



## **CURRICULUM VITAE**

### **1. PERSONAL DATA**

Name: Nik Akmar Rejab

Nationality: Malaysian

Qualifications: B.Eng.(Hons) (UniMAP),  
MSc (USM), PhD (USM)

Field of Specialization: Materials  
Engineering/Ceramics

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### **2. ACHIEVEMENTS**

Achievements/awards/recognitions:

- a. Medals for product competitions (Bronze).  
Expo Rekacipta dan pameran penyelidikan UniMAP 2017 'ZTA-Nb<sub>2</sub>O<sub>5</sub> A New Potential Ceramic Applications' Collaboration with Dr Banjuraizah Johar, School of Materials Engineering, Universiti Malaysia Perlis, 02600 Jejawi, Perlis, Malaysia.
- b. Medals for product competitions (Bronze).  
Malaysia Technology Expo (MTE) 2015 'NanoAdd Cutting Insert' Collaboration with Asst. Prof. Dr Ahmad Zahirani Ahmad Azhar, Department of Manufacturing and Materials Engineering, Faculty of Engineering, International Islamic University Malaysia, 50728 Gombak, Selangor, Malaysia

- c. USM-Sanggar Sanjung (2013) Publication in the International Journal of Refractory Metals and Hard Materials. The journal is ranked within the top 15% in the Thompson ISI list under the category of Material Science.
- d. USM-Sanggar Sanjung (2013) Publication in the Materials Science and Eng. A. The journal is ranked within the top 15% in the Thompson ISI list under the category of Material Science.
- e. USM-Sanggar Sanjung (2011) 1 Publication in the Journal of Sol-gel Science. The journal is ranked within the top 15% in the Thompson ISI list under the category of Material Science.

### **3. PROFESSIONAL COURSES**

#### **COMPLETED:**

- a. Workshop on "X-Ray Analysis and Its Application" (organized by The X-ray Application Malaysia Society and Bruker Malaysia), The Palace of the Golden Horses, Selangor, November 2012.
- b. Workshop on "X-Ray Analysis and Its Application" (organized by School of Materials and Mineral Resources Engineering) at SMMRE USM, March 2011.

### **4. CURRENT RESEARCHS AND PAST RELATED RESEARCHS:**

- a. Fabrication of CeO<sub>2</sub>-PSZ / Nb<sub>2</sub>O<sub>5</sub>-PSZ-Toughened Alumina as Tool Materials.
- b. ZTA with an introduction of CeO<sub>2</sub> and MgO ceramics for cutting inserts.
- c. Dielectric ceramics for antenna applications.

## 5. RESEARCH PUBLICATIONS:

### Original Research Article

1. N.A. Rejab, W.K. Lee, Z.D.I. Sktani, Z.A. Ahmad, Hardness and toughness enhancement of CeO<sub>2</sub> addition to ZTA ceramics through HIPping technique, *Int. J. Refract. Met. Hard Mater.* 69 (2017) 60–65. doi:10.1016/j.ijrmhm.2017.08.002.
2. H. Seli, N.A. Rejab, Z.A. Ahmad, Preliminary Determination of Minerals in Mukah Coal, *Mater. Sci. Forum.* 888 (2017) 458–461.
3. N.A. Rejab, A.Z. Ahmad Azhar, M.M. Ratnam, Z.A. Ahmad, Role of MgO nanoparticles on zirconia-toughened alumina-5 wt-% CeO<sub>2</sub> ceramics mechanical properties, *Mater. Sci. Technol.* 2 (2016). doi:10.1080/02670836.2015.1118792.
4. N.A. Rejab, Z.D.I. Sktani, T.Y. Dar, W.F.F.W. Ali, A.R. Jamaludin, Z.A. Ahmad, The capability of hibonite elongated grains to influence physical, microstructural, and mechanical properties of zirconia toughened alumina–CeO<sub>2</sub>–MgO ceramics, *Int. J. Refract. Met. Hard Mater.* 58 (2016) 104–109. doi:10.1016/j.ijrmhm.2016.04.008.
5. N.A. Rejab, D.I.S. Zhwan, M.A. Afifah, A. Zainal Arifin, Role of Ce<sub>2</sub>Zr<sub>3</sub>O<sub>10</sub> phase on the Microstructure and Fracture Toughness of ZTA Composites, 840 (2016) 57–60. doi:10.4028/www.scientific.net/MSF.840.57.
6. N.A. Rejab, A.Z.A. Azhar, K.S. Kian, M.M. Ratnam, Z.A. Ahmad, Effects of MgO addition on the phase, mechanical properties, and microstructure of zirconia-toughened alumina added with CeO<sub>2</sub> (ZTA–CeO<sub>2</sub>) ceramic composite, *Mater. Sci. Eng. A.* 595 (2014) 18–24. doi:10.1016/j.msea.2013.11.091.
7. N.A. Rejab, A.Z.A. Azhar, M.M. Ratnam, Z.A. Ahmad, The relationship between microstructure and fracture toughness of zirconia toughened alumina (ZTA) added with MgO and CeO<sub>2</sub>, *Int. J. Refract. Met. Hard Mater.* 41 (2013) 522–530. doi:10.1016/j.ijrmhm.2013.07.002.
8. N.A. Rejab, A.Z.A. Azhar, M.M. Ratnam, Z.A. Ahmad, The effects of CeO<sub>2</sub> addition on the physical, microstructural and mechanical properties of yttria stabilized zirconia toughened alumina (ZTA), *Int. J. Refract. Met. Hard Mater.* 36 (2013) 162–166. doi:10.1016/j.ijrmhm.2012.08.010.
9. N.A. Rejab, A.Z.A. Azhar, M.M. Ratnam, Z.A. Ahmad, Structural and Microstructure Relationship with Fracture Toughness of CeO<sub>2</sub> Addition into Zirconia Toughened Alumina (ZTA) Ceramic Composites, *Adv. Mater. Res.* 620 (2012) 252–256. doi:10.4028/www.scientific.net/AMR.620.252.
10. A.Z.A. Azhar, N.A. Rejab, M. Hasmaliza, M.M. Ratnam, A.A. Zainal, The Effects of Cr<sub>2</sub>O<sub>3</sub> Addition on Fracture Toughness and Phases of ZTA Ceramic Composite, *Adv. Mater. Res.* 620 (2012) 35–39. doi:10.4028/www.scientific.net/AMR.620.35.

