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HASIL PENILAIAN SEJAWAT SEBIDANG ATAU PEER REVIEW  
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Judul Prosiding (Artikel) : Stability Analysis and Control of the SLBS Computer Viruses Spread Model : Case Study in the Computer Laboratory, Diponegoro University, Indonesia

Nama/Jumlah Penulis : Ika Nur Khasanah, **Widowati**, Bayu Surarso/ 3 orang

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b. Nomor ISSN : 19366612, 19367317  
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e. DOI artikel (jika ada) : <https://doi.org/10.1166/asl.2017.9685>  
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<b>Nilai Pengusul = 40% x 1/2</b>	<b>5,13</b>	<b>4.70</b>	<b>4.92</b>

Reviewer 2



Prof. Dr. St. Budi Waluya, M.Si  
NIP. 196809071993031002  
Unit kerja : Matematika FMIPA UNNES

Semarang, April 2020  
Reviewer 1



Prof. Dr. Basuki Widodo, M.Sc  
NIP. 19650506 1989031002  
Unit kerja : Matematika FSAD ITS

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d. Kelengkapan unsur dan kualitas terbitan/prosiding (30%)	9,00			7,20
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**1. Kesesuaian dan kelengkapan unsur isi prosiding :**

Penulisan artikel baik dan mengikuti standard penulisan artikel di Prosiding Advanced Science Letters, yaitu abstract, Introduction, Result and Discussion (IRaD), Conclusion dan Acknowledgement. Belum memuat Methodology. Artikel ini didukung dengan referensi yang sesuai.

**2. Ruang lingkup dan kedalaman pembahasan:**

Lingkup bahasan dari artikel ini adalah bidang matematika terapan, khususnya pada bidang sistem dinamis. Dalam artikel ini dibahas dengan cukup baik tentang aplikasi bentuk model matematika non linier dengan model SLBS (Susceptible, Latent, Breaking-out) pada permasalahan penyebaran virus komputer. Relevansi hasil terkait pengamanan komputer / jaringan komputer menggunakan antivirus dan firewall.

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d. Kelengkapan unsur dan kualitas terbitan/prosiding (30%)	9,00			7.50
<b>Total = (100%)</b>	<b>30,00</b>			23.50
<b>Nilai Pengusul = <math>40\% \times 1/2 \times 23.50 = 4.70</math></b>				

**Catatan Penilaian artikel oleh Reviewer :**

**1. Kesesuaian dan kelengkapan unsur isi prosiding:**

Kesesuaian dan kelengkapan unsur baik. Artikel terdiri atas 4 bagian: Introduction, Literature Review, Results and Discussion, Conclusion and Remarks. Hanya didukung 10 referensi.

**2. Ruang lingkup dan kedalaman pembahasan:**

Ruang Lingkup dan kedalaman pembahasan cukup baik. Lingkup Matematika terapan sesuai dengan bidang ilmu pengusul. Interpretasi hasil kurang ditonjolkan dalam pembahasan. Pembahasan berkaitan dengan Stability Analysis and Control of the SLBS Computer Viruses Spread Model (Terapan Matematika). Pendahuluan kurang menekankan nilai lebih dari artikel ini.

**3. Kecukupan dan kemutakhiran data/informasi dan metodologi :**

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Semarang, April 2020  
Reviewer 2



Prof. Dr. St. Budi Waluya, M.Si  
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8  
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## **CERTIFICATE**

No : 603/UN7.3.8/HK/2016

**This is to certify that**  
**WIDOWATI**  
**as**  
**Presenter**

**In the 6<sup>th</sup> International Seminar on New Paradigm and Innovation of Natural Sciences and its Application (ISNPINSA-6) held on 5 - 6 October 2016 at Grand Candi Hotel Semarang Indonesia with paper entitled as follows :**

**"Stability Analysis and Control of the SLRS Computer Viruses Spread Model : Case Study in the Applied Mathematics Laboratory, Diponegoro University, Indonesia"**

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Advanced Science Letters

Volume 23, Issue 7, July 2017, Pages 6571-6574

## Stability analysis and control of the SLBS computer viruses spread model: Case study in the computer laboratory, Diponegoro university, Indonesia (Article)

Khasanah, I.N., **Widowati**, Surarso, B. 👤

Department of Mathematics, Faculty of Sciences and Mathematics, Diponegoro University, Semarang, Indonesia

### Abstract

↕ View references (10)

