



switchasia
GRANTS PROGRAMME



The 4th

ISTAKCOS

International Symposium on Transdisciplinary
Approach for Knowledge Co-Creation in Sustainability **2024**

*“Ecosystem Resilience for
Sustainability and Social Justice”*



PREFACE

Ecosystem resilience is fundamental in addressing sustainability challenges. It underscores the capacity of ecosystems to absorb disturbances, adapt to change, and maintain their essential functions and structures. Healthy and resilient ecosystems provide vital ecosystem services that underpin human well-being, such as clean air and water, fertile soils, and climate regulation. Moreover, they support livelihoods, provide food security, and contribute to economic activities such as agriculture, tourism, and fisheries. However, ecosystems worldwide are facing unprecedented challenges due to human activities in the name of economic growth. Overexploitation of natural resources in many countries has caused many conflicts and poverty around the globe. These pressures, coupled with the impacts of climate change, pose significant threats to community livelihood, social justice, and ecosystem resilience.

Achieving ecosystem resilience requires collaboration, partnership and innovation in science, technology and policies that are inclusive of all stakeholders. Transdisciplinarity offers the opportunity to find new ways and innovation due to the unique approaches of going beyond disciplines, breaking the boundaries of sciences and local knowledge. Transdisciplinarity have emerged due to the need to study increasingly complex systems without separating socioeconomic and ecological conditions. This holistic approach is expected to yield comprehensive solutions that will be acceptable to all the stakeholders. The core essence of transdisciplinarity is a collaborative effort to produce knowledge and science – policy interphase. The transdisciplinary approach aims to bridge the gap between problem-solving and scientific innovation in sustainability science, It emphasizes knowledge synthesis or integration as a key to facilitating the governance of meaningful collaborations across disciplinary, sectoral, and societal boundaries.

The 4th ISTAKCOS (**I**nternational **S**ymposium on **T**ransdisciplinarity **A**pproach for **K**nowledge **C**o-Creation in **S**ustainability) 2024 will be presented under the theme of “*Ecosystem Resilience for Sustainability and Social Justice*” . We envisage the symposium to be a meeting ground where individuals, numerous stakeholders, organizations, think-tanks, and institutions are able to explore and transcend the boundaries across many sectoral issues. The symposium is expected to provide an opportunity to shape a new emergence of thoughts, ideas, and solutions in the field of global sustainability.

About ISTAKCOS 4

The International Symposium on Transdisciplinary Approach for Knowledge Co-Creation in Sustainability (ISTAKCOS) is a biannual event held by the Center for Transdisciplinarity and Sustainability Science (CTSS) IPB University. In 2024, CTSS IPB University, in collaboration with KRKP and supported by Low Carbon Rice, will hold the 4th ISTAKCOS. The theme of ISTAKCOS 4 is **Ecosystem Resilience for Environmental & Economic Sustainability, and Social Justice**.

The purpose of the 4th ISTAKCOS 2024 is to provide a forum for sharing knowledge, research, and experience in the application of transdisciplinary science and sustainability science; support the development of international collaborative research in transdisciplinary fields and sustainability science, and seek cooperation in the development of sustainability science.

The 4th ISTAKCOS 2024 will be held hybrid from Bogor at October, 2-3 2024. The symposium will take place for two days. The symposium will begin on the first day with invited keynote speeches from influential speakers. The research from the oral presenters will be presented on the second day. Each presenter will have 15 minutes in the breakout room to present their research.

Topic are, but not limited to:

1. Resilient Agriculture: Ecosystem Approaches to Enhancing Food Security and Rural Livelihoods
2. Species and Ecosystem resilient for coastal, marine and terrestrial management
3. Community-Based Approaches to Building Resilient Ecosystems and Livelihoods
4. Climate Change Adaptation and Mitigation Strategies through Ecosystem-Based Approaches
5. Indigenous Knowledge Systems and Ecosystem Management: Fostering Resilience and Cultural Sustainability
6. Policy Integration for Ecosystem Resilience: Bridging Social, Environmental, and Economic Objectives.
7. Digital Technology and Education to support SDGs
8. Modelling Complex system for sustainability

