

# CURRICULUM VITAE



| <b>A. BUTIR-BUTIR PERIBADI</b> <i>(Personal Details)</i>                     |  |   |   |
|--|--|---|---|
| Nama Penuh <i>(Full Name)</i>  | <b>YAYA RUKAYADI</b>                                 |   | Gelaran <i>(Title)</i> :<br><b>Assoc. Prof. Dr.</b> |
| No. MyKad / No. Pasport <i>(Mykad No. / Passport No.)</i><br><b>A7586375</b> | Warganegara <i>(Citizenship)</i><br><b>INDONESIA</b> | Bangsa <i>(Race)</i><br><b>MELAYU SUNDA</b> | Jantina <i>(Gender)</i><br><b>MALE</b>              |
| Jawatan <i>(Designation)</i>   | <b>PENSYARAH</b>                                     | Tarikh Lahir <i>(Date of Birth)</i>         | <b>AUGUST 17, 1964</b>                              |

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|---|---|--|
| Alamat Semasa <i>(Current Address)</i>  | Jabatan/Fakulti <i>(Department/Faculty)</i>   | E-mel dan URL <i>(E-mail Address and URL)</i>  |
| <b>103, Blok K, KMR ONE PUTRA RESIDENCE, 43400 UPM Serdang, Selangor Darul Ehsan. Malaysia<br/>Tel: 012-245-0048 or 01112307964</b> | <b>Department of Food Science, Faculty of Food Science and Technology, Universiti Putra Malaysia<br/>Tel: 03-8946-8519<br/>Fax: 038942-3552</b> | <b>E-mail:<br/>yaya_rukayadi@upm.edu.my<br/>and yr32@yahoo.com<br/>URL:<br/><a href="http://www.food.upm.edu.my/">http://www.food.upm.edu.my/</a><br/>H/P:012-254-0048</b> |

| <b>B. KELAYAKAN AKADEMIK</b> <i>(Academic Qualification)</i>         |  |                              |   |
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| Nama Sijil / Kelayakan <i>(Certificate / Qualification obtained)</i> | Nama Sekolah Institusi <i>(Name of School / Institution)</i> | Tahun <i>(Year obtained)</i> | Bidang pengkhususan <i>(Area of Specialization)</i> |
| <b>Ph.D</b>  | <b>Bogor Agricultural University (IPB) - Indonesia</b>       | <b>1998</b>                  | <b>Microbiology</b>                                 |
| <b>Master</b>  | <b>Bogor Agricultural University (IPB) - Indonesia</b>       | <b>1995</b>                  | <b>Microbiology</b>                                 |
| <b>Sarjana (Bachelor)</b>  | <b>Bandung University of Education - Indonesia</b>           | <b>1990</b>                  | <b>Biology Education</b>                            |

| <b>C. KEMAHIRAN BAHASA</b> <i>(Language Proficiency)</i> |                       |                               |                      |                                |                                |
|--|-----------------------|-------------------------------|----------------------|--------------------------------|--------------------------------|
| Bahasa / Language  | Lemah <i>Poor (1)</i> | Sederhana <i>Moderate (2)</i> | Baik <i>Good (3)</i> | Amat Baik <i>Very good (4)</i> | Cemerlang <i>Excellent (5)</i> |
| English  |                       |                               |                      | <b>V</b>                       |                                |
| Bahasa Melayu  |                       |                               | <b>V</b>             |                                |                                |
| Chinese  |                       |                               |                      |                                |                                |
| Lain-lain <i>(other): Korean</i>                         |                       |                               | <b>V</b>             |                                |                                |
| Bahasa Indonesia   |                       |                               |                      |                                | <b>V</b>                       |

