

# CAMPUS *mundi*

126

Managua, the capital and largest city of Nicaragua, is located on the southern shores of Lake Managua, also known as Lake Xolotlán. The city is also the cultural capital, boasting several restaurants, theaters, museums, and a few shopping centers.

*MyAIU MAGAZINE*  
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**AIU News + Essays + Education + Culture + Science + Technology  
+ Art + Design + Body + Mind + Environment + Human Rights +  
Transportation Management and Logistics + About AIU**

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TRANSLATION TO SPANISH  
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**Campus Mundi**  
MY AIU MAGAZINE  
Year 11, #126  
May 2024  
[www.aiu.edu](http://www.aiu.edu)

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choose  
the contents  
of this magazine  
with you  
in mind  
-to inspire you  
and make you  
**think**

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in touch

## Graduated with Honors

**APRIL, 2024.** This graduate student completed the majority of the requirements to obtain honors, which included a 4.0 GPA, published works, recommendation from advisors, patent a product, etc. **Congratulations!**



**CUM LAUDE**

**Philip Kamau Manyara**

BACHELOR OF SCIENCE  
Business Information Technology

## Article published

**MARCH 22, 2024.** An article was published today online by **Mohammad Shahidul Islam** in Current Trends in Engineering Science (CTES), USA.



enrolled bright students of the country. As result, the students can grab the teaching materials easily to educate themselves.

Link to the published article *“Strength, Weakness, Opportunity and Threat (SWOT) Analysis of BUET Chemical Engineering Education in Home and Abroad”* is: <https://www.corpuspublishers.com/assets/articles/ctes-v4-24-1056.pdf>

Abstract: Bangladesh University of Engineering & Technology (BUET)’s Chemical Engineering Department is almost 75 years old. This department has one the world’s best Chemical Engineering curriculums to teach

Despite this, the graduates face many challenges to establish themselves in home and abroad. Competitive curriculum and personal competency are the strength. Lack of quality facility and resources are the weakness. Innovative quality and devotion in profession are the opportunity. ...

**Mohammad Shahidul Islam** is an AIU Advisor and graduated **Atlantic International University** from a Doctorate program with a major in Chemical Engineering.

## 18<sup>TH</sup> INTERNATIONAL CONFERENCE ON e-Learning & Innovative Pedagogies



### Call for Papers

This Conference will be held **25–29 April 2025** hosted by National Changhua University of Education, Changhua City, Taiwan.

- Theme 1:** Considering Digital Pedagogies
- Theme 2:** New Digital Institutions and Spaces
- Theme 3:** Technologies of Mediation
- Theme 4:** Designing Social Transformations

### Become a Presenter:

1. Submit a proposal
2. Review timeline
3. Register

**Advance proposal deadline**

25 June, 2024

**Advance registration deadline**

25 July, 2024

**Visit the website:**

<https://ubi-learn.com>

We invite proposals for paper presentations, workshops/ interactive sessions, posters/ exhibits, colloquia, focused discussions, innovation show-cases, virtual posters, or virtual lightning talks.

### 2025 Special Focus:

“Learning from Artificial Intelligence: Pedagogical Futures and Transformative Possibilities”

**FIND MORE NEWS FROM AIU FAMILY**

**Latest News:** <https://www.aiu.edu/aiu-news/>

## Graduated with Distinction

**APRIL, 2024.** This graduate students completed their program with a high cumulative grade point average, which reflects the quality of performance within their respective major. **Congratulations!**



**DISTINCTION**

**Khy Phearun**

DOCTOR OF PHILOSOPHY  
Educational Technology



**DISTINCTION**

**Paul Antonio Anchundia Bastidas**

DOCTOR OF PHILOSOPHY · Organic Agriculture:  
Plant Oxo-Hydrothermal Regeneration



