

JAPAN DENTAL ASSOCIATION  
THE FELLOWSHIP OF THE INTERNATIONAL SCIENTIFIC EXCHANGE FUND  
RESEARCH ACCOMPLISHMENT REPORT

Name of Recipient: ZHENG Miaomiao	Period of Fellowship: 1 <sup>st</sup> Jun 2023-30 <sup>th</sup> Sep 2023
Research Subject: Oral health promotion for children	
Host Institution in Japan: Niigata University	Host Supervisor in Japan: Prof. Hiroshi Ogawa
Accomplishments during your stay in Japan: (If this space is not enough, please attach a report) <ol style="list-style-type: none"><li>1. Learn the oral health promotion strategies in Niigata</li><li>2. Observation of primary schools, kindergartens, and health centres for dental outreach services in Niigata</li><li>3. Participating in the Niigata cohort study on risk predictors for tooth loss in residing in the community 70-year-old subjects at 25-year follow-up.</li><li>4. Collaborate on an oral health promotion paper for future publication</li></ol>	
Publications: Not yet	
Presentations at Academic Meetings: NA	
Contact Address after the Period of this fellowship: B1910, Chi Sun College, the University of Hong Kong, Jockey Club Student Village III, Lung Wah Street 9, Kennedy Town, Hong Kong Island, Hong Kong SAR, China	
E-mail Address: <div style="background-color: black; height: 15px; width: 100%;"></div>	


Signature of Applicant: *Zheng Miaomiao* Date: 10 Oct 2023

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<b>Name of Recipient:</b> Alexander Patera Nugraha, DDS., MSc., MSc., PhD	<b>Period of Fellowship:</b> 4 months (2023 April –June)
<b>Research Subject:</b> Dental Biomaterial, Innovative Dentistry.	
<b>Host Institution in Japan:</b> Graduate School of Dentistry, Tohoku University, Sendai, Miyagi, Japan	<b>Host Supervisor in Japan:</b> Prof. Guang Hong, DDS., PhD
<b>Accomplishments during your stay in Japan:</b> <ol style="list-style-type: none"> <li>1. Learning the newest technology and biomaterials through daily experiments, research progress reports, and journal reading clubs every 2 weeks</li> <li>2. Learning how to use the ITERO digital intraoral scanner and the Invisalign™ System Clincheck in orthodontic treatment</li> <li>3. Discussing the future prospect of joint collaboration between the Graduate School of Dentistry, Tohoku University, and Universitas Airlangga in research and scientific publication, especially in orthodontics and biomaterials.</li> <li>4. Learning and doing the experiment about Beta-Tricalcium Phosphate as Alveolar Bone Grafting in Alveolar Bone Cleft Defect</li> <li>5. Finishing the Thesis of the Orthodontic Specialization Program in Indonesia</li> <li>6. Cultural studies about Japanese tradition and culture in daily life during the program</li> </ol>	
<b>Publications:</b> <ol style="list-style-type: none"> <li>1. The Regeneration Prospect <math>\beta</math>-Tricalcium Phosphate as Alveolar Bone Grafting in Cleft Lip/Palate: A Systematic Review – First author, Draft (will be submitted to Materials – MDPI)</li> <li>2. Status of dental zirconia recycling: A systematic review – Co-Author, Draft (will be submitted to Journal of Prosthodontic Research – J-STAGE)</li> </ol>	
<b>Presentations at Academic Meetings:</b> 7 <sup>th</sup> Joint Scientific Meeting in Dentistry (JSMiD) in conjunction with 1 <sup>st</sup> Collaborative Meeting in Implant Dentistry (CoMID), Faculty of Dental Medicine, Universitas Airlangga, Surabaya, East Java, Indonesia – 2023/11/3-4.	
<b>Contact Address after the Period of this fellowship:</b> Office: Department of Orthodontics, Faculty of Dental Medicine, Universitas Airlangga, Mayjend Prof Dr. Moestopo 47, Surabaya, East Java, Indonesia. Zipcode: 60132 Home: Kutisari Indah Utara VII/39 Surabaya, East Java, Indonesia. Zipcode: 60291	
<b>E-mail Address:</b> [REDACTED]	

Signature of Applicant: Alexander Patera Nugraha Date: 2023/07/07

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<b>Name of Recipient:</b> Rifat Rezwana	<b>Period of Fellowship:</b> April 2023 – March 2024
<b>Research Subject:</b> Molecular and cellular biochemistry	
<b>Host Institution in Japan:</b> Kyushu University	<b>Host Supervisor in Japan:</b> Professor Eijiro Jimi
<b>Accomplishments during your stay in Japan:</b> <b>Research title:</b> Elucidation of the molecular basis of bone metabolism by NF- $\kappa$ B pathway and its application to bone regeneration.  The nuclear factor- $\kappa$ B (NF- $\kappa$ B), as a transcription factor, plays a crucial role in regulating inflammation and immune responses. Previous studies have shown that activation of NF- $\kappa$ B suppresses osteoblastic differentiation and bone formation, while, a selective inhibitor of NF- $\kappa$ B promote osteoblastic differentiation and bone formation. However, mice lacking p65, a main subunit of NF- $\kappa$ B, die as embryos, indicating that the inhibition of the NF- $\kappa$ B pathway might lead to severe side effects. In this study, we aim to clarify the molecular mechanism by which NF- $\kappa$ B suppress bone formation and apply the obtained results to bone regeneration. We first generated osteoblast-specific p65-deficient mice (p65cKO). Although p65cKO mice did not differ in appearance from wild-type mice, analysis of the three-dimensional bone structure using $\mu$ CT imaging revealed a significant increase in trabecular bone. The histological analysis showed that the increase in trabecular bone mass was not due to suppression of bone resorption by osteoclasts but to enhancement of bone formation by osteoblasts. These mice are useful for elucidating the molecular mechanism of inhibitory effects of p65 on bone formation, and we will comprehensively analyze the genes that are significantly altered in osteoblasts of p65cKO mice.	
<b>Publications:</b> Nothing contributory	
<b>Presentations at Academic Meetings:</b> Nothing contributory	
<b>Contact Address after the Period of this fellowship:</b> 'Amader Bari', 3 <sup>rd</sup> floor, C/O: Hero, West side of shahid chandu stadium, Dabtolá, Malgram, Bogura-5800, Bangladesh. Mobile: +880-1719-454456	
<b>E-mail Address:</b> 	

Signature of Applicant:

*Rifat Rezwana*

Date: 2024.03.29