| <b>D. PENGALAMAN SAINTIFIK DAN PENGKHUSUSAN</b><br>( <i>Scientific experience and Specialisation</i> ) |                     |                   |                 |  |
|--|---------------------|-------------------|-----------------|--|
| <i>Organization</i>  | <i>Position</i>     | <i>Start Date</i> | <i>End Date</i> | <i>Expertise</i>                                 |
| Biopharmaca Research Center – Bogor Agricultural University, IPB, Indonesia                            | Consultant          | January 2006      | August 2011     | Industrialization of medicinal plants            |
| Faculty of Pharmacy, University Padjadjaran Bandung, Indonesia   | Consultant          | January 2008      | August 2011     | Scientific writing for international publication |
| Scottish Agricultural College, University of Edinburgh, Scotland                                       | Research Attachment | September 1999    | December 1999   | Biocontrol for plant disease                     |
| Marine Biological Laboratory (BML), Woods Hole, MA, USA  | Course Attachment   | June 1999         | August 1999     | Microbial Diversity                              |
| PT. Inagro – Indonesia Agro Industri   | Consultant          | January 1996      | December 1997   | Electrophoresis and DNA Profiling                |
| University California at Berkeley, USA   | Research Attachment | June 1996         | October 1996    | Transposon Mutagenesis                           |

| <b>E. PEKERJAAN</b> ( <i>Employment</i> )     |                              |  |                                     |                                  |
|---|------------------------------|--|-------------------------------------|----------------------------------|
| <i>Majikan / Employer</i>                     | <i>Jawatan / Designation</i> | <i>Jabatan / Department</i>  | <i>Tarikh lantikan / Start Date</i> | <i>Tarikh tamat / Date Ended</i> |
| Universiti Putra Malaysia (UPM)               | Pensyarah                    | Dept. of Food Science, Faculty of Food Science and Technology      | September 19, 2011                  | September 18, 2016               |
| Yonsei University, Korea                      | Research Professor           | Dept. of Biotechnology, College of Life Sciences and Biotechnology | March 2008                          | February 2011                    |
| Yonsei University, Korea                      | Senior Researcher            | Dept. of Biotechnology, College of Engineering                     | March 2006                          | February 2008                    |
| Yonsei University, Korea                      | Researcher                   | Dept. of Biotechnology, College of Engineering                     | January 2003                        | February 2006                    |
| Yonsei University, Korea                      | Postdoc                      | Bioproducts Research Center (BRC)                                  | January 2001                        | December 2002                    |
| Yonsei University, Korea                      | Postdoc                      | Bioproducts Research Center (BRC)                                  | January 2000                        | December 2000                    |
| Bogor Agricultural University (IPB) Indonesia | Researcher                   | Inter University Center for Biotechnology                          | 19-07-1992                          | 28-12-1998                       |
| Medan State University (UNIMED), Indonesia    | Lecturer                     | Department of Biology Education                                    | September 1991                      | July 1992                        |

| <b>F. ANUGERAH DAN HADIAH</b> ( <i>Honours and Awards</i> ) |  |   |                   |             |
|---|--|---|-------------------|-------------|
| <i>Name of awards</i>                                       | <i>Title</i>                             | <i>Award Authority</i>  | <i>Award Type</i> | <i>Year</i> |
| <i>Academic Awards</i>                                      | Pensyarah Cemerlang                      | Universiti Putra Malaysia   | National          | 2015        |
|   | Graduate Student Fellowship              | Team Management Program Doctor (TMPD)- Indonesia  | National          | 1992-1998   |
|   | Overseas Internship for Graduate Student | Project University Research for Graduate Education (URGE)-The Indonesian Ministry of High Education | National          | 1996        |
|   | Carl-Zeiss Award                         | Marine Biological Laboratory for Microbial  | International     | 1999        |