**DISTINCTION**

**Guven Icoz**

DOCTOR OF SCIENCE  
Security and Strategic Studies



Image: www.freepik.es

# Graduates of the month

APRIL 2024

**Ivany Neto Carlos**  
BACHELOR OF BUSINESS AND ECONOMICS  
Accounting  
ANGOLA

**Moya Modise**  
DOCTOR OF EDUCATION  
Curriculum and Evaluation  
BOTSWANA

**Bambara Thibaut**  
MASTER OF SCIENCE  
Public Health  
BURUNDI

**Khy Phearun**  
DOCTOR OF PHILOSOPHY  
Educational Technology  
CAMBODIA

**Nanfa Simon**  
DOCTOR OF SCIENCE  
Health Care Management  
CAMEROON

**Israr Waheed**  
DOCTOR OF PHILOSOPHY  
Maritime Management  
CANADA

**Kieran Oliver Finch**  
BACHELOR OF SCIENCE  
Mechanical Engineering  
CAYMAN ISLANDS

**Hector Erazo Ospina**  
BACHELOR OF SCIENCE  
Civil Engineering  
COLOMBIA

**Julio C. Reyes Hiraldo**  
BACHELOR OF PROJECT MANAGEMENT  
Development of New Projects  
DOMINICAN REPUBLIC

**Paul Antonio Anchundia Bastidas**  
DOCTOR OF PHILOSOPHY  
Org. Agri.: Plant Oxo-Hydrothermal Reg.  
ECUADOR

**Cindy Yajaira Rodriguez de Rivas**  
BACHELOR OF SCIENCE  
Nutrition and Dietetics  
EL SALVADOR

**Edith Flore Djoumele**  
BACHELOR OF EDUCATION  
Educative Administration and Supervision  
EQUATORIAL GUINEA

**Mark Obeng Andoh**  
DOCTOR OF THEOLOGY  
Theology  
GHANA

**Kwame Osei-Bonsu**  
MASTER OF ACCOUNTING  
International Taxation  
GHANA

**Ida Adjoa Asiedu**  
BACHELOR OF SCIENCE  
Business Communication  
GHANA

**Pedro Luis Tavarez Maria**  
BACHELOR OF SCIENCE  
Civil Engineering  
ITALY

**Saul Davis Sango**  
MASTER OF PSYCHOLOGY  
Industrial and Organizational Psychology  
KENYA

**Nathan Nyamao**  
BACHELOR OF SCIENCE  
Mechanical Engineering  
KENYA

**Philip Kamau Manyara**  
BACHELOR OF SCIENCE  
Business Information Technology  
KENYA

**Daniel Sandoval Ocampo**  
DOCTOR OF SCIENCE  
Nutrition  
MEXICO

**Odete Moises Cossa**  
DOCTOR OF SCIENCE  
Public Health  
MOZAMBIQUE

**Juan Jose Montoya Perez**  
MASTER OF LEGAL STUDIES  
Criminal and Civil Legal Studies  
NICARAGUA

**Adenekan Aminat Omonike**  
BACHELOR OF SCIENCE  
Food Science  
NIGERIA

**Oluwole Muiyiwa Smile**  
DOCTOR OF HEALTHCARE ADMINISTRATION  
Health Economics  
NIGERIA

**Ahmed Gimba Bello**  
DOCTOR OF SCIENCE  
Economics  
NIGERIA

**Simon Urakowi Ugi**  
DOCTOR OF PHILOSOPHY  
Educational Leadership  
PAPUA NEW GUINEA

**Claude Phiri**  
MASTER OF BUSINESS ADMINISTRATION  
Organizational Management and Leadership  
SOUTH AFRICA

**Claude Phiri**  
BACHELOR OF SCIENCE  
Accounting and Financial Management  
SOUTH AFRICA

**Marius Florin Vlad**  
DOCTOR OF EDUCATION  
Education  
SPAIN

**Guyen Icoz Graduate with Distinction**  
DOCTOR OF SCIENCE  
Security and Strategic Studies  
TÜRKIYE

**Wilfred Opio Wanyama**  
DOCTOR OF BUSINESS ADMINISTRATION  
Marketing  
UGANDA

**Dr. Zelda Hill**  
DOCTOR OF PHILOSOPHY  
Music Education  
UNITED KINGDOM

**Babatunde Olusakin Olorunfemi**  
DOCTOR OF BUSINESS ADMINISTRATION  
Business Management  
UNITED KINGDOM

**Abdulganiyu Olayiwola Salako**  
DOCTOR OF PHILOSOPHY  
Geomechanics  
USA

**Sarah J. Loudy**  
DOCTOR OF PHILOSOPHY  
Sport Science and Nutrition  
USA

FIND MORE GRADUATES: Gallery / Interviews: <https://www.aiu.edu/media-center/>

This month we have graduates from: Angola · Botswana · Burundi · Cambodia · Cameroon · Canada · Cayman Islands · Colombia · Dominican Republic · Ecuador · El Salvador · Equatorial Guinea · Ghana · Italy · Kenya · Mexico · Mozambique · Nicaragua · Nigeria · Papua New Guinea · South Africa · Spain · Türkiye · Uganda · United Kingdom · USA

