, F.R.M., "Numerical investigation on cascaded 1 x 3 photonic crystal power splitter based on asymmetric and symmetric 1 x 2 photonic crystal splitters designed with flexible structural defects", Optics Express, 2014, 22 (20), pp. 24241-24255

14- Mhareb, M.H.A., Hashim, S., Sharbirin, A.S., Dawaud, R.S.E.S., Tamchek, N., "Physical and optical properties of Li2O-MgO-B2O3 doped with Dy3+", Optics and Spectroscopy (English translation of Optika i Spektroskopiya), 2014, 117 (4), pp. 552-559

15- Azizan, S.A., Hashim, S., Razak, N.A., Alajerami, Y.S.M., Tamchek, N., "Physical and optical properties of Dy3+: Li2O-K2O-B2O3 glasses", Journal of Molecular Structure, 2014, 1076, pp. 20-25

16- Abdul Sani, S.F., Alalawi, A.I., Azhar A.R, H.,N. Tamchek, Maah, M.J., Bradley, D.A., "High sensitivity flat SiO2 fibres for medical dosimetry", Radiation Physics and Chemistry, 2014, 104, pp. 134-138

17- Anuar, K.M.S., Muhd-Yasin, S.Z., Zulkifli, M.I., Abdul-Rashid, H.A., Tamchek, N., "Er2O3-Al2O3 doped silica preform prepared by MCVD-Chelate vapor phase delivery technique", Advanced Materials Research,

2014, 896, pp. 219-224

18- Bradley, D.A., Abdul Sani, S.F., Alalawi, A.I., N. Tamchek, Nisbet, A., Maah, M.J., “Development of tailor-made silica fibres for TL dosimetry”, Radiation Physics and Chemistry, 2014, 104, pp. 3-9

19- Tee, D.C. , Shee, Y.G. , Tamchek, N. , Adikan, F.R.M., “ Structure tuned, high transmission 180° waveguide bend in 2-D planar photonic crystal”, IEEE Photonics Technology Letters ,Volume 25, Issue 15, 2013, Article number 6527304, Pages 1443-1446

20- Tee, D.C. , Abu Bakar, M.H., Tamchek, N., Mahamd Adikan, F.R., “Photonic crystal fiber in photonic crystal fiber for residual dispersion compensation over e + S + C + L + U wavelength bands “,IEEE Photonics Journal, Volume 5, Issue 3, 2013, Article number 7200607

21- Faraji, N. , Mahmood Mat Yunus, W., Kharazmi, A., Saion, E., Shahmiri, M., Tamchek, N., “Synthesis, characterization and nonlinear optical properties of silver/PVA nanocomposites”, Journal of the European Optical Society , Volume 7, 28 October 2012, Article number 12040

22- Tee, D.C., Kambayashi, T., Sandoghchi, S.R., Tamchek, N., Adikan, F.R.M., “Efficient, wide angle, structure tuned 1 × 3 photonic crystal power splitter at 1550 nm for triple play applications”, Journal of Lightwave Technology 30 (17) , Volume 30, Issue 17, 2012, Article number 6221938, Pages 2818-2823

23- Muhd-Yassin, S.Z., Anuar, M.S.K., Zulkifli, M.I., Safar, M.H., Tamchek, N., Abdul-Rashid, H.A., “On the initial development of Rare Earth doped fiber using chelate delivery system”, Conference Proceedings - 2011 IEEE 2nd International Conference on Photonics, ICP 2011 , art. no. 6106888

24- Dambul, K.D., Tamchek, N., Sandoghchi, S.R., Abu Hassan, M.R., Tee, D.C., Mahamd Adikan, F.R., “Fabrication and characterization of Flat Fibers”, Conference Proceedings - 2011 IEEE 2nd International Conference on Photonics, ICP 2011 , art. no. 6106841

25- M.R.A. Hassan1, N. Tamchek1, A. F. Abas2, R.M. Johar3 and, F.R. Mahamd Adikan1, “Dual-Phase Sensing for Early Detection of Prepreg Structural Failures via Etched Cladding Bragg Grating”, Sensor and Actuator A, v.171, no.2, 2011 Nov, p.126(5), 2011, IF=1.933

