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Economic Policy and Rural
Development
EGER-FEB-2020
February 22-23, 2020
Tokyo, Japan**



EGER-Tokyo Japan

3rd International Conference on Economic Development and
Growth, Economic Policy and Rural Development

EGER -FEB-2020

Feb 22-23, 2020

Hotel Mystays Ochanomizu Conference Center

Book of abstracts

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Conference Chair Message

Dr Masayuki Otaki

International Conference on “3rd International Conference on Economic Development and Growth, Economic Policy and Rural Development” serves as platform that aims to help the scholarly community across nations to explore the critical role of multidisciplinary innovations for sustainability and growth of human societies. This conference provides opportunity to the academicians, practitioners, scientists, and scholars from across various disciplines to discuss avenues for interdisciplinary innovations and identify effective ways to address the challenges faced by our societies globally. The research ideas and studies that we received for this conference are very promising, unique, and impactful. I believe these studies have the potential to address key challenges in various sub-domains of social sciences and applied sciences.

I am really thankful to our honorable scientific and review committee for spending much of their time in reviewing the papers for this event. I am also thankful to all the participants for being here with us to create an environment of knowledge sharing and learning. We the scholars of this world belong to the elite educated class of this society and we owe a lot to return back to this society. Let's break all the discriminating barriers and get free from all minor affiliations. Let's contribute even a little or single step for betterment of society and welfare of humanity to bring prosperity, peace and harmony in this world. Stay blessed.

Thank you.

Dr Masayuki Otaki
Conference Chair
EGER-2020 Secretariat

Conference Schedule

Venue: Room 1

09:00 am – 09:30 am	Welcome Reception & Registration
09:30 am – 09:40 am	Opening Ceremony
09:40 am – 09:50 am	Welcome Remarks –Conference Coordinator TARIJ
09:50 am – 10:00 am	Introduction of Participants
10:00 am – 10:20 am	Group Photo Session
10:20 am – 10:30 am	Grand Networking Session and Tea Break

DAY 01 Saturday (Feb 22, 2020)

Session 1 (10:30 am – 01:00 pm)

Venue: Room 1

Track A: Business, Economics, Social Sciences and Humanities

GIMAR-20-103	Analysis of Article 4 Indonesia Halal Act in International Trade System (Juridical And Economic Aspect)	Tuthi' Mazidatur Rohmah
GIMAR-20-104	Tolerance in Democracy: Conflict Between Wahabis and Aswaja in Indonesia	Cut Lusi Chairun Nisak
GIMAR-20-105	Implementation of Blended Learning Approach in Language Teaching: EFL Students' Readiness in Indonesia	Insantri Aulia
GIMAR-20-109	EFL Teachers' Perceived Benefits and Challenges of Task-based Language Teaching (TBLT) Implementation in Improving Students' Speaking Skills in Indonesia	Novilda Angela Saragih,
GIMAR-20-111	WebQuest: A Teaching and Learning Tool with Virtual Field Trip for Hospitality and Tourism Students	Indrawati, Johara
GIMAR-20-122	Study on the Evaluation of Liquid Fertilizer from Agricultural Wastes	Chen, Lih-Fu
GIMAR-20-123	Minimum Wage Policy and Regional Productivity in Japan	Mawatari, Shigehiro
ASBMSR-20-103	SHRM and Risk Management	Prof. Dr. Christopher Paul
ASBMSR-20-105	Subsequent Stock Repurchases and Their Determinants	Prof. Dr. David K. Ding
ASBMSR-20-111	Discussion on the professional function of the agent of creative design industry from the perspective of cultural capital: Take Taiwan's interior design industry as an example	Ho Yihsien

Lunch Break 01-00 pm to 02-00 pm

DAY 01 Saturday (Feb 22, 2020)

Session 2 (02:00 am – 03:30 pm)

Venue: Room 1

Track A: Business, Economics, Social Sciences and Humanities

ASBMSR-20-109	The Effects of Mobile Service Qualities on Customer Reuse Intention of Gojek Super App	Adisthy Shabrina Nurqamarani & Andi Indrawati
MRSSM-0220-ANI101	Computer Science Creates Reasonable Doubt	Tony Zipp
EGER-FEB2020-110	The Effect of Regional Economic Integration on Foreign Direct Investment. Study Cases of Five ASEAN countries and Five outside ASEAN countries in the period 2006 until 2016.	Raihan Imaduddin Rahmat & Quieska Kenya Wicaksono
ASBMSR-20-113	Classification of Author's Online Communities Using RNN based Models	Sojung Kim & Geonhyeong Lee
ASBMSR-20-114	A Study on the Forecasting Model of Delisting Companies by Financial Statement Using Machine Learning	Hyung-Ju Seon