A computer virus is a virus that attacks the computer that works by multiplying after a successful entry on a computer and aggravate the computer so that the computer becomes slow. The spread of computer viruses studied in the form of mathematical models is non linear with models SLBS (Susceptible, Latent, Breaking-out). After that, look for basic reproduction number ratio ( $R_0$ ). Then, we analyze the stability of the disease-free and endemic equilibrium points. Further, numerical simulations carried out based on data from Computer Laboratory, Mathematics Departement, Diponegoro University. From the analysis is known that basic reproduction number ratio is obtained  $R_0 > 1$ , the stability of known free equilibrium is unstable, whereas the endemic equilibrium is locally asymptotically stable, which means there was an outbreak of computer virus. After that, we apply the optimal control strategies to minimize many breaking-out computers. From the simulation results found that many breaking-out computers comes down, it means that the spread of the computer viruses can be controlled. © 2017 American Scientific Publishers All rights reserved.

### SciVal Topic Prominence ⓘ

Topic: Models | Computer viruses | Worm propagation

Prominence percentile: 91.186 ⓘ

### Author keywords

Computer virus Optimal control SLBS model Stability analysis

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- 1 Pratiwi, H.  
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pp. 6372-6376(5)

**Authors:** *Asmawi, M. Zainora; Ngaimin, Najihah; Mahamod, Noor Zalina; Noor, Norzailawati Mohd; Omar, Hamdan*

**S** School Location and Mobility Effects to Obesity Cases Among Primary School Children

pp. 6377-6380(4)

**Authors:** *Yusoff, Zaharah Mohd; Shamin, Faez; Arif, Hafiz; Adnan, Nor Aizam; Nordin, Nur Adilla*

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pp. 6381-6385(5)

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pp. 6386-6389(4)

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pp. 6390-6393(4)

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pp. 6394-6398(5)

**Authors:** *Palazzo, Elisa; Rani, Wan Nurul Mardiah Wan Mohd*

**S** Selected Peer-Reviewed Articles from the International Seminar on New Paradigm and Innovation of Natural Sciences and Its Application (ISNPINSA), Semarang, Indonesia, 5–6 October, 2016

pp. 6399-6401(3)

**Authors:** *Cheshire, Antony; Nur, Hadi; Santoso, Sri Juari; Trilaksono, Bambang Triyanto; Lopez, Hector Sanchez*

**S** Volatility Modeling of Financial Time Series Data Using ANFIS

pp. 6562-6566(5)

**Authors:** *Tarno; Wilandari, Yuciana; Suparti; Ispriyanti, Dwi***S** D-Optimal Design for Logistic Model with Maple

pp. 6567-6570(4)

**Authors:** *Widiharih, Tatik; Wilandari, Yuciana; Warsito, Budi***S** Stability Analysis and Control of the SLBS Computer Viruses Spread

Model: Case Study in the Computer Laboratory, Diponegoro University, Indonesia

pp. 6571-6574(4)

**Authors:** *Khasanah, Ika Nur; Widowati; Surarso, Bayu***S** Bi-Objective Model Predictive Controller for Supply Chains

Management Without Delay

pp. 6575-6578(4)

**Authors:** *Widowati; Tjahjana, R. Heru; Sutrisno; Agatha, Yehezkiel***S** The Relationship Between Electro-Optics Gradient and Fatty Acids

Composition in a New Investigation on Palm Oil Quality

pp. 6579-6581(3)

**Authors:** *Firdausi, K. Sofjan; Sugito, Heri; Ekasari; Rahmawati, Henik; Putranto, Ari Bawono***S** Growth of TiO<sub>2</sub> Thin Films by High Energy Milling Assisted Pulsed

Laser Deposition Method

pp. 6582-6584(3)

**Authors:** *Subagio, Agus; Budi, Wahyu Setia; Nurhasanah, Iis; Sudarji; Marhendrajaya, Indras***S** Changes in UV-Absorption Properties of CeO<sub>2</sub> Nanoparticles Solution Caused by X-rays and  $\gamma$ -rays Radiation

pp. 6585-6588(4)

**Authors:** *Lestari, Dhewi; Nurhasanah, Iis; Arifin, Zaenal***S** Dose Analysis at Palladium-103 Brachytherapy of Prostate Cancer Using Monte Carlo Method

pp. 6589-6592(4)

**Authors:** *Setiawati, Evi; Oktajianto, Hammam; Umiyati, Ngurah Ayu Ketut*

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# Post Disaster Management (PDM) in Malaysia: Issues and Challenges