11. N.A. Rejab, A.Z.A. Azhar, M.M. Ratnam, Z.A. Ahmad, Structural and Microstructure Relationship with Fracture Toughness of CeO<sub>2</sub> Addition into Zirconia Toughened Alumina (ZTA) Ceramic Composites, *Adv. Mater. Res.* 620 (2012) 252–256. doi:10.4028/www.scientific.net/AMR.620.252.
12. W.F.F. Wan Ali, N.A. Rejab, M. Othman, M.F. Ain, Z.A. Ahmad, An investigation of dielectric resonator antenna produced from silicon (100) enhanced by strontium doped-barium zirconate films, *J. Sol-Gel Sci. Technol.* 61 (2011) 411–420. doi:10.1007/s10971-011-2641-2.
13. N.A. Rejab, M. Othman, W.F.F. Wan Ahmad, M.F. Ain, Z.A. Ahmad, (Ba<sub>0.93</sub>Nd<sub>0.07</sub>)TiO<sub>3</sub> thin films prepared by sol–gel method as a potential dielectric resonator antenna application, *J. Sol-Gel Sci. Technol.* 57 (2010) 172–177. doi:10.1007/s10971-010-2338-y.
14. N.A. Rejab, S. Sreekantan, K. Abd Razak, Z.A. Ahmad, Structural characteristics and dielectric properties of neodymium doped barium titanate, *J. Mater. Sci. Mater. Electron.* 22 (2010) 167–173. doi:10.1007/s10854-010-0108-9.
15. B. Johar, N.A. Rejab, N.K. Su, M.S. Talib, A.F. Osman, A.R. Mohamed, Microstructure characterization of Al/Calcined Dolomite Metal Matrix Composites, in: *Int. Conf. Smart Manuf.*, 2007: pp. 124–128. <http://dspace.unimap.edu.my/xmlui/handle/123456789/1530>. (*Proceeding of AMCT2017*).
16. B. Johar, N.A. Rejab, N.K. Su, M.S. Talib, N.M.S. Adzali, M.H. Musa, Effect of Sintering Environment to The Physical Properties of Al / Calcined Dolomite Composite, in: *Int. Conf. Smart Manuf.*, 2007. (*Proceeding of AMCT2017*).
17. B. Johar, N. Rejab, N. Su, Physical properties of Al/Calcined Dolomite Metal Matrix composite by Powder Metallurgy Route, *Int. Conf. Smart Manuf.* (2007) 132–136. (*Proceeding of AMCT2017*).
18. N.A. Rejab, A. S. Azman, Z.A. Ahmad, Improving The Hardness of Zirconia Toughened Alumina (ZTA) Ceramics by Hot Isostatic Press Sintering, *Conf. Adv. Mater. Charac. Tech.* (2017) 165-166. (*Proceeding of AMCT2017*).
19. N.K. Su, A. S. Azman, B. Johar, M.A. Idris, Z.A. Ahmad, Influence of Pentavalent Niobium on Fracture Toughness and Flexurer Strength of ZTA Ceramic Composite Via Cold Isostatic Pressing, *Conf. Adv. Mater. Charac. Tech.* (2017) 113-114. (*Proceeding of AMCT2017*).
20. W.F.F. Wan Ali, N.A. Rejab, N. S. Abdullah, Z.A Ahmad, Effect of Microwave and Conventional Heating in YIG Formation Mechanism at 1000°C, *Conf. Adv. Mater. Charac. Tech.* (2017) 243-244. (*Proceeding of AMCT2017*).