Track B: Engineering, Technology and Medical Studies

TKMAFA-4220-102	Potency of Black Soybean (Glycine Max (L.) Merr.) Tempeh Extract Fermented from Rhizopus Oligosporus as Antioxidant and Hepatoprotector Against Ccl4-Induced Hepatic Fibrosis In Rats (Rattus Norvegicus)	Dyah Ayu Oktavanie, A. Pratama
EASIT-20-102	A New Instance Generator for Scheduling Problems with Unequal-Stage and Unequal-Parallel Machine Options	Jakkrit Latthawanichphan

Closing Ceremony

DAY 02 Sunday (Feb 23, 2020)

City History and Discussion Session

The purpose of the second day conference will be for the participants to learn more about the local history and culture, or get to know the other participants better. Therefore,

Option 1: City History and Culture Tour: All the participants are free to organize your own group tours together and get to know each other better.

Option 2: Discussion Session: All the participants are free to make group discussions on behalf of your same research interest and get a chance to cooperate in the future Research

**Track A: Business, Economics, Social Sciences and
Humanities**

Analysis of Article 4 Indonesia Halal Act in International Trade System (Juridical and Economic Aspect)

Tuthi' Mazidatur Rohmah^{1*}, Cut Lusi Chairun Nisak²

Abstract The aim of this research is answer about the analysis of application of halal mandatory based on Article 4 of Indonesian Halal Product Assurance Law number 33 of 2014 (Indonesia Halal Act) in aspect international trade system. Halal Product Assurance Law provides legal certainty for the protection of the Indonesian Muslim community which reaches a quarter of the muslim population in the world about 207.175.708 people. International trade prohibits any obstacles trade except customs, taxes, and other levies. However, Indonesia establishes halal mandatory of all products that circulate in the teritory of Indonesia. This mandatory gives influence of international trade system. This research expected to provide benefits in the form of anticipation by international trade actors, especially the Indonesian government. The result of this study indicate that the aplication of article 4 of the international trade system has the potential to be an obstacle. Based on methods of attacking non-tariff measures from WTO This obstacle is non-tariff barriers that are subject to TBT Agreement, while in the economic aspect has potential to make Indonesia become a global halal center supported by the presence of the new institution under government.

Keywords: Article 4, Halal Act, International Trade System.

^{1,2} Gadjah Mada University, Indonesia

Tolerance in Democracy: Conflict between Wahabis and Aswaja in Indonesia

Chairun Nisak Cut Lusi^{1*}, Rohmah Tuthi' Mazidatur²

Abstract Different thoughts on Muslim Religious belief between Ahlussunah wal-jama'ah (Aswaja) and Wahhabism in Indonesia, especially Aceh cause conflict in mid-June 2019. One of the preaching filled by religious leaders who were considered to carry Wahhabism was forcibly dispersed by the masses who declared themselves Aswaja. In Aceh's historical record, conflict of different thoughts has occurred several times. In 2015 this conflict even influenced the emergence of a new policy 'qanun' on the Development and Protection of Aqidah which eventually led to the implementation of Islamic law based on Aswaja's understanding. Wahhabis do not claim to be in the four sects of Islam, they do not like the customs that are deviant and heretical. While Aswaja is oriented towards the Shafi'ite sect. The conflict over this difference invited criticism not only from Aceh people's but also other people. This attitude of intolerance is considered incompatible with democratic and Islamic values. The fact is that harmony of life in diversity has occurred in Aceh. The presence of students and teachers who came from outside during the glory of Aceh until the inclusion of Hindu and Buddhist culture in the culture of the Acehnese people sufficiently colored the history of tolerance in religious diversity and harmony in Aceh. But now it seems that conflicts over these differences occur frequently. Huntington describes in his theory the Clash of Civilization that the main conflicts faced by humanity are no longer ideological and economic problems, but cultural or civilizational differences. This paper wants to see the historical sequence that caused the conflict over different thoughts in Aceh today. This is because the issue of intolerance in Aceh has been in the spotlight lately, especially after the enactment of Islamic Sharia.

Keywords: Tolerance, Democracy, Aceh, Wahabi, Aswaja.