FIND MORE TESTIMONIALS FROM AIU STUDENTS HERE: <https://www.aiu.edu/aiu-testimonials/>



**Carol Jannette PER**  
Master of Psychology  
February 19, 2024

“I hope this letter finds you well. I am writing to express my utmost gratitude and satisfaction with the educational experience I had at **Atlantic International University** while pursuing my Master’s in Psychology. I wanted to share with you the significant impact this journey has had on my personal and professional growth.

From the first day I enrolled at **AIU**, I was impressed by the institution’s commitment to providing a quality education that transcends geographical boundaries. The innovative online platform allowed me to access many educational resources, and receive prompt feedback from professors, creating an immersive and interactive learning environment.

The curriculum offered in the Master in Psychology program was comprehensive, rigorous, and tailored to meet the demands of the field. The coursework encompassed a wide range of psychological theories, research methodologies, and practical applications. The professors, who were experts in their respective fields, were approachable and supportive throughout the duration of the program.

One aspect that particularly stood out during my time at **AIU** was the emphasis placed on real-world applications of theoretical concepts. The integration of case studies and practical assignments.

Moreover, the university’s commitment to fostering research and intellectual inquiry was evident through its extensive library resources and research support services. The faculty members encouraged and guided students in conducting independent research, which not only deepened our understanding of specific topics but also contributed to the advancement of knowledge in the field of psychology. I am also immensely grateful for the specialized focus on Andrology at **AIU**, which has deepened my understanding of this fascinating field and equipped me with the knowledge and skills to make a meaningful impact.

Overall, my experience at **AIU** has been nothing short of exceptional. The comprehensive curriculum, supportive faculty, and interactive learning environment have collectively nurtured my intellectual curiosity and equipped me with the necessary skills and knowledge to continue in the field of psychology.

In conclusion, I would like to express my heartfelt gratitude to **Atlantic International University** for providing me with an outstanding educational experience. I am immensely proud to be an alumnus of this esteemed institution and look forward to utilizing the skills and knowledge gained during my ...

**READ FULL TEXT:** <https://www.aiu.edu/testimonials/carol-jannette-per-master-of-psychology/>



**Sarah Loudy**  
Doctor of Sports Science and Nutrition  
February 22, 2024

“While I am a unique individual with my own academic story, I imagine my **Atlantic International University** journey is one that is shared among many other **AIU** graduates. Simply put —I chose **AIU** for several reasons, and it is unlikely that those circumstances are unique to only me. **AIU** was a perfect fit for my situation and goals. Frankly, I don’t know that I could have achieved my Doctorate degree in a more advantageous way than I did with **AIU**. **AIU**’s program was key to my success in many ways. Please allow me a brief explanation through my personal story.

I didn’t start working toward a Doctorate degree until years after completing my Master’s. At that time, I wasn’t sure what, if anything, I felt enough passion for to continue my formal education. I decided not to force the issue and allow it to come to me organically in time. And if I discovered something I was passionate about, I would then decide whether or not it would be worth pursuing through continued education. As such, I continued working without giving another degree much additional thought. Then after five years of teaching, I did in fact find that I have a

passion for a particular subject matter. I realized that I was always over-the-top excited and would really “geek-out” whenever I had the opportunity to integrate the benefits of exercise and nutrition into my lectures. So then the question followed, can I pursue a Doctorate degree practically and feasibly?

Once I discovered my passion, I began researching schools and programs that would allow me to continue my education in the field of exercise physiology and nutrition. As it turns out, **AIU** fit the bill perfectly. **AIU** not only allowed me to study exactly what I wanted, but it was also my best option because online, distance-learning was required given my job and geographic location. **AIU** offered a self-paced program, which was extremely favorable since I work full time and have a young family to care for. As if those factors couldn’t be any more ideal, **AIU** also had an extremely reasonable tuition plan and offered a scholarship!