Day 1: Wednesday, October 2, 2024

Time	Agenda	Description
08.30-08.40	Video	ISTAKCOS Documenter, Video Profile CTSS, KRKP,
08.40-08.45	Welcome Remarks	Prof. Dr. Ir. Damayanti Buchori, M.Sc Director of Center for Transdisciplinary and Sustainability Sciences (CTSS) IPB-University, Indonesia
08.45-09.00	Opening Remarks	Prof. Dr. Arif Satria Rector of IPB University, Indonesia
Keynote Session Moderator: David Ardhian, SP, MSos		
09.00-09.45	Keynote Speech	Understanding complex socio-ecological systems: Adventures and challenges in transdisciplinary co-creation Andrew Schauf, Ph.D Department of Physics & NUS Cities, National University of Singapore
09.45 - 10.15	Keynote Speech	Food System Transformation in Indonesia: A New Paradigm? Djarot Indarto SP, MT, M.Sc, Ph.D Director General of Food Security, Ministry of National Development Planning/Bappenas, Indonesia
Plenary Session Moderator: Prof. Dr. Ir. Damayanti Buchori, M.Sc		
10.15-10.45	Invited Speaker	Future Design - Reconciling Intergenerational Conflicts with "Imaginary Future Generations" Prof. Keishiro Hara, Ph.D Center for Future Innovation, Graduate School of Engineering, Osaka University, Japan
10.45-11.15	Invited Speaker	The Interconnectedness of Science, Culture and Wisdom for Civilization and Beyond Prof. Dr. Premana W. Premadi, Ph.D Professor of Astrophysics and Cosmology, Astronomy Study Program and Bosscha Observatory, Bandung Institute of Technology, Indonesia

11.15-11.45	Invited Speaker	<p>Transdisciplinary Analysis of Microplastic Contamination in the Food Chain</p> <p>Prof. Dr. Neviaty N Zamani Professor of Marine Science and Technology, Faculty of Fisheries and Marine Sciences IPB University. and Capacity Building dan SDG'S Division CTSS - IPB University, Indonesia</p>
11.45– 12.15	Discussion and Wrap up Session	Led by Moderator
12.15-13.15	Lunch break	-
<p>Plenary Session Moderator: Prof. Dr. Rilus A Kinseng, M.A</p>		
13.15 -14.00	Keynote Speech	<p>Rethinking Development: Understanding Degrowth and Sustainability</p> <p>Department of Anthropology, Autonomous University of Barcelona, Spain Prof. Jason Hickel University of Barcelona, Spain</p>
14.00 -14.30	Invited Speaker	<p>Understanding the Complexity of Human-Coastal Ecosystem Resilience: Learning from Deak Batu of Rote Ndao</p> <p>Akbar Ario Digdo, M.Si Resource Mobilization Specialist of Center for Transdisciplinary and Sustainability Sciences (CTSS) - IPB University, Indonesia</p>
14.30 -15.00	Invited Speaker	<p>Sustainability on Rice Governance and Stakeholders' Engagement: Case Studies of Food System in Java</p> <p>Said Abdullah National Coordinator of People Coalition for Food Sovereignty, Indonesia</p>

15.00 – 15.30	Invited Speaker	<p>Integrated Carbon Farming into Community- Based Climate Action Planning and Management</p> <p>Jacob Nordborg Ryding Senior Director Strategic Project, Preferred by Nature, Denmark</p>
15.30 – 16.00	Invited Speaker	<p>Ecosystem Resilience in Food System Policy: Addressing Inequality</p> <p>Dr. Agr. Laksmi Adriani Savitri, M.Si. Fellows of Center for Transdisciplinary and Sustainability Sciences (CTSS) IPB-University Indonesia, Indonesia</p>
16.00 – 16.30	Discussion Session	Led by Moderator
16.30 – 16.45	Closing	Events will be closed by Prof. Dr. Damayanti Buchori

Schedule of Parallel Sessions

(Oral Presentation)

Term of Condition

Oral Presentation on The 4th ISAKCOS 2024

1. Participants must prepare a presentation on 15 minutes before their respective presentation schedule.
2. Access for participants is open at 09.00 a.m (GMT+7.00) (Zoom link: <https://ipb.link/parallel-sessions-istakcos-2024>)
3. When the participant joining in the meeting zoom, please rename your display name with following format: Room_Name, (example: Room1_Rosyid Amrulloh)
4. Participants must use the virtual background that has been sent by the committee. The virtual background can be access in the link: <https://ipb.link/vb-istakcos-4>
5. Participants are requested not to activate microphone since the event started and the event takes place
6. Participants will be invited to activate the microphone by moderator or host on discussion session or presentation time
7. Each participant is given 25 minutes, 20 minutes for presentation and 5 minutes for discussion
8. In the discussion session, participant can submit a question on zoom chat box with the format: Name_Afiliation _Question
9. Participant must complete the attendance form

ORAL PRESENTATION SCHEDULE

Room A1

Resilient Agriculture: Ecosystem Approaches to Enhancing Food Security and Rural Livelihoods