^{1,2} Gadjah Mada University, Indonesia

Implementation of Blended Learning Approach in Language Teaching: EFL Students' Readiness in Indonesia

Insantri Aulia*

Abstract The use of e-learning in language teaching becomes an important aspect of teaching. It can be seen from the massive use of technology (e.g. hand phone, internet, laptop, etc) during teaching and learning. The aim of this research is to investigate the facilities available to support the implementation of blended learning and to identify the students' readiness in implementing blended learning as an approach in learning English. This research uses a descriptive and quantitative study. Descriptive study will be used to describe the facilities available and students' readiness in implementing blended learning in learning English. Whereas the quantitative study will be used to measure the data gained from questionnaire contains some information related to the facilities available, including the use of internet and e-learning, as well as the students' readiness in implementing blended learning in English. The researcher will spread out the questionnaire into 100 students of public schools at Yogyakarta who have ever use technology during their teaching and learning activity. By conducting this research, the researcher hope that their teachers will be more concern to their approaches selection in teaching English and the students' will be aware of their learning approach that will affect both their teaching and learning quality.

Keywords: Students' Readiness, E-Learning, Blended Learning, Language Teaching

State University of Yogyakarta, Indonesia

EFL Teachers' Perceived Benefits and Challenges of Task-based Language Teaching (TBLT) Implementation in Improving Students' Speaking Skills in Indonesia

Novilda Angela Saragih^{1*}, Ashadi²

Abstract The English language is important in this globalization era in which it becomes the most common means of communication. The ability to contribute to world communication would widen opportunities to gain and enrich knowledge, extend social life, interact with more people around the world, and give better career opportunities. However, despite having learned the language for years, many EFL learners are still unable to use the target language appropriately, especially in communication. It is caused by the lack of knowledge and courage to express their ideas in the target language. This study aimed at investigating EFL teachers' perceived benefits and challenges in developing students' speaking skills through the implementation of task-based language teaching (TBLT). The data were obtained by conducting an interview and disseminating a questionnaire. A total of eight English teachers from a school in North Sumatera were purposively chosen due to their experience in implementing TBLT in developing students' speaking skills. Qualitative analysis of this study revealed that teachers perceived TBLT implementation positively. Moreover, students were encouraged to practice more and be more fluent since the provided tasks required them to actively participate and use the target language. However, the challenges occurred regarding the limited practice time, teachers' creativity in designing the materials, and mixed ability of the students who come from a varied educational background and have different learning objectives.

Keywords: Communicative Competence, EFL Teachers, Speaking Skill, Task-Based Language Teaching.

^{1,2} Yogyakarta State University, Indonesia

WebQuest: A Teaching and Learning Tool with Virtual Field Trip for Hospitality and Tourism Students

Indrawati, Johara^{1*}, Ciptaningrum, Dyah, Setyowati²

Abstract This study is aimed at developing English teaching and learning materials using virtual field trips for hospitality and tourism students. The teaching and learning tool used in this study is WebQuest. In the 21st century, teachers and the student began to use technology as a tool to support teaching and learning. Virtual field trips are appropriate activities in supporting the teaching and learning process of hospitality and tourism students. The material to be developed in this research is direction and location. Students will be invited to visit several historical places virtually and show the direction and location to get to that place. However, this study uses research and development (R&D) methods which have five stages including need analysis, material development, expert validation, and revision. A teacher and tenth-grade student of the hospitality and tourism department in one of vocational high school Yogyakarta, Indonesia participate in this study. The results of this study indicate that material development using virtual field trips through WebQuest is applicable, appropriate, and attractive enough to be used in teaching and learning. Thus, developing teaching and learning materials using virtual field trips through WebQuest can increase student knowledge about some historical places in the world.

Keywords: WebQuest, Teaching and Learning, Virtual Field Trip, Blended Learning, Vocational High School.

^{1,2} Yogyakarta State University, Indonesia

Study on the Evaluation of Liquid Fertilizer from Agricultural Wastes

Chen, Lih-Fu^{1*}, Zheng , Jun-Zhong²

Abstract The purpose of this study was to build a liquid fertilizer process, general chemical, chemical and biological monitoring, and observe the trends of various processes with process time. Process monitoring includes: pH, temperature, oxidation-reduction potential (ORP), electrical conductivity (EC), number of bacteria and odor, etc. The characteristics of homemade liquid fertilizer are usually acidic and high salinity, and it must be diluted before use. In addition, the initial process of rapid degradation, the number of bacteria can reach more than 10⁹, after about 3 weeks will drop to about 10⁴, and the main components of odor by GC-MASS analysis are carbon dioxide and alcohols. In terms of liquid fertilizer quality control, the liquid fertilizer supernatant promotes the growth of crops more than the original liquid, and has obvious benefits for root system development. The application method or type can improve the quality of liquid fertilizer and reduce production costs.