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In Malaysia, Kelantan has been well known to experience the flood disaster almost every year. Flood has been considered as a very common disaster in Kelantan, especially during the end of the year. However, the flood in December 2014 has been considered as one of the biggest which had caused massive destruction in many areas in Kelantan especially in Kuala Krai; leading to the destruction of livelihood of local communities. Due to this, it has been considered that it is important to identify the recovery activities and strategies in order to reduce the impact of flood disaster to the life and property of the communities. Hence, the Post-Disaster Management (PDM) is implemented to ensure that any coming disaster that may occur, can be managed effectively. However, literature search has shown that there have been low responses and lack of effectiveness in the recovery activities of flood disaster. Therefore, this paper describes the issues and challenges faced during the PDM activities in Malaysia. In addition, this paper discusses the recommendations made in order to minimise the issues faced in the current practice of the PDM in Malaysia. This study had conducted semi-structured interviews involving eight (8) respondents who were directly involved in the management of post-flood disaster in Kuala Krai, Kelantan in the year 2014. The findings from the interview conducted has shown that majority of the respondents were in the agreement that the main issues arising from the PDM in Malaysia are: no specific evacuee sleeping areas, as well as lack of immediate supplies of essential needs to the victims. Furthermore, the respondents felt that the government needs to take into consideration several steps to overcome the main issues and challenges such as integration of immediate rescue and relief responses, develop the readiness to sustain the number of emergency, redevelop the drainage systems, as well as to create awareness within the community in order to help the victims' spiritual needs when faced with disaster.

**Keywords:** Malaysia, Flood, Disaster, Disaster Management, Post-Disaster Management.

## 1. INTRODUCTION

Post-disaster management has been defined as the operation of mitigation that designs the logistics network in order to allow an optimum operation to recover the revival of the residents;<sup>1</sup> which means that it consists of recovery activities that will redeem the life of people after the disaster strikes; and will ensure the survival of the population. Historically, Malaysians are known as a riverine people, as early settlements live near the river in the country.<sup>2</sup>

In addition,<sup>2</sup> also stated that with natural factors-such as heavy monsoon rainfall, poor drainage and other local factors; floods have become a common feature in the lives of a significant number of Malaysians.<sup>2</sup> Then further added that floods occur annually in Malaysia not only causing damage to properties, but also causing the loss of lives. Hence, a Post-Disaster Management (PDM) is implemented to ensure that any coming disaster that may occur in Malaysia would be managed effectively. According to the Strategic Initiatives in Flood Disaster Preparedness and

Mitigation for Malaysia (2015), even though the procedures for PDM are being implemented, there have been several issues and challenges that exists during the implementation process.

## 2. POST DISASTER MANAGEMENT (PDM) IN MALAYSIA

In Malaysia, there are specific existing policies of disaster management implemented by the government in facing all types of disaster; as well as to reduce the damages caused by the hazards. Even though geographically, Malaysia stays outside of the "Pacific Rim of Fire," and free from severe destruction from natural disasters, Malaysia is still exposed to several other disasters; either natural or manmade from time to time. This being the reason, Malaysia has implemented several policies and mechanisms in order to face the catastrophe as well as to manage the aftermath of these disasters.

The disaster management in Malaysia has been established by the government under the Directive 20 NSC; which consists of all policies that cover all aspects of planning for and responding

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# Communities' Local Knowledge of Flood Disaster Management in Pakistan

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Disaster literature shows the trends and the events of natural disasters increasing across the world. These phenomena have linked with climate change, as a new driver of disaster risk, which increases both hazards and vulnerabilities. Pakistan has witnessed several major flood disasters affecting 40 million people since early 1970, due to its natural topography and human activities. Studies showed that the impacts of these natural disasters increase if the right information and knowledge development of local communities are not taken into account, particularly in vulnerable regions. This paper aims to find the level of community disaster knowledge in terms of disaster experience, risk perception, and readiness to determine the level of perception on disaster management in the flood-prone regions of Pakistani districts. The study assumes that the disaster preparedness and risk perceptions are interlinked because people with a high-risk perception vis-à-vis the right knowledge make adjustments to reduce risks. A semi-structure questionnaire was administered to 385 households living near flood-prone area along the River Indus in selected Pakistani districts. A multiple linear regression analysis was carried out to explore the contribution of all predictors and their influence to the prediction of disaster management. The finding revealed that the level of disaster experience and risk perception significantly predicted disaster management, however, the overall readiness of communities to manage flooding was not significant. The paper concludes that both disaster experience and risks perception knowledge have a strong relationship to disaster management. Overall readiness, however, is still not encouraging and will need to be strengthened to improve local knowledge.