|                     |  |   |               |           |
|---------------------|--|---|---------------|-----------|
|                     |  | Diversity Summer Course, Woods Hole, MA, USA.   |               |           |
|                     | Visit in Higher Education Link Program – SAC - University of Edinburgh | British Council/Department for International Development (DFID), United Kingdom (UK).   | International | 1999      |
|                     | Travel Grand   | 7 <sup>th</sup> International Symposium on the Microbiology of the Aerial Plant Surfaces. University of California at Berkeley, CA, USA | International | 2000      |
|                     | Bioproducts Research Fellowships                                       | Bioproducts Research Center (BRC)-Yonsei University, Korea  | International | 2000      |
|                     | ASEAN Post-Doctoral Fellowships  | Korean Science and Engineering Foundation (KOSEF), Korea.   | International | 2001-2003 |
|                     | BK21 – Brain of Korea Project  | Yonsei Biomolecule Research Initiative (YBRI)-Yonsei University, Korea  | International | 2006-2011 |
| Non-Academic Awards | Received Honorary Citizenship of Korea (Seoul)                         | The Seoul Metropolitan Government, Republic of Korea.   | International | 2007      |
| Awards of Merit     |  |   |               |           |

**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*)

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| Journal | <p>75. Raja Mazlan, R.N.A., Zakaria, M.P.M, <b>Rukayadi, Y.</b>, (2016), Antimicrobial activity of fingerroot [<i>Boesenbergia rotunda</i> (L.) Mansf. A.] extract against <i>Streptococcus mutans</i> and <i>Streptococcus sobrinus</i>, <i>Journal of Pure and Applied Microbiology</i>, Volume 10 (3), pp 1755-1761.</p> <p>74. S.A. Mat, I.S. Mohd Daud, M.H. Mohamad Rojje, N. Hussain and <b>Y. Rukayadi</b>, (2016), Effects of <i>Candida</i> sp. and <i>Blastobotrys</i> sp. starter on fermentation of cocoa (<i>Theobroma cacao</i> L.) beans and its antibacterial activity. <i>Journal of Pure and Applied Microbiology</i>, Volume. 10(4), pp. 2501-2510.</p> <p>73. Rahman, M.A.H., Lau, K.Y., Rukayadi, Y., (2016), Antibacterial activity of fingerroot [<i>Boesenbergia rotunda</i> (L.) Mansf. A.] extract against acne-inducing bacteria, <i>Research Journal of Pharmaceutical, Biological and Chemical Science</i>, Volume 7 (6), pp 2157 – 2163.</p> <p>72. Elexson, N., <b>Rukayadi, Y.</b>, Nakaguchi, Y., Nishibuchi, M., Son, R., (2016). Evaluation of cloves (<i>Syzygium aromaticum</i>) against antibiotics resistant <i>Vibrio parahaemolyticus</i> on seafood, <i>International Food Research Journal</i>, Volume 23 (5), pp 2229-2233.</p> <p>71. Abd Karim, N.A., Ibrahim, M.D., Kntayya, S.B., <b>Rukayadi, Y.</b>, Abd Hamid, H., Abdull Razis, A.F., (2016), <i>Moringa oleifera</i> Lam: Targeting chemoprevention, <i>Asian Pacific Journal of Cancer Prevention</i>, 17, pp 3675-3686.</p> <p>70. Voon W.W.Y, Ghali NA, <b>Rukayadi Y</b> and Meor Hussin AS. 2016. Isolation and identification of biocellulose-producing bacterial strains from Malaysian acidic fruits. <i>Letter in Applied Microbiology</i> 62(5):428-433. doi: 10.1111/lam.12568.</p> <p>69. Zulfa Z, Chia CT and <b>Rukayadi Y</b>. 