Needless to say, I was extremely excited to start working toward a Doctorate degree with **AIU** and got off to a really good start in the fall of 2019. Then, COVID struck, and my work changed drastically as a result. I was very fortunate to keep my job, but all my teaching materials were designed for in-person instruction, so I had a lot of work to do to get nearly all my professional teaching materials into an online format and had little time to continue my studies. ...

**READ FULL TEXT:** <https://www.aiu.edu/testimonials/sarah-loudy-doctor-of-sports-science-and-nutrition/>

# The benefits of learning



When talking about benefits, many immediately think of the economic aspect. The benefit of something is not only an economic aspect, it's also a quality of life aspect.

Quality of life refers to having the opportunity to grow as a human being, receiving the benefits corresponding to Human Rights from the State.

As for learning, it's being able to identify an object, which can be physical or ideal, and the characteristics it has.

Learning can be informal and formal. Informal learning is what we obtain through the experience we acquire in living with others. Formal learning is what science provides us. For formal learning we need to be guided in the methods that science must achieve knowledge of objects.

In formal learning we currently have serious problems because the States, which oversee organizing education, in many cases, change the so-

cial sciences for ideologies that suit their interests to remain in power. We also have the problem that many citizens are made to think that education, learning, is beneficial for a few.

Another difficulty is the implementation that the States do so that all citizens can have quality education.

We know that there are Psychological and Pedagogical methods so that students can achieve the knowledge that today's society demands.

The implementation and training of knowledge companions is something that many States don't do because they save the money for other activities that suit their interests.

Human Rights are rights of all human beings and due to their ignorance, many people are used for the benefit of certain rulers.

There are 30 Human Rights and States are obliged to provide them to all beings in the society they represent.

The State is not for the benefit of certain groups. "... it is said that the State, as a human work, has been built to serve social, that is, collective, purposes of all the members of a society..." *NATIONAL AUTONOMOUS UNIVERSITY OF MEXICO- UNAM. LEGAL ARCHIVES- P. 46-47. <https://archivos.juridicas.unam.mx/www/bjv/libros/3/1461/5.pdf>*

The State arises to organize everyone in a coexistence of opportunities for all. In the times in which we live, groups of human beings have appropriated the functions of the State to only look after their economic well-being.

Education and Quality Education is a Right for every human being. From the legal

point of view "...it is stated that the State is a legal person formed by a political community, settled in a determined territory and sovereignly organized in its own government with decision and action."

*NATIONAL AUTONOMOUS UNIVERSITY OF MEXICO- UNAM. Legal Archives- p. 46 <https://archivos.juridicas.unam.mx/www/bjv/libros/3/1461/5.pdf>*

The State is not an entity that emerged from the taste of anyone: it means the coexistence and organization of human beings and the opportunity to be had and treated with all the benefits and rights as a human being.

"Education is a human right. The right to education is enshrined in article 26 of the Universal Declaration of Human Rights. The declaration calls for free primary education and mandatory. The Convention on the Rights of the Child, adopted in 1989, goes further by stipulating that countries must make higher education accessible to all." *UNITED NATIONS.*



By Dr. Rosa Hilda Lora M.  
Advisor at AIU | [rosa@aiu.edu](mailto:rosa@aiu.edu)

INTERNATIONAL EDUCATION DAY, JANUARY 24.  
<https://www.un.org/es/observances/education-day>

Let's see what Human Rights are because many people, due to their lack of knowledge, are deceived by the States that claim to give privileges to citizens and what they do is give what is their obligation and maintain the discourse that they are wonderful for everything. What they do when it is their obligation.