Keywords: Liquid Fertilizer, Agricultural Wastes, Microorganism, Recycling.

^{1,2} SHU-TE University Taiwan

Minimum Wage Policy and Regional Productivity in Japan

Mawatari, Shigehiro^{1*}, Goto, Mika²

Abstract decreasing in recent years. It is anticipated that an economic power is weakened in Japan due to the decreasing population. To restore the Japan's economy, economic policy discussions have begun in the government about minimum wage. There are many researches about effects of minimum wage on economy and productivity in abroad, but there are only a few researches are conducted in Japan. This study examines influence of minimum wage on prefecture-level regional productivity using a stochastic frontier analysis (SFA).

Keywords: Minimum Wage, Productivity, Stochastic Frontier Analysis, Regional Economy, Japan

^{1,2} Tokyo Institute of Technology, Japan

SHRM and Risk Management

Prof. Dr. Christopher Paul*

Abstract Scope of study: The main focus of this project is the design of an HR risk management system. Problem statement: Risk management has become an established business function in theory and practice over the past decades (Renn, 1998). So it is not surprising that sophisticated models have been developed for the risk management of credit defaults, market movements and interest rate risks (Hull, 2019). In contrast, qualitative aspects of corporate risk management can be seen as a blind spot (Sillaber/Breu, 2015), both theoretically and empirically. Empirical studies and theoretical driven concepts of HR risk management systems are still missing in the literature. However, new legal regulations require that companies integrate qualitative considerations into their company-wide risk management (e.g. Basel III, KonTraG, TransPuG). Since Strategic Human Resource Management (SHRM) is a decisive factor for organisational effectiveness and success (Boxall/Purcell, 2003; Lee, 2008; Gmur/Schwerdt, 2008), corporate HR should be part of the company-wide risk management. SHRM is therefore faced with the challenge of defining what kind of risks with regard to the different types of HR strategy and HR instruments can emerge. Methodology: Based on the theoretical framework of the Resource based View (Wernerfelt, 1984) and the HRM approach (Tichy et al., 1981), the poster presentation explores how a HR risk management system could be theoretically designed, what risks are included and what implications for the future design of HR risk management systems could emerge. We give an first empirical insight (based on explorative interviews) how companies respond to this new challenge and how HR risks are included in their company-wide risk management systems. Results and Implications: This paper wants to close that gap and should be a starting point for an increasing international discussion on how to handle HR risks.

Keywords: HR Risk Management, Strategic Human Resource Management, Resource Based View, Case Study.

DHBW Mannheim, Germany

Subsequent Stock Repurchases and their Determinants

David K. Ding^{1*}, Hardjo Koerniadi², Chandrasekhar Krishnamurti³

Abstract We document that the significant decline in open market share repurchase announcement returns is due to recent increases in the number of subsequent announcements. Although the announcement period returns of initial repurchase programs launched by repeat repurchasing firms is, on average, positive, their subsequent announcement returns have decreased. We attribute this finding to firms with negative past repurchase announcement returns. Our results are consistent with the notion that managers endowed with hubris drive the decreasing subsequent repurchase announcement returns.

Keywords: Open Market Share Repurchase; Hubris; Cumulative Announcement Returns; Endowed.

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The Effects of Mobile Service Qualities on Customer Reuse Intention of Gojek Super App

Adisthy Shabrina Nurqamarani^{1*}, LCA Robin Jonathan², Elvyani NH Gaffar³, Andi Indrawati⁴

Abstract The trend of mobile application has altered the way business operates. Importance of mobile application arises because of massive increase of users utilizing internet on mobile phone for various things. Gojek is the first super app in the world at once the first “decacorn” company in Indonesia. As Gojek develops a super app, it requires Gojek to have developed systems in order to reach their goals in increasing customer satisfaction and maintaining customer reuse intention. Understanding factors affecting reuse intention of an app is necessary for the companies. This study determines the dimensions of mobile service quality and their effect on customer reuse intention. In this study, we determine the dimensions of mobile service quality and their effect on satisfaction and re-intention to use. We also examine most dominant factor influence the customer satisfaction and reuse intention to use.