Moderator: Prof Damayanti Buchori

Host and PIC: Rosyid Amrulloh, Gecci

Time	Title	Presenter
09.00-09.25	Evaluation of Land Suitability for Paddy Rice Cultivation Using Global Gridded Rainfall and Soil Dataset in Ibu Kota Nusantara – IKN	Misnawati
09.25-09.50	Livelihood Vulnerability and Resilience of Farmer Household in Desa Cadaskertajaya, Kecamatan Telagasari, Kabupaten Karawang	Fatih Azzahra
09.50-10.15	Enhancing Biosecurity for GMO Import and Distribution in Indonesian Agriculture	Damoyanto Purba
10.15-10.40	Local Champion from the Sahendaruman landscape, Sangihe Island, North Sulawesi, Indonesia	Angga Yoga
10.40-11.05	Optimizing Social Economic Factors Which Affect Food Security To Support Sustainable Development Goals (SDGs)	Muhammad Yamin

Room A2

Climate Change, Health, Food Security

Moderator: Prof Meutia Samira Ismet

Host and PIC: Meri Eliza, Hanan

Time	Title	Presenter
09.00-09.25	Consumer Preference towards Fortified Rice in Myanmar	Chan Myae Lwin
09.25-09.50	Optimizing Cold Chain Logistics for Bio fortified Crops	Susi Herawati
09.50-10.15	Distribution Patterns of Ecosystem Services in the Jabodetabek Urban Landscape	Purwantiningrum
10.15-10.40	Comparison of Carbon Storage Potential for Teak (<i>Tectona grandiss</i>) and Rubber (<i>Hevea braziliensis</i>) Stands in Instiper Research Area Lemah Ireng Ungaran Central Java	Siti Maimunah
10.40-11.05	Implementation of Low Carbon Rice as Sustainable Rice in Indonesia	Dara Intan Salassa

Room A3

Species and Ecosystem Resilient for Coastal, Marine and Terrestrial Landscape

Moderator: Prof Asadatuln Abdullah

Host and PIC: Dede, Hayu

Time	Title	Presenter
09.00-09.25	Assessing the Performance of the Maggot Production: Yield, Nutritional Value, and Frass Quality from Different Organic Waste Materials	Joni Jupesta
09.25-09.50	Resilience of Greater Bird-of-paradise and its Habitat After Selective Logging	Ani Mardiasuti
09.50-10.15	Diversity and Environmental Services of Natural Enemies in Sustainable Oil Palm Plantations by Independent Smallholders in West Kalimantan and Riau	Dewi Caesaria Oktaviani
10.15-10.40	Trend Analysis of Green Turtle (<i>Chelonia mydas</i>) and Hawksbill Turtle (<i>Eretmochelys imbricata</i>) Landings in Paloh District, West Kalimantan	Mohamad Jakaria
10.40-11.05	Impact of Rainforest Conversion to Monoculture Plantations on the Diversity and Community Composition of Click Beetles (Coleoptera: Elateridae) in Jambi, Sumatra	Desi Anggrahini
11.05-11.30	Diversity of Parasitic Hymenoptera Across Different Land Use Types in Jambi Province	Aulia Maulidya
11.30-11.55	Optimizing Site-based Conservation Approach to Secure Key Species in Wallacea	Jihad

Room A4

**Policy Integration for Ecosystem Resilience: Bridging Social, Environmental,
and Economic Objectives**

Moderator: Dr Beginner Subhan

Host and PIC: Kasmiatun, Rira

Time	Title	Presenter
09.00-09.25	Intelligent Control Systems in Eco-Marketing for Green Construction	Ostonakulova Gulsara
09.25-09.50	Establishing a Robust Framework for Monitoring Cash Flows in Treasury Operations Under Legal Regulations in Agribusiness	Shodmonkulova Shakhlo Olimjon kizi
09.50-10.15	Industrial Economy framework of Maximizing Energy Efficiency in Agricultural Systems	Iskander Najimov
10.15-10.40	Innovative Digital Agriculture Solutions for Small Agribusiness Enterprises	Mehriddin Amonov (digital)
10.40-11.05	Legal Frameworks Governing Agribusiness Management	Orinbay Nazarbaev
11.05-11.30	Collaborative Management in Bukit Rimbang Bukit Baling Wildlife Reserve	Agustinus Wijayanto