2015. <i>In vitro</i> antimicrobial activity of <i>Cymbopogon citratus</i> (lemongrass) extracts against selected foodborne pathogens. <i>International Food Research Journal</i>. 23(3): 1262-1267.</p> <p>68. Santhanam, R.K., Ahmad, S., Abas, F., Ismail, I.S., Rukayadi, Y., Akhyar, T., Shaari, K., (2016), Bioactive constituents of <i>Zanthoxylum rhetsa</i> bark and its cytotoxic potential against B16-F10 melanoma cancer and normal human dermal fibroblast (HDF) cell lines, <i>Molecules</i>, 21, pp. 652-665.</p> <p>67. Isa T, Zakaria ZAB, <b>Rukayadi Y</b>, Hezmee MNM, Jaji AZ, Imam MU, Hammadi NI and Mahmood SK. 2016. Antibacterial Activity of Ciprofloxacin-Encapsulated Cockle Shells Calcium Carbonate (Aragonite) Nanoparticles and Its Biocompatibility in Macrophage J774A.1. <i>International Journal of Molecular Science</i> 17, 713-730; doi:10.3390/ijms17050713.</p> <p>66. Saidykhan L, Abu Bakar MZ, <b>Rukayadi Y</b>, Kurad AU, and Yazane LS. 2016. Development of</p> |
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- nanoantibiotic delivery system using cockle shell-derived aragonite nanoparticles for treatment of osteomyelitis. *International Journal of Nanomedicine* 11: 661 – 673.
65. Soerya D. M., **Rukayadi Y**, Ismail IS, Mujahidin D and Syah YM. 2016. Inhibitory properties of panduratin A and 4-hydroxypanduratin A isolated from *Kaempferia pandurata* against some pathogenic bacteria. *Current Topics in Toxicology*, Volume 11. Pp. 25-31.
  64. Samuel, A.D., Shaari, K., Kassim, N.K., Rukayadi, Y., Akhtar, M.T., (2015). Bioassay-guide isolation of anticandidal constituents from the stem and bark woods of *Albizia myriophylla* Benth. *Medicinal Plants, Volume 7* (4), pp 284-291.
  63. Lew KF, Goh GL, Son R and **Rukayadi Y**. 2015. Effect of Javanese turmeric (*Curcuma xanthorrhiza* Roxb.) extract on natural microflora of oyster mushroom (*Pleurotus sajor-caju*) and its sensory acceptability. *International Food Research Journal* 22(6): 2446-2451.
  62. Yusoff NAH, Sanuan FM and **Rukayadi Y**. 2015. *Cosmos caudatus* Kunth. extract reduced number of microflora in oyster mushroom (*Pleurotus ostreatus*). *International Food Research Journal* 22 (5): 1837 - 1842.
  61. Mahazar NH, Sufian NF, Meor Hussin AS, Norhayati H and **Rukayadi Y**. 2015. *Candida* sp. as a starter culture for cocoa (*Theobroma cacao* L.) beans fermentation. *International Food Research Journal* 22 (5): 1783 - 1787.
  60. Sylvester WS, Son R, Liew KF and **Rukayadi Y**. Antibacterial activity of Java turmeric (*Curcuma xanthorrhiza* Roxb.) extract against *Klebsiella pneumoniae* isolated from several vegetables. *International Food Research Journal* 22 (5): 1770 - 1776.
  59. Najwa MS, **Rukayadi Y**, Ubong A, Loo YY, Chang WS, Lye YL, Thung TY, Aimi SA, MalcomIm TTH, Goh SG, Kuan CH, Yoshitsugu N, Nishibuchi M and Son R. 2015. Quantification and antibiotic susceptibility of *Salmonella* spp., *Salmonella* Enteritidis and *Salmonella* Typhimurium in raw vegetables (*ulam*). *International Food Research Journal* 22 (5): 1761 - 1769.
  58. Yusof NA, Isha A, Ismail IS, Khatib A, Shaari K, Abas F and **Rukayadi Y**. 2014. Infrared–metabolomics approach in detecting changes in *Andrographis paniculata* metabolites due to different harvesting ages and times. *Journal of the Science of Food and Agriculture* 95 (12): 2533 – 2543. DOI 10.1002/jsfa.6987