### Universal Declaration of Human Rights

All human beings are born free and equal.  
 All people have all the rights of this Declaration.  
 Every person has the right:  
 To the life.  
 No one may be subjected to slavery.  
 No one will be subjected to torture.  
 Every person: has the right to be recognized in his or her personality.  
 It is equal before the law.  
 They have the right to effective recourse before the law.  
 No one can be arbitrarily detained.  
 Everyone has the right to be heard publicly:  
 He or her has the right to be presumed innocent.  
 No one will be subject to interference in her private life.  
 You have the right to:



Image: www.freepik.es

Move freely.  
 To seek asylum.  
 To a nationality.  
 To find a family.  
 To private and collective property.  
 To freedom of thought.  
 To the expression freedom.  
 To freedom of assembly.  
 To participate in the government of your country.  
 To social security.  
 To work.  
 To rest.  
 To social services.  
 To education.  
 To cultural life.  
 For Human Rights to be made effective.  
 Has duties to the community.  
 Nothing in the Declaration of Human Rights can be interpreted differently. United Nations. Peace, Dignity and

Equality on a healthy planet.  
<https://www.un.org/es/about-us/universal-declaration-of-human-rights>  
 We may ask ourselves by what means we can make everyone aware of their rights as human beings. The best instrument is education. "Education is key to sustainable development. When the 2030 Agenda for Sustainable Development was adopted, the international community recognized that education is essential to the success of its 17 goals. Goal number 4 of Sustainable Development specifically aims to 'ensure inclusive and equitable quality education and promote lifelong learning opportunities for all' by the year 2030." <https://www.un.org/es/observances/education-day>

Education is so important that the World Bank committed to helping achieve goal 4 of the Sustainable Development Goals SDG 4. Without a people, a Nation without Education we can achieve little.

The World Bank committed to helping achieve the Sustainable Development Goal – SDG 4, which works for equitable, inclusive, and quality education. *WORLD BANK. PRESS RELEASE. 2024, 04.* <https://www.worldbank.org/es/topic/education/overview>

We are living in a world that seems unknown to us: an abundance of science, but also hate speech. What is happening to human beings? Will the human species disappear along this path?

The human species will not disappear because we were born to build. Human beings, by our nature, need others to grow, to learn. If we were as a society building the path to disappear, we would have already done so many centuries ago.

We are living a stage of great

experience, some would say, to learn the value we have. At these moments in History, we are witnessing a few who could not have had more hate speech and misinformation. We will learn to value who we are and how much we can grow.

It seems that the other one doesn't exist. We must learn the value of the other, the ways of coexistence.

We must learn, we must study to know where we are going, to understand the way of being with others.

You are studying and studying should be to grow and to give to others. You do your program at **Atlantic International University (AIU)**: Study and you will grow.

Give to others so you can be happy.

Only in this way we will all live growing.

Only this way we will live in peace.

**BIBLIOGRAPHY.** Banco Mundial. Comunicado de Prensa. 2024. 04. <https://www.bancomundial.org/es/topic/education/overview> | Naciones Unidas. Día Internacional de la Educación. 2024. enero 24. <https://www.un.org/es/observances/education-day> | Organización de las Naciones Unidas. Paz, Dignidad e Igualdad en un planeta sano. <https://www.un.org/es/about-us/universal-declaration-of-human-rights> | Universidad Nacional Autónoma de México – UNAM. Archivos jurídicos – p. 46–47. <https://archivos.juridicas.unam.mx/www/bjv/libros/3/1461/5.pdf> | Universidad Nacional Autónoma de México – UNAM. Archivos jurídicos – p. 46. <https://archivos.juridicas.unam.mx/www/bjv/libros/3/1461/5.pdf>



# CONTROVERSIAL ROLE OF THE Eucalyptus tree species: a challenge on ground water depletion

Masimba Gwemende | Doctorate in Agricultural Science

## I. Introduction

This study employed pragmatic world view coupled with mixed methodology design and research approach (CRESWELL, 2014). The main focus was on how the eucalyptus tree species impact ground water depletion. As the survey process progressed, it was noted that, a paradigm shift is needed in groundwater management, from technocratic approaches to use of collaborative, participatory knowledge systems. Groundwater users, technical specialists, scientists and policy makers need to work jointly with the support of facilitators, and backed by demonstration results, learning and communications. They should collaborate to align groundwater knowledge, governance reforms, economic incentives, investment and social organisation. Smith (2016), associates the tree's fast growth, adaptability to a wide range of environments