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27- Tamchek, N., Michael, A.P., Sandoghchi, S.R., Hassan, M.R., Dambul, K.D., Selvaraj, J., Rahim, N.A., Mahamd Adikan, F.R., “Design, characterization and implementation of a fiber bragg grating temperature sensor for application in solar power electronic inverters”, Applied Solar Energy (English translation of Geliotekhnika) 47 (3) , pp. 184-188

28- M.Z. Zulkifli, N. Tamchek, A.A. Latif, S.W. Harun and H. Ahmad, “Flat output and switchable fiber laser using AWG and broadband FBG”, Optics Communications, Volume 282, Issue 13, 1 July 2009, Pages 2576-2579, IF= 1.474

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30- S. W. Harun, N. Tamchek, S. Shahi, and H. Ahmad, L-BAND AMPLIFICATION AND MULTI-WAVELENGTH LASING WITH BISMUTH-BASED ERBIUM DOPED FIBER, Progress in Electromagnetics Research Symposium (PIERS), Vol. 6, 1-12, 2009.

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32- Ahmad, H., Thambiratnam, K., Sulaiman, A.H., Tamchek, N., Harun, S.W., “SOA-based quad-wavelength ring laser”, Laser Physics Letters ,Volume 5, Issue 10, October 2008, Pages 726-729, IF=5.5

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| | Lett., vol. 16, no. 2, pp. 422-424, Feb 2004., IF=1.989<br>34- P. Poopalan, H. Haoken, N. Tamchek, S. W. Harun, T. Subramaniam and H. Ahmad, "ASE Spectral Slice Gain-Clamping of EDFA," IEEE Photonics Technol. Lett., vol. 16, no. 12, pp. 2604-2606, Dec. 2004., IF=1.989<br>35- S. W. Harun, N. Tamchek, P. Poopalan, and H. Ahmad, "Effect of Injection of C-Band Amplified Spontaneous Emission on Two-Stage L-Band Erbium-Doped Fiber Amplifier," JETP Letters 77 (9) , pp. 461-463 (2003). IF=1.66<br>36- S. W. Harun, N. Tamchek, and H. Ahmad "10-Ghz Optical Comb in L-Band Region with Brillouin/ErbiumDoped Fiber Laser," Optical Review, Vol.10, No. 3, pp. 133 – 135, (2003). IF=0.53<br>37- S. W. Harun, N. Tamchek, and H. Ahmad, "L-Band Brillouin-Erbium Fiber Laser," Laser Physics, Vol. 13, N0. 8, pp. 1 – 5, (2003)., IF=0.68<br>38- S. W. Harun, N. Tamchek, P. Poopalan, and H. Ahmad, "High Gain L-Band Erbium-Doped Fiber Amplifier With Two-Stage Double Pass Configuration," Pramana Journal of Physics, Vol. 61, No. 1, pp. 93 – 97, (2003). IF=1.319<br>39- S. W. Harun, N. Tamchek, P. Poopalan, and H. Ahmad, "Double-Pass L-Band EDFA with Enhanced Noise Figure Characteristics," IEEE Photonics Technol. Lett., Vol. 15, No. 8, pp. 1055 – 1057, (2003). IF=1.989<br>40- Harun, S.W., Tamchek, N., Ahmad, H., "Double pass L-band EDFA with unpumped EDF", Journal of Optical Communications 24 (5) , pp. 189-191, 2003,<br>41- Harun S.W., and Tamchek N., and Subramaniam, T., and Ahmad H., (2003) Flat-Gain L-Band EDFA with Two-Stage Double Pass Configuration. Malaysian Journal of Science, 22 (2). pp. 77-81.<br>42- S. W. Harun, N. Tamchek, P. Poopalan, H. Ahmad, "Gain improvement in L-band EDFA using unpumped EDF in a double pass system', Microwave and Optical Technology Letters, 2003, Volume 36 Issue 3, Pages 154 – 156, IF=0.68<br>43- Harun, S.W., Tamchek, N., Poopalan, P., Ahmad, H., "Gain-Clamped L-Band Erbium-Doped Fiber Amplifier with Co- and Counter-Propagating Lasers", Japanese Journal of Applied Physics, Part 2: Letters 42 (10 B) , pp. L1262-L1264, 2003, IF=1.018<br>44- Harun S.W., and Tamchek, N., and Teyo, T.C., and Poopalan, P., and Ahmad H., (2002) -L-Band Ring Erbium Doped Fiber Amplifier with Fiber Bragg Grating. Malaysian Journal of Science, 21 (1 & 2). pp. 115-121.<br>45- S.W. Harun and H. Ahmad, "Noise Figure Improvement in Double Pass L-band EDFA using Fiber Bragg Grating", Physics Journal of the Indonesian Physical Society, A5 (2003) 0118<br>46- Harun, S.W., Tamchek, N., Poopalan, P., Ahmad, H., "Dual-stage L-band erbium-doped fiber amplifier for gain enhancement", Japanese Journal of Applied Physics, Part 2: Letters, Volume 42, Issue 2 B, 15 February 2003, Pages L173-L175, IF=1.018<br>47- Harun, S.W., Tamchek, N., Ahmad, H., "Comparison of Performances between Two-stage and Single-stage L-Band EDFA", Journal of Optical Communications 24 (6) , pp. 211-213<br>48- Harun, S.W., Tamchek, N., Poopalan, P., Ahmad, H, "Efficient multiwavelength generation of Brillouin/erbium fiber laser at 1600-nm region", Microwave and Optical Technology Letters, Volume 35, Issue 6, 20 December 2002, Pages 506-508, IF=0.68<br>49- Harun, S.W., Tamchek, N., Poopalan, P., Ahmad, "Gain control in L-band erbium-doped fiber amplifier using a ring resonator", Japanese Journal of Applied Physics, Part 2: Letters , Volume 41, Issue 3 B, 15 March 2002, Pages L332-L333, IF=1.018 |
| *Books/Monographs* | 1. "Bismuth-based Erbium-doped Fibre Optical Amplifiers", Lambert Academic Publishing, ISBN: 978-3-8484-0919-8<br>2. |
| *Chapter in book* | |

