


Requests for Collaboration

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Research Interests	
<ul style="list-style-type: none">● Microbial cell engineering● Fermentation technology● Cell surface structure <p>These researches are aimed at application in fields such as food, medicine and energy.</p>	
Creative Achievements in the Application of New and Existing Science and Technology	
<p>(1) Analysis of cell surface structure of yeast and its application</p> <ul style="list-style-type: none">• Development of immune activated yeast• Application of cell surface protein having immunoactivating effect and emulsifying effect <p>(2) Drug discovery from cell wall formation inhibitors</p> <p>(3) Development of super microbial catalysts for microbial fuel cells</p> <p>(4) Development of technology for recovery of useful metals and removal of harmful metals using chemically modified yeast</p> <p>(5) Polyglutamic acid production by microorganisms and its application to flocculants</p> <p>Our group has also conducted several researches on application of microorganisms besides the above.</p>	
Technology (Product, Process, Device, Service etc.) That I Want to Request for Collaboration	
<ul style="list-style-type: none">● General research on application of microorganisms <p>Keywords: immune activation, antifungal agent, biosurfactant, flocculants, PGA, microbial fuel cell (MFC), microbial enzyme, microbial oil, cell surface etc.</p>	
A List of 5 Key Publications	
<ul style="list-style-type: none">• T. Liu, H. Nobeshima, Y. Ojima, M. Azuma. A New Method to Purify Poly-γ-glutamic Acid Using Gemini Quaternary Ammonium Salts and Characterization of its Ionic Complex. <i>J. Chem. Eng. Jpn.</i>, 51(5),431-437 (2018).• H. Aiba, Y. Nishiya, Y. Ojima, M. Azuma. Over-expression, characterization and modification of highly active alkaline phosphatase from a <i>Shewanella</i> genus bacterium. <i>Biosci. Biotechnol. Biochem.</i>, 81(10), 1994–2001 (2017).• Y. Sumida, S. Iwai, Y. Nishiya, S. Kumagai, T. Yamada, M. Azuma. Identification and characterization of D-succinylase, and a proposed enzymatic method for D-amino acid synthesis. <i>Adv. Synth. Catal.</i>, 358(13), 2041-2046 (2016)• Y. Takada, Y. Nishino, C. Ito, H. Watanabe, K. Kanzaki, T. Tachibana, M. Azuma. Isolation and characterization of baker's yeast capable of strongly activating a macrophage. <i>FEMS Yeast Res.</i>, 14(2), 261-269 (2014).• H. Kaneshiro, K. Takano, Y. Takada, T. Wakisaka, T. Tachibana M. Azuma. A milliliter-scale yeast-based fuel cell with high performance. <i>BEJ</i>, 83: 90-96 (2014).	