Image: www.britannica.com

and socio-economic roles it plays to its global support it has gained. Since 1980's International Monetary Fund (IMF) promoted tree plantations. In compliance to IMF's call most countries worldwide adapted to establishing plantations with the earth covered by forestry plantations which increased from 167 million to 277.9 million hectares from 1990 to 2015. Brazil, Argentina and Chile comprise the largest areas of forestry plantations in South America. Currently Brazil has about 7.8 million hectares of planted forests, mainly eucalyptus (5.7 million hectares) and pinus (1,6) (TIAGO SOUZA MATTOS, 2019). As for the African region, forestry plantations were earmarked to meet increased demand for domestic industries, export, fuel wood and charcoal, together with the demand for an array of non-wood products. Pressure has been exerted on natural forests as a result of urbanisation and above all



human population growth. As such production levels are; 1.76 million in W. Africa, 0.15 in E. Africa, 0.05 in C. Africa and 2.2 million in Southern Africa (CHAMSHAMA AND NWONWU, 2004). While the above production levels were mainly inclined to meet economic targets, plantation forests could play ecological roles in buffering floods, increasing interception rates, decreasing surface runoff as well as contributing to an accumulation of soil organic matter (BONNESOEUR ETAL, 2019).

The purpose of this study is to alert farmers on the controversial impact paused by the eucalyptus tree species on ground water depletion, a phenomenon that seemed to be silent among the group of people and has led to diverting of the cropping programmes on

certain lands as well as shifting farmers from old farming sites relocating themselves to new sites of favourable conditions. Targeted farmers in question seem to be a neglected group by most studies because of their farmland sizes and location (Subsistence farmers). Most studies concentrated on big forestry plantations ignoring small forestry tree establishments (less than 1 hectare plantations).

Water depletion on ground water sources was mainly attributed to climate change, putting very little blame on other factors if not none at all except for experts in the area of hydrological studies. The study will demystify the dilemma of only associating ground water shortage to poor precipitation. Inclusion of this

minority group in the study closes the gap left by most researchers.

Various studies based on forestry tree plantation concentrated much on the production side with less input on expatiating the negative impact paused by such plants in particular the eucalyptus species. Timberwatch Coalition and World Rainforest Movement (2016) concentrated on projects earmarked at exploiting all African patches with a potential to produce timber and to include countries falling within West, East, Central and Southern Africa. White *etal* (2016) consider eucalyptus as contributing to positive development through retention of soil in its natural state as well as providing wood-based products. Negatively however, note the trees as impacting the availability of underground water levels by excessively drawing it than what the soil should retain. Studies by Rotzer *etal* (2016) view forest trees as natural water balancing bodies regulated by climatic conditions variation in which losses can be restricted through stomata closure or emitted as stoma open and thus maintaining an uncompromised water balance. This Scientific view is shared with that of Braun *etal* (2004) where ground water levels are naturally regulated

by forestry trees. Both studies indicate a reduction in underground water levels as plantations increase. The later studies associate reduction in underground water levels to short season water stresses in plants which force them to draw more water which under drought conditions is not compensated. Smith *etal* (2016) associate underground water depletion to more discharge than recharge activities and the underlying natural hydrological set ups and regard vegetation as contributing to the water recharging processes. Joshi and Palanisami (2011) regard eucalyptus tree species as one that has raised a lot of controversies. It has been adored worldwide due to it being a fast grower with disbur-ing and unswervingly supply industrial wood. The tree has been cheaply utilised to supply fuel wood, covering abandoned poor soil in arid and marginalised lands of the world. The essential roles of the tree have however, been engulfed by the negative impacts where it has evidently impaired growth of other plants through allelopathetic growth habits replacing other conventional forests as well exerting more thrust on food security. Its ability to utilise up to 90 litres of water per day depleting larger volumes of underground water has

contributed much to the tree's loss of credibility which is the nerve centre of this study. This implies that continuous production of the tree species in drought threatened regions would render the people into great food security risks.

## II. Study methodology

This study specifically used exploratory sequential mixed method approach where the researcher began with a qualitative research phase in exploring the views of 24 farmers selected from 52 Ward 20 villages of Cikomba District in the Mashonaland East province -Zimbabwe... The data was then analyzed, and the information used to build into a second, quantitative phase. The qualitative phase was used to construct the questionnaire instrument that best fits the sample under study (CRESWELL, 2014). The study used 3 ponds as a 3-year case study after prior observation of some water level changes in ponds and other areas that used to be marshy at certain times of the year but have totally changed as nearby eucalyptus tree canopy increased. The questionnaire contained the purpose of planting the tree, justification on the choice of the site; awareness on how the tree could impact ground water sources levels and views

on action to take in getting rid of wrongly sited plantations. Concurrently observations were made to determine how the tree species impacted ground water levels. Questionnaire contents were schematised.