Room B1

Community-Based Approaches to Building Resilient Ecosystems and Livelihoods

Moderator: Prof Neviaty P Zamani

Host and PIC: Dede, Rira

Time	Title	Presenter
13.00-13.25	Traditional Fire Use by The Indigenous People in Wasur National Park, Merauke, Indonesia	Kushartati Budiningsih
13.25-13.50	Pursuing Underlying Values: A Community Value-Based Approach to 'Hijau Manise' Greening Projects in East Sumba, East Nusa Tenggara	Astrid N Ramadhani
13.50-14.15	Adopting Forest Monitoring Tool by Considering Local Knowledge and Current Technology to Increase Community Participation for Effective Landscape Management in Flores, East Nusa Tenggara, Indonesia	Lalu Abdi
14.15-14.40	Fostering Ecosystem Resilience through Targeted Communication: A Cluster Analysis of Ijen Geopark Communities	Sarwititi Sarwoprasodjo
14.40-15.05	Livelihood Strategies in the Context of Tampun Juah Customary Forests, West Kalimantan	D Y Prahesty1
15.05-15.30	The Ability to Meet 2100-Calorie Intake to Identify Economic Gap in Rimbang Baling	Anggun Yurna Nudesia
15.30-15.55	Optimizing Community-based Artisanal Fisheries Approach to Improve Coastal Resilience and Community Livelihoods	Wahyu Teguh

Room B2

Indigenous Knowledge Systems and Ecosystem Management: Fostering Resilience and Cultural Sustainability

Moderator: Dr Sunarto

Host and PIC: Meri Eliza, Gecci

Time	Title	Presenter
13.00-13.25	“Lubuk Larangan”, an Indigenous Knowledge System on Ecosystem Management in Rimbang Baling Community	Akbar Ario Digdo
13.25-13.50	Evolving Landscapes: The Effects of Migration on Dumagat-Remontado Settlements and Culture	Sarah M. Moussavi
13.50-14.15	Mata Tahun: A Traditional Celestial Calendar for Sustaining Indigenous Knowledge and Ecosystems in the Mului Community, East Kalimantan Amidst Climate Change	Puji Hastuti
14.15-14.40	Transforming Ecological Knowledge into Collaborative Action: Lessons of Environmental Communication from the Balinese Community	Achmad Hamudi Assegaf
14.40-15.15	Why do people join the Payment for Ecosystem Services Scheme? A Lesson Learnt of PES in Mbeliling Landscape, Flores Island, East Nusa Tenggara, Indonesia	Tiburtius Hani
15.15-15.40	The Voices of Indigenous Women from Baar Tribe Who Live in Riung about Komodo Dragon, its Habitat and How to Preserve It Through Traditional Knowledge	Tiburtius Hani

Room B3

Policy Integration for Ecosystem Resilience: Bridging Social, Environmental, and Economic Objectives

Moderator: Dr Adriani Sunuddin

Host and PIC: Rosyid Amrulloh, Hanan

Time	Title	Presenter
13.00-13.25	Evaluating the Multiple Aspects of the New Era of Social Forestry in Indonesia	Ary Widiyanto
13.25-13.50	Financial Aspects of the Estimated Impact of Tourism on the National Economy	George Abuselidze
13.50-14.15	Multi Forestry Business as A New Paradigm for Production Forest Management in Indonesia: Opportunities and Challenges	Mangarah Silalahi
14.15-14.40	Plan Implementation of Botanical Garden in University Settings in Developing Countries: Lessons from ITERA Botanical Garden, Indonesia	Asirin Asirin
14.40-15.05	Strategy for Developing Sustainable Tourism Policies to Support the Creative Economy	Endang Puji Astutik
15.05-15.30	Impact of Maritime Transport and Connectivity on Natuna Regency's Economic Development	Kamarul Hidayat
15.30-15.55	Navigating Peatland Landscape Governance in Indonesia: Institutional Complexities and Inter-Ministerial Disconnects	Muhammad Lutfi

Room B4

Digital Technology and Education to support SDGs

Moderator: Dr Widya Hasian

Host and PIC: Kasmiatun, Hayu

Time	Title	Presenter
13.00-13.25	Development of Maritime English Communication Learning Model Using Multiliteracy Pedagogy	Marudut Bernadtua Simanjuntak
13.25-13.50	Evaluating the Influence of Digital Learning on Attaining SDG 4 in Higher Education in Pakistan	Zohaib Hassan Sain
13.50-14.15	Enhancing ESG Practices in STEAM and Engineering Education	Tashmukham edova Gulnoza
14.15-14.40	Digital Marketing, ESG Factors, and Retail Trade Development Through Social Media Analysis	Abdukhalilova Laylo
14.40-15.05	Social Responsibility and ESG in SMEs for Entrepreneurship Growth: A Systematic Mapping Study	Bayisbayev Javlon Nurlanovich
15.05-15.30	Didactic Frameworks for Effective Personnel Training in Modern Agribusiness Management	Bakhtiyar Kalmuratov