  57. Zakaria MPM, Abas F and **Rukayadi Y**. 2015. Effects of *Myristica fragrans* Houtt. (Nutmeg) extract on chemical characteristic of raw beef during frozen storage. *International Food Research Journal* 22 (3): 902 - 909.
  56. Lau KY and **Rukayadi Y**. 2015. Screening of tropical medicinal plants for sporicidal activity. *International Food Research Journal* 22 (1): 415 - 419.
  55. Yusoff NAH, Noor NF and Rukayadi Y. 2015. Effects of *Cosmos caudatus* Kunth. (*Ulam raja*) extract on microflora in raw chicken meat. *International Journal of Current Microbiology and Applied Sciences* 4(2): 426-435.
  54. Widayanti N, **Rukayadi Y**, Hakim EH, Ruslan K and Syah YM. 2014. Antifungal activity of lignans isolated from *Phyllanthus myrtifolius* Moon. against *Fusarium oxysporum*. *Current Topics in Phytochemistry* 12: 33 – 39.
  53. Lau KY, Zainin NS, Abas F and **Rukayadi Y**. 2014. Antibacterial activity of *Eugenia polyantha* Wight against *Bacillus cereus* and *Bacillus subtilis*. *International Journal of Current Microbiology and Applied Sciences* 3 (12): 499 – 510.
  52. Wendy Voon WY, Ghali NA, **Rukayadi Y** and Meor Hussin AS. 2014. Application of betel leaves (*Piper betle* L.) extract for preservation of homemade *chilli bo*. *International Food Research Journal* 21 (6): 2399 – 2403.
  51. Yusoff NAH, Bustaman MS, Abas F, Khatib A and **Rukayadi Y**. 2014. Antimicrobial activity of *Cosmos caudatus* extract against foodborne pathogens. *Journal of Pure and Applied Microbiology* 8 (5): 3681 – 3688.
  50. Santhanam RK, Ahmad S, Abas F, Ismail IS, **Rukayadi Y** and Shaari K. 2013. Photoprotective properties of *Zanthoxylum rhetsa*: An *in vitro* analysis. *Journal of Chemical and Pharmaceutical Research* 5 (12): 1512 – 1520.
  49. Elexson N, Leili AH, **Rukayadi Y**, Soopna P, Lee HY, Tuan Zainazor TC, Nor Ainy M, Nakaguchi Y, Mitsuaki Y and Son R. 2014. Effect of detergents as antibacterial agents on biofilm of antibiotics-resistant *Vibrio parahaemolyticus* isolates. *Food Control* 35: 378 – 385.
  48. Goh SG, Leili AH, Kuan CH, Loo YY, Lye YL, Chang WS, Soopna P, Najwa MS, Tang JYH, **Rukayadi Y**, Nishibuchi M, Nakaguchi Y and Son R. 2014. Transmission of *Listeria monocytogenes* from raw chicken meat to cooked chicken meat through cutting boards. *Food Control* 37: 51 – 55.
  47. Loo YY, Puspanadan S, Goh SG, Kuan CH, Chang WS, Lye YL, John YTH, **Rukayadi Y**, Yoshitsugu N, Nishibuchi M and Son R. 2013. Quantitative detection and characterization of Shiga toxin-producing *Escherichia coli* O157 and non-O157 in raw vegetables by MPN-PCR in Malaysia. *International Food Research Journal* 20 (6): 3313 – 3317.
  46. Zainin NS, Lau KY, Zakaria M, Radu S, Abdull Razis AF, and **Rukayadi Y**. Antibacterial activity of *Boesenbergia rotunda* (L.) Mansf. A. extract against *Escherichia coli*. *International Food Research Journal* 20 (6): 3319 – 3323.
  45. Tan SL, Lee HY, Abu Bakar F, Abdul Karim MS, **Rukayadi Y** and Mahyudin NA. 2013. Microbiological quality on food handler's hands at primary schools in Hulu Langat District, Malaysia. *International Food Research Journal* 20: 2973 – 2977.