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| *Proceedings* | 1- Onn, B.I., Arasu, P.T., Al-Qazwini, Y., Abas, A.F., Tamchek, N., Noor, A.S.M., "Fiber Bragg grating sensor for detecting ageing transformer oil", ICP 2012 - 3rd International Conference on Photonics 2012, Proceedings , art. no. 6379520 , pp. 110-113<br>2- Aljamimi, S.M., Anuar, M.S.K., Muhd-Yasin, S.Z., Zulkifli, M.I., Tamchek, N., Yusoff, Z., Abdul-Rashid, H.A., "On the fabrication of aluminum doped silica preform using MCVD and solution doping technique", ICP 2012 - 3rd International Conference on Photonics 2012, Proceedings , art. no. 6379518 , pp. 235-238<br>3- Muhd-Yassin, S.Z., Emami, S.D., Anuar, M.S.K., Zulkifli, M.I., Tamchek, N., Leong, C.J., Abdul-Rashid, H.A., "All fiber optical band-pass filter using macro-bending approach", ICP 2012 - 3rd International Conference on Photonics 2012, Proceedings , art. no. 6379522 , pp. 242-245<br>4- M.R.A. Hassan, N. Tamchek, M.A. Ismail, T.F. Izam, A. F. Abas, R.M. Johar, S.S Chong and F.R. Mahamd Adikan, " Effect of Epoxy Bonding on Strain Sensitivity and Spectral Behavior of Reflected Bragg Wavelength", Photonics Global Conference 2010, Singapore<br>5- N. Tamchek, W.Y Chong, P. Poopalan, S. W. Harun, H. Ahmad, "Green Upconversion of Erbium-doped Bismuth-based fibre", TS3E-1,MMU International Symposium on Information and Communication Technologiies (M2USIC) 2007, Kuala Lumpur<br>6- N. Tamchek, W. Y. Chong, S.W. Harun, H. Ahmad, " C- and L-Band Erbium-doped Fibre Amplifiers Based on Bismuhate Glass", O 39, National Physics Conference 2007, Terengganu.<br>7- H. Ahmad, N. Tamchek, W. Y. Chong, K. Thambiratnam, S. W. Harun, "Erbium-doped Fibre Amplifier-Influence of host material", 2nd International Conference on Functional Materials and Devices 2008, (ICFMD 2008), Kuala Lumpur.<br>8- Poopalan, P., Haoken, H., Subramaniam, T., Harun, S., Tamchek, N., Ahmad, H., "ASE feedback gain-clamping of C-band EDFA", IEEE Region 10 Annual International Conference, Proceedings/TENCON C , pp. C86-C88 |
| *Other publications* | |
| *Computer software* | |