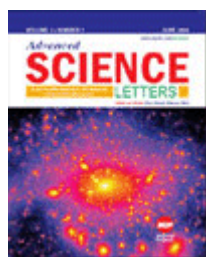
**Keywords:** Flood Disaster, Vulnerability, Risk Perception, Readiness, Local Knowledge.

## 1. INTRODUCTION

Disaster literature shows the trends and the events of natural disasters increasing across the world.<sup>3,13</sup> Especially for Asia and Pacific regions. The impacts of these natural disaster on people and property were tremendous, due to changes in people's social, economic, cultural, political, and environmental contexts. Annually, millions of people are displaced. During the 1960s and 1970s, the solution to natural disaster has been predominantly on the basis of technical approach. Although this approach saves lives when hazards strike, a disaster management should be complemented by taking into account the human dimensions which into account the human dimensions which include local knowledge, practices, and perceptions.<sup>1</sup> Studies have shown that communities having better knowledge are better prepared in dealing with hazards. Disaster preparedness and risk perceptions are interlinked because people with a high risk perception take actions to avoid risks.<sup>19</sup> Therefore, if people are aware of

a disaster risk, they will adjust properly to the natural hazards. Pakistan has been known to experience natural disasters with devastating effect on people and properties. 90% of the population who are affected by any natural hazards are subjected to flood disasters.<sup>9</sup> Although no major flood had occurred since 1995, the 2010 severe floods in Pakistan demonstrated the continuous presence of flood risks. Following the Hyogo Framework for Actions, it is imperative to underscore the risk assessment and preparedness to cope with disasters among local communities, particularly in flood prone areas. This study therefore, attempts to identify the local knowledge of the affected communities in terms of risk perception and readiness for future challenges in disaster management. We aimed to identify the relationship between the risk perception and readiness among the communities from seven districts located in flood prone areas of Pakistan. The next part of the paper discusses the concept of risk perception and preparedness in disaster management followed by a brief description of natural disasters in Pakistan. We also explain the method used in the research before discussing the results.

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Laser treated polystyrene (PS) thin films were explored for simple, robust, and low-cost polymer based electronic applications. Polystyrene nanospheres of 500 nm were drop coated on silicon wafer before laser treatment was introduced to systematical investigated the structural transformation of treated PS. The relationship between the parameters used and the structural changes of PS, especially for its surface chemistry and the morphological, structural properties were characterized with Attenuated total-reflection PDF Fourier transform infrared spectroscopy (ATR-FTIR), X-ray diffraction (XRD) and Field emission electron microscopy (FESEM). It was revealed that the morphological changes observed in the laser treated PS films were the dominant factor for the improvement of modified PS that can be used to tailor functional polymer such as organic light-emitting diodes (OLED), carbonaceous nanostructure, graphene, graphene oxide. Zwitter characteristic of the PS can be clearly observed during laser irradiation; over exposure of laser could be used to tailor different materials on the surface of the PS.

**Keywords:** Laser Irradiation; Polystyrene; Zwitter Characteristic

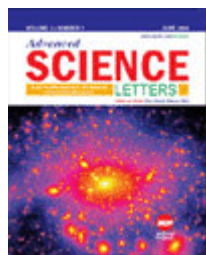
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# Ethnobotany of Medicinal Plants in the Vunatui Clan of the Tolai Society in East New Britain Province, Papua New Guinea

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Abstract

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Traditional knowledge of medicinal plant use in many regions of Papua New Guinea (PNG) and the East New Britain Province is poorly described. The main aim of this research was to identify the plants used as medicinal plant in the Vunatui clan of the Tolai society in East New Britain, PNG and determine the type of disease or conditions being treated by these plants and how the plants are being prepared. Data collection was undertaken through participatory exploration method. Result shown that there were about 52 species of medicinal plants collected in this research. Many different medicinal plants were applied to cure various diseases such as headache, sores, cuts, wounds, cough, fever, diarrhea, stomachache, injuries, skin infections and many others. Different methods of preparation were used including crushing, heating, squeezing but the most common method used was infusion.

**Keywords:** Ethnobotany; Medicinal Plants; Papua New Guinea; Vunatui Clan

**Document Type:** Research Article

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