44. **Rukayadi Y**, Lau KY, Zainin NS, Zakaria M and Abas F. 2013. Screening antimicrobial activity of tropical edible medicinal plant extracts against five standard microorganisms for natural food preservative. *International Food Research Journal* 20 (5): 2905 – 2910.
43. **Rukayadi Y** and JK Hwang. 2013. *In vitro* activity of xanthorrhizol isolated from the rhizome of Javanese turmeric (*Curcuma xanthorrhiza* Roxb.) against *Candida albicans* biofilms. *Phytotherapy Research* 27:1061-1066.
42. Fouladynezhad N, Afsah-Hejri L, **Rukayadi Y**, Nakaguchi Y, Nishibuchi M and Son R. 2013. Efficiency of four Malaysian commercial disinfectants on removing *Listeria monocytogenes* biofilm. *International Food Research Journal* 20(3): 1485-1490.
41. Puspanadan S., Afsah-Hejri L, John YHT, **Rukayadi Y**, Loo YY, Nillian E, Kuan CH, Goh SG, Chang WS, Lye YL, Mohd Shahril N, Yoshitsugu N, Nishibuchi M and Son R. 2013. Characterization of extended-spectrum  $\beta$ -lactamases (ESBLs) producers in *Klebsiella pneumoniae* by genotypic and phenotypic method. *International Food Research Journal* 20(3): 1479-1483.
40. Chang WS, Afsah-Hejri L, **Rukayadi Y**, Khatib A, Lye YL, Loo YY, Mohd Shahril N, Puspanadan, S, Kuan CH, Goh SG, John YHT, Nakaguchi Y, Nishibuchi M and Son R. 2013. Quantification of *Escherichia coli* O157:H7 in organic vegetables and chickens. *International Food Research Journal* 20(2): 1023-1029.
39. Lye YL, Afsah-Hejri L, Chang WS, Loo YY, Puspanadan S, Kuan CH, Goh SG, Shahril N, **Rukayadi Y**, Khatib A, John YHT, Nishibuchi M, Nakaguchi Y and Son R. 2013. Risk of *Escherichia coli* O157:H7 transmission linked to the consumption of raw milk. *International Food Research Journal* 20(2): 1001-1005.
38. Fouladynezhad N, Afsah-Hejri L, **Rukayadi Y**, Abdulkarim SM, Marian MN and Son R. 2013. Assessing biofilm formation by *Listeria monocytogenes*. *International Food Research Journal* 20(2): 987-990.
37. Puspanadan S, Afsah-Hejri L, Loo YY, Nillian E, Kuan CH, Goh SG, Chang WS, Lye YL, John YHT, **Rukayadi Y**, Yoshitsugu N, Nishibuchi M and Son R. 2012. Detection of *Klebsiella pneumoniae* in raw vegetables using Most Probable Number-Polymerase Chain Reaction (MPN-PCR). *International Food Research Journal* 19(4): 1757-1762.
36. Ruslan K, **Y. Rukayadi**, R. Wahyuningsih, M. Singgih and Elgahmi. 2012. Antimicrobial and cytotoxic activities of *Jatropha curcas* Linn. seedcake from biofuel production. *Journal of Pure and Applied Microbiology* 6: 645 – 651.
35. **Rukayadi Y**, A. Diantini and K. Lestari. 2012. Antifungal activity of methanolic extract of *Usnea* sp. against *Malassezia furfur*. *Bionatura* 14: 31-37.