## H. PROJEK PENYELIDIKAN TERDAHULU(Past Research Project)

| *Project No.* | *Project Title* | *Role* | *Year* | *Source of fund* | *Status* |
|---|---|---|---|---|---|
| *GP-IPB/2014/9449902* | Prototype development of grapheme-based superhydrophobic nanocoating for consumer applications | PI | 2015 | UPM | Finish |
| *GP-IPB/2013/9413501* | Development of an optical fiber based biosensor network for remote multipoint continuous detection of river pollutants | PI | 2013 | UPM | Finish |
| *GP-IBTt/2013/9419200* | Feasibility study of silica doped optical fiber as thermoluminescence radiation dosimeter | PI | 2013 | UPM | Finish |
| *05-05-11-1584RU* | Characterisation of Nitrogen doped Germanosilicate Glass Fabricated by MCVD System | PI | 2011 | UPM | Finish |
| *ERGS* | Investigation of polymer based optical sensors for high voltage monitoring and protection | Collaborator | 2011 | MOHE | Finish |
| *UM High Impact Research* | Development of Novel Devices using Flat Fibres | Collaborator | 2011 | UM | Finish |
| | | | | | Finish |

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| *MOHE-UM High Impact Research* | Development of Photonic Biosensors | Collaborator | 2011 | MOHE | |
| *FRGS* | Thermo-Luminescence Characteristics of Irradiated Germanium Doped Silica Optical Fiber | Collaborator | 2012 | MOHE | Finish |

## I. PENYELIAN PELAJAR SISWAZAH *(Post Graduate Student Supervision)*

| ***Name*** | ***Level*** | ***Project Title*** | ***Role*** | ***Year*** | ***University*** | ***Status*** |
|---|---|---|---|---|---|---|
| Muhammand Rosdi Abu Hassan | MSc | Development of Bragg sensor embedded prepreg oil pipeline patch for early detection of structural failure/leaking | Co-Supervisor | 2010 | UM | Finish |
| Masoumeh Shokati Mojdehi | MSc | Nonlinear Optical Properties of nano-Fluid and Phosphate Glass Used Z-Scan Technique | Co-Supervisor | 2011 | UPM | Finish |
| Katrina Dambul | PhD | Fabrication and Characterization Of Germanium-doped Flat Fiber for Sensor Application | Co-Supervisor | 2011 | UM | On-going |
| Tee Din Chai | PhD | DESIGN AND SIMULATION OF STRUCTURE TUNED PHOTONIC CRYSTAL WAVEGUIDES AND DEVICES | Co-Supervisor | 2011 | UM | Finish |
| Lim Lien Tze | PhD | Fiber Optical Parametric Amplifiers & Oscillators (FOPA/OPO) | Co-Supervisor | 2011 | UPM | Finish |
| Nashru Amira Bt Razak | MSc | Characterization and Fundamental Properties of Radiosensitive Borate Glass Doped with Erbium and Neodymium for Radiotherapeutic Measurement. | Co-Supervisor | 2013 | UTM | Finish |
| Shaidatul Asrin bt Azizan | MSc | The optical and thermoluminescence properties of Dy and Sm doped lithium potassium borate glass | Co-Supervisor | 2013 | UTM | Finish |
| Fatin Nabila bt. Mohamand Hanafi | Msc | Tapper optical fiber sensor for metal detection | Main | 2014 | UPM | On-going |
| Leong Yong Jian | MSc | Synthesis and Conductivity of Copper Zinc Tin Selenide Quaternary Chalcogenide Semiconductor | Co-Supervisor | 2016 | UPM | Finish |
| Mohd Naqiudin Bin Che Ibrahim | MSc | Characterization of Graphene Based Superhydrophobic Coating for Consumer Application | Main | 2016 | UPM | On-going |
| Nadiah Husseini bt Zainol Abidin | PhD | Hybrid Raman-Erbium Random Laser | Co-Supervisor | 2017 | UPM | Finish |
| Abdullahi Magaji Yusufu | PhD | Fluorescence quenching of optical fiber chemical sensor detecting hazardous dinitrobenzene material | Co-supervisor | 2017 | UPM | Finish |
| Mohd. Syafiq Bin Tazuri | MSc | Development of Spray Coating System for Superhydrophobic Coating for Consumer Application | Main | 2017 | UPM | On-going |