Room B5
Modelling Complex system for sustainability
 Moderator: Novriyanti, M.Sc
 Host and PIC: Indah Septiyana

Time	Title	Presenter
13.00-13.25	Modeling of Communication within Termite Population Using Agent-Based-Model	Pristy Tasya Nabila,
13.25-13.50	Development of a GUI for Visualizing Solid-State Crystal Lattice Structures Using XRD Data and the Cramer-Cohen Algorithm	Ardi Maulana
13.50-14.15	Structural Equation Modeling for Green Technology System in Environmental Monitoring	Umarova Mukaddas Abbasovna
14.15-14.55	Autologous Mesenchymal Stem Cells for Spine Fusion: Insights from Grape Genetic Resources	Aripkhodjaev Fuzuliddin Ziyaviddinovich

4th ISTAKCOS Committee

1. Responsible : Prof. Damayanti Buchori
2. Chief Executive : Prof. Dr. Nevianty P. Zamani
3. Papers and Publication
 - a) Editor Team : Prof. Dr. Husin Alatas
Prof. Dr. Neviaty P Zamani MSc
Prof. Dr. Suria D. Tarigan
Prof. Dr. Rilus A. Kinseng
Dr. Annisa Utami Seminar
Dr. Karlisa Priandana
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Yulia Sugandi, Ph.D
 - b) Technical Team : Grahita Indra Wimaya
4. Treasury and Secretariat : Evelyn Tampubolonn, S.E
5. Communication and Promotion : Meri Eliza, S.P
6. Event : Rosyid Amrulloh, S.P
7. Logistic : Herawati Muhtar, S.Pd

The 4th
ISTAKCOS
International Symposium on Transdisciplinarity **2024**
Approach for Knowledge Co-Creation in Sustainability

Free
Symposium
2 October 2024

“Ecosystem Resilience for Sustainability and Social Justice”

Opening Speech



Prof. Arif Satria
Rector IPB University

Keynote Speakers



Andrew Schauf, Ph.D
Department of Physics & NUS Cities,
National University of Singapore



Djarot Indarto Ph.D
Director General of Food Security,
Ministry of National Development Planning
Indonesia

**Moderator
Keynote Session**



David Ardhian, S.P., M.Sos
Fellow CTSS-IPB University

Plenary Session 1

Moderator



Prof. Damayanti Buchori
Director, Center of Transdisciplinary and Sustainable Science - (CTSS) IPB University

Invited Speaker



Prof. Keishiro Hara, Ph.D
Center for Future Innovation,
Graduate School of Engineering, Osaka University



Prof. Premana W Permadi, Ph.D
Professor of Astrophysics and Cosmology,
Astronomy Study Program and Bosscha Observatory
Institut Teknologi Bandung



Prof. Neviaty N Zamani
Faculty of Fisheries and Marine Sciences,
IPB University, and Capacity Building dan SDG'S
Division CTSS- IPB University

Plenary Session 2

Keynote Speakers

Moderator



Prof. Dr. Rilusa Kinseng, M.A
Professor of Rural Sociology, IPB University
and Fellow Affairs CTSS- IPB University



Prof. Jason Hicckel
(To be Confirmed)
Professor at the Institute for Environmental Science
and Technology, University of Barcelona



Akbar Ario Digdo, M.Si
Resource Mobilization Specialist
CTSS IPB - University



Said Abdullah
National Coordinator of
People Coalition for Food Sovereignty,
Indonesia



Jacob Nordborg Ryding
Senior Director of Strategic Projects,
Preferred by Nature, Denmark



Dr. Agr. Laksmi Adriani Savitri, M.Si.
Department of Anthropology,
Gadjah Mada University

Invited Speaker

SYMPOSIUM

Wednesday
2
October
2024

08.30 am - 5.00 pm
(West Indonesia Time)

ORAL PRESENTATION

Thursday
3
October
2024

09.00 am - 16.00 pm
(West Indonesia Time)

OFFLINE EVENT

**IPB International Convention Center,
Botani Square, Bogor**

Link Registrasi: ipb.link/istakcos4

BROADCASTED LIVE ON:

ZOOM [@ctssipb](https://www.youtube.com/channel/UCctssipb) [@koalisirakyatuntukkedaulat5426](https://www.youtube.com/channel/UCkoalisirakyatuntukkedaulat5426)

All Participants Symposium Get a E- Certificate