34. Ruslan K, AD Selfitri, SA Bulan, **Y Rukayadi** and Elfahmi. 2012. Effect of *Agrobacterium rhizogenes* and elicitation on the asiaticoside production in cell cultures of *Centella asiatica*. *Pharmacognosy Magazine* 8: 111 - 115.
33. **Rukayadi Y**. 2012. Potency of Indonesian natural products for nutraceutical, pharmaceutical and cosmeceutical industry development. In: Proceeding of Seminar Nasional Teknik Kimia. Bandung, Indonesia, April 25. p. 2 -12.
32. **Rukayadi Y**. 2011. Temu kunci [*Boesenbergia rotunda* (L.) Mansf. A] from the legend to cosmetic products. In: Proceeding of The 2<sup>nd</sup> International Conference of Sundanese Culture. Bandung, Indonesia, December 19-22. p. 1 – 16.
31. **Rukayadi Y**., S. Han, D. Yong, and JK. Hwang. 2011. *In vitro* activity of xanthorrhizol against *Candida glabrata*, *C. guilliermondii*, and *C. parapsilosis* biofilms. *Medical Mycology* 49 (1): 1 – 9.
30. **Rukayadi Y**., S. Han, D. Yong, and JK. Hwang. 2010. *In vitro* antibacterial activity of panduratin A against enterococci clinical isolates. *Biological & Pharmaceutical Bulletin* 33 (9): 1489 – 1493.
29. **Rukayadi Y**., K. Lee, M. Lee, D. Yong, and JK. Hwang. 2009. Synergistic anticandidal activity of xanthorrhizol in combination with ketoconazole or amphotericin B. *FEMS Yeast Research* 9: 1302 - 1311.
28. **Rukayadi Y**., K. Lee, S. Han, and JK. Hwang. 2009. Antibacterial and sporicidal activity of macelignan isolated from nutmeg (*Myristica fragrans* Houtt.). *Food Science and Biotechnology* 18 (5): 1301 – 1304.
27. **Rukayadi Y**., K. Lee, S. Han, D. Yong, and J-K. Hwang. 2009. In Vitro Activities of Panduratin A against Clinical *Staphylococcus* Strains. *Antimicrobial Agents and Chemotherapy* 53 (10): 4529 – 4532.
26. Yanti, **Y. Rukayadi**, K. Lee, S. Han, and JK. Hwang. 2009. Anti-biofilm activity of xanthorrhizol isolated from *Curcuma xanthorrhiza* Roxb. against bacterial biofilms in saliva and artificial multi-species oral strains. *Food Science and Biotechnology* 18: 556-560.
25. Yanti, **Y. Rukayadi**, K. Lee, S. Han, and JK. Hwang. 2009. Activity of panduratin A isolated from *Curcuma xanthorrhiza* Roxb. against multi-species oral biofilms. *Journal of Oral Science*. 51: 87-95.
24. **Rukayadi Y**. and JK. Hwang. 2009. Preventing quorum sensing: a new approach to overcome bacterial infections. *Scientific Journal of Pharmaceutical Development and Medical Application (Medicinus)* 22 (1): 22-27.
23. **Rukayadi Y**., JS. Shim, and JK. Hwang. 2008. Susceptibility of xanthorrhizol isolated from Javanese turmeric or temulawak (*Curcuma xanthorrhiza* Roxb.) on clinical *Candida* planktonics growth and biofilms. In: Proceeding of The First International Symposium on Temulawak. Bogor, Indonesia, May 27-29, 2008. p 305 – 312.