Keywords: Mobile Service Quality, Customer Satisfaction, Repurchase Intention

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² Mulawarman University, Indonesia

Discussion on the professional function of the agent of creative design industry from the perspective of cultural capital: Take Taiwan\'s interior design industry as an example

Ho Yih sien*

Abstract since the UK developed the idea of "turning ideas into economic activities", the creative industries have become one of the major trends in the development of a new economy around the world. For the creative industries, without market support, the results of the creative cannot be achieved in concrete, and ultimately cannot produce economic value. Therefore, the creative industry needs the role of agent, play the bridge between consumers and the market, on the one hand to protect the creative spirit of the creator, on the other hand to shape the value of the work, enhance the influence of the creator. Based on the characteristics of the industry, this study summarizes the creative industries into four categories: culture and art, creative design, creative services and communication content, from the perspective of Pierre Bourdieu's capital culture I in 〈The Forms of Capital〉 . To explore the interior design industry in the creative design industry, and take Taiwan as the research object, through expert interviews and questionnaires, summarize the structure of 〈PRINCIPAL〉 as a reference for the cultivation of brokers in the future.

Keywords: Capital Culture, Agent, Creative Industries, Professional Function

Yuan Ze University, ROC

Classification of Author's Online Communities Using RNN based Models

Sojung Kim¹, Geonhyeong Lee², Zoonky Lee^{3*}

Abstract Unlike the past when people communicated with each other through face-to-face interaction, cyber space has become an important place for social interaction as information technology has developed. Those social groups which emerge within the Internet space, such as Internet clubs and cafes, are called Internet communities. According to a prior study, it can be said that collective identities formed by Internet communities affect users' language patterns and personal identities. Therefore, we assumed that the topics or the tone and manner of postings written by a person in the online space will vary depending on the online community to which the user belongs to. Based on these assumptions, we selected three Korean online communities and conducted a study which classifies the online communities where people belong to, based on the postings they left online by using some RNN based models. The model which performs best derived through hyperparameter tuning was 2-layer biLSTM model with the accuracy of 75.9%. In this study, due to constraints on data collection and preprocessing, postings only about political issues in three communities were analyzed. Expanding this study will give you extensive information on individual characteristics and values. It could be expected to be used in target marketing or digital forensics.

Keywords: Classification, Deep learning, Natural Language Processing, Online Community.

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A Study on the Forecasting Model of Delisting Companies by Financial Statement Using Machine Learning

Hyung-Ju Seon^{1*}, Gun-Hyung Lee², So-Jung Kim³
_{1,}

Abstract This paper deals with a model for predicting companies to abolish listing based on financial statements. In this work, we used the financial statements of 200 listed and de-listed firms respectively. Since there is not much data from a delisted firm, we used a variety of variable selection method and observed the model's performance for each case.

Keywords: Financial Analysis, Failure prediction, Support-Vector Machine, Random-Forest, Neural Network

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The Effect of Regional Economic Integration on Foreign Direct Investment. Study Cases of Five ASEAN countries and Five outside ASEAN countries in the period 2006 until 2016

Raihan Imaduddin Rahmat^{1*}, Quieska Kenya Wicaksono²

Foreign direct investment (FDI) has become the main focus study in international trade activities, especially for countries that are members of regional economic integration. This study wants to see the effect of regional economic integration on foreign direct investment in five ASEAN countries which is a member of regional economic integration (Indonesia, Malaysia, Singapore, Thailand, Philippines) and five countries outside ASEAN (China, Japan, South Korea, India, Israel) from 2006 until 2016 period. This research using panel data of export, GDP (Gross Domestic Product), exchange rate, and taxes on international trade. The data were analyzed using panel least squares (PLS) in regression analysis for five ASEAN countries and five countries outside ASEAN. This study also wants to see the effect of export value, GDP (Gross Domestic Product), exchange rate, and taxes on international trade can influence investors' decisions to carry out foreign direct investment activities. The results of this study will be considered to determine strategies and policies to influence more investors to carry out FDI in a country.

Keywords: Foreign Direct Investment, Integration Regional Economic.

^{1,2} Parahyangan Catholic University, Bandung City, Indonesia

Computer Science Creates Reasonable Doubt

Tony Zipp*

Abstract This paper focuses on the intersection and cooperation between computer science and criminal law. It highlights the importance of HASH values, GUID numbers and user registries in either establishing possession at law or creating a reasonable doubt. This traces the beginning of a criminal investigation based on files with specific HASH values designated as illegal content being downloaded to a specific IP address which caused a search warrant to be issued for the seizure of electronic devices, the arrest of the computer user and prosecution of him for possessing and distributing illegal material. From his perspective, he was steadfast that he had no knowledge of the material on his system. He had encountered significant difficulties with his system and suspected hacking or malware but had no definitive proof of that. The paper illustrates how a computer science professor provided expert evidence at trial based on anecdotal, field study and literature review to establish the ubiquity of malware and hacking to invade the systems of unsuspecting shareware users and store illegal materials. Significantly, the professor noted the presence of two distinct file sharing programs which the prosecution was unable to explain and thus give credibility to the user's consistent statement that he had no knowledge of the presence of the offending material on his system.