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|                   | University. Korea Science & Engineering Foundation Newsletter 27:17-18. |
| Computer software |   |

| <b>H. PROJEK PENYELIDIKAN TERDAHULU (Past Research Project)</b> |  |                |             |                    |           |
|---|--|----------------|-------------|--------------------|-----------|
| Project No.   | Project Title  | Role           | Year        | Source of fund     | Status    |
| GP-IPS/2015/9450300   | Anticariogenic activity of <i>Piper cubeba</i> L. extract and its compounds against <i>Streptococcus mutans</i>  | Project Leader | 2015-2016   | GP-IPS-UPM         | Completed |
| GP-IPS/2014/9446800   | Determination of antibacterial compounds in fractionations of fermented cocoa extracts with different starter cultures   | Project Leader | 2015 - 2016 | GP-IPS-UPM         | Completed |
| FRGS/2/2014/SG05/UPM/02/2                                       | Identification of antisporic markers in bay leaf ( <i>Syzygium polyanthum</i> L.) employing LCMS- and NMR-metabolomics approaches  | Project Leader | 2014 - 2016 | FRGS - MOHE        | Completed |
| GP-IBT/2013/9410800   | Isolation and discrimination of xanthorrhizol from the rhizome of temu lawak ( <i>Curcuma xanthorrhiza</i> Roxb.) through the use of GCMS and IR based metabolomics for the production of potential natural antimicrobial agent against antibiotics-resistant bacteria | Project Leader | 2013-2015   | RUGS-UPM           | Completed |
|   | Production of biocellulose from Malaysian food waste by biocellulose-producing bacteria isolated from local acidic fruits  | Project member | 2013-2015   | RUGS-UPM           | Completed |
|   | Modulation of carcinogenmetabolising enzymes by glucosinolate gluconasturtiin for anti-cancer  | Project member | 2013-2015   | RUGS-UPM           | Completed |
| GP-IPS/2013/9396700   | Sporicidal activity of edible medicinal plants extract against <i>Bacillus cereus</i> and <i>Bacillus subtilis</i>   | Project Leader | 2013-2014   | RUGS-UPM           | Completed |
| FRGS/2/2013/STWN04/UPM/02/1)                                    | Characterization of the role and growth promoting properties of bacteria symbiotically associated with red seaweed, <i>Gracilaria changii</i>  | Project member | 2013-2015   | FRGS-MOHE          | Completed |
| FRGS/1/2013/SG05/UPM/02/1                                       | Induction of Secondary Metabolites Biosynthesis from Marine Fungal Isolates As Potential Inhibitors of <i>Listeria monocytogenes</i> Biofilm Formation   | Project member | 2013        | FRGS-MOHE          | Completed |
|   | NMR-and LCMS-Metabolomics Approach in Identifying Anti-Pathogen Markers of <i>Andrographis paniculata</i> (Hempedu Bumi)   | Project member | 2012        | ERGS-MOHE          | Completed |
| 02-05-11-1586RU   | Antimicrobial activity of tropical EMPE Edible Medicinal Plant Extract for Natural Food Preservative   | Project Leader | 2011        | RUGS-4             | Completed |
| 2010 – 3-0178   | Synergistic combination of natural bioactive compounds or extract of medicinal plants for antimicrobial agents   | Project Leader | 2010        | BK21 (South Korea) | Completed |
| 2009 – 3- 0178  | Antimicrobial and antibiofilm activities of panduratin A isolated from the rhizome of fingerroot ( <i>Kaempferia pandurata</i> Roxb.) and xanthorrhizol isolated from Javanese turmeric ( <i>Curcuma xanthorrhiza</i> Roxb.) against clinical pathogenic strains       | Project Leader | 2009        | BK21 (South Korea) | Completed |
| 2008 – 3- 0178  | Antibiofilm activity of medicinal plant extract.   | Project Leader | 2008        | BK21 (South Korea) | Completed |
| 2007-7-0178   | Study of tropical medicinal plants   | Project member | 2007        | BK21               | Completed |
| 2006-8-1797   | Study of Indonesian medicinal plants   | Project member | 2006        | KICOS              | Completed |
|   | Study of thermostable enzymes from   | Project member | 2000        | KOSEF - BRC        | Completed |



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| 2000-N-NL-01-C299        | Indonesian thermophilic bacteria |                |      |      |           |
| URGE029/HTPP/II/URGE/96  | Biocontrol for soybean disease   | Project member | 1996 | URGE | Completed |
| RUT1921/SP-KD/PPIT/IV/95 | Biocontrol for soybean disease   | Project member | 1995 | RUT  | Completed |