Keywords: Reasonable Doubt.

11533 Patchett Road Quesnel, B. C., Canada

**Track B: Computer, Engineering, Technology &
Medical Studies**

A New Instance Generator for Scheduling Problems with Unequal-Stage and Unequal-Parallel Machine Options

Jakkrit Latthawanichphan^{1*}, Watchara Songserm², Teeradej Wuttiornpun³

Abstract This research aims to develop a new instance generator for scheduling problems called IGSP. There are three main features differentiate IGSP and existing instance generators (IGs). Firstly, IGSP is capable of generating data sets for various production shops such as single machine, parallel machines, flow shop, and job shop (not for a specific production shop) with sequence-dependent setup time (SDST). Secondly, in multi-stage problems (flow shop and job shop), a number of stages of each job are allowed to be unequal (unequal stages). Finally, a number of parallel machines in each stage of multi-stage problems are allowed to be unequal. The last two features make data sets obtained from IGSP more realistic than other IGs. In addition, IGSP provides a very comprehensive graphic user interface along with well-organized output text files. The researchers can use it to evaluate their scheduling algorithms as well as to determine benchmark problem instances.

Keywords: Instance Generator, Scheduling Problems, Unequal Stages, Unequal Machines, SDST.

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Potency of Black Soybean (*Glycine Max (L.) Merr.*) Tempeh Extract Fermented from *Rhizopus Oligosporus* as Antioxidant and Hepatoprotector against Ccl4-Induced Hepatic Fibrosis in Rats (*Rattus Norvegicus*)

Dyah Ayu Oktavianie, A. Pratama^{1*}, Hana Razanah², Eki Bahtiar³, Aulanni'am⁴

Abstract Hepatic fibrosis is an accumulation of extracellular matrix protein due to response of chronic liver disease. CCl₄ compound could induce oxidative stress and lead to hepatic fibrosis. Black soybean (*Glycine max (L.) Merr.*) Contained highest isoflavone content than other types of soy. Fermented black soybean tempeh derived from *Rhizopus oligosporus* will generate higher isoflavone due to anaerobic metabolic reaction and produce fibrinolytic enzyme which could hydrolyze fibrin substrate. This research was aimed to determine the potency of fermented black soybean tempeh extract as antioxidant and hepatoprotector towards GGT-SOD activities and liver histopathology in hepatic fibrosis rats (*Rattus norvegicus*) induced by CCl₄. This research was used 5 control group: negative control group, positive control group induced by CCl₄ 20% twice weekly for 2 weeks then CCl₄ 25% twice weekly for 4 weeks with 0.2 mL/100gBW volume, and therapy group number 1, 2 and 3 which was given fermented black soybean tempeh extract with dose 200 mg/kg BW, 400 mg/kg BW, 800 mg/kg BW respectively, with volume 2 mL. Measurement of GGT and SOD activities were conducted using spectrophotometer methods and analyzed statistically quantitative, while liver histopathology was observed by Hematoxylin-Eosin staining and analyzed descriptive qualitatively. The research results showed that fermented black soybean tempeh extract significantly ($p < 0.05$) decrease GGT activity, increase SOD activity and could repair the liver damage. Dose of 800 mg/kg BW was the effective dose for decreasing GGT and increasing SOD with level of 58,4% and 28,8% respectively. It can be concluded that fermented black soybean tempeh extract has a potency as antioxidant and hepatoprotector, proved by the reduction of GGT activity, enhancement of SOD activity, and refinement of liver histopathology, so it can be used as alternative therapy for hepatic fibrosis.

Keywords: Fermented Black Soybean (*Glycine Max (L.) Merr.*), Tempeh, *Rhizopus Oligosporus*, Hepatic Fibrosis, GGT, SOD, Liver Histopathology

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Upcoming Events

<https://tarij.com/conferences/>

Venue



**Hotel Mystays Ochanomizu
Conference Center**
Address: 2-10-6 Kandaawajicho,
Chiyoda-ku, Tokyo 101-0063
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3rd International Conference on
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