### III. Results and discussion

With reference to *Table 1*, 33.3% the respondents planted trees around their cropping areas irregardless of where the farmland was situated and could not have been aware on how the trees could impact crop productivity which the trees later did as their canopies increased. 29% of the respondents aimed at establishing timber for general home use and tree establishment to them had to be anywhere as long as they managed to get timber for the intended purpose. 25% of those utilising idle land were also not site restrictive as they were targeting at open spaces. Draining excess water by 12.5% of the respondents was site specific on earmarking wetlands. Heterogeneous and egocentricity that existed among the respondents depicted how liberal the pattern of planting was, as evidenced randomised tree establishment.

Data in table depicts that the trees were planted in wetland constituting 41.7%

of the respondents and the wetlands could be within the water course or near water sources where vegetable gardens could be located. 33.3% of the demarcated farm land could be gardens near water sources (*Figure 1*) at high water demanding eucalyptus trees which create a high water gradient and deplete underground water nearby. A 25% utilising of available land could in-discriminatorily included wetlands which have probabilities of being left out as unsuitable for cropping purposes and yet are an underground water source. Exposing eucalyptus to wetlands subjects the land to water depletion especially on

sites with limited water supply as the case with the sites under study. Coining the results of the study to empirical findings by **Joshi and Palasami** (2011) where the tree said to draw as much as 90 litres of water per day. (*Figure 2*)

*Table 3* reflects that 16.7% of the respondents were the only people who were aware that eucalyptus trees could deplete ground but could be the same people who did not plant trees on water depletion sites. 83.3% of the respondents could have wrongly sited their plantations (*Figure 1*) due to ignorance and could be the group that could have benefited from the outcomes of the study.

TABLE 1: PURPOSE OF PLANTING THE EUCALYPTUS TREE		
PURPOSE	NUMBER	%
Poles and other home uses	7	29.2
Live fence	8	33.3
To drain excess water from own land	3	12.5
To economically utilize idle land	6	25
<b>TOTALS</b>	<b>24</b>	<b>100</b>

TABLE 2: JUSTIFICATION ON THE CHOICE OF PLANTATION SITE		
JUSTIFICATION	NUMBER	%
To make tree benefit from available moisture from wetland	10	41.7
To demarcate own farmland	8	33.3
The only available land for forestry plantation	6	25
<b>TOTALS</b>	<b>24</b>	<b>100</b>



**Figure 1:** Eucalyptus trees were planted as demarcating farm land behind the background and yet closer to the water source which is under threat of quick drying due to high water demand by eucalyptus trees nearby. The farmer even stopped the cropping programme on the land due to water shortage.

*Table 4* shows an 83.4% outweigh of those who felt the trees could remain on wrongly sited lands as long as they served anticipated social and economic roles constituted by 16.7%. The results could mean that, production of other basic crops outweighed benefits obtained from eucalyptus probably because economic benefits of the tree at small scale are not forthcoming.

### IV. Conclusion

The advantages drawn from the study have showcased that; Commercial benefits derived from eucalyptus trees after manufacturing do not matter most at small scale production than what people could

- do without the tree.
- People’s attitudes in the management of the water resource could change for the better.
- People could accept the tree be grown at commercially selected sites other than haphazard planting which tend to threaten underground water resource.
- Up to 90 litres of water discharged by the tree (*JOSHI AND PALANISANI 2011*) in the dry season could be difficult to compensate under dry season conditions where rural people would need water most for watering their vegetable crops therefore its removal serves a lot of water.
- Small farm setups may not



**Figure 2:** Eucalyptus trees above the water pond drew more water from the marshy area increasing the rate at which water is depleted from the pond.

accommodate the production of the tree because once the tree colonises the area, reduction of space for basic	crop production results aggravating famine and thus contributing to high social costs for governments.
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**TABLE 3: AWARENESS OF EUCALYPTUS IMPACT ON GROUND WATER SOURCES**

AWARENESS OF IMPACT	NUMBER	%
Ignorance of tree’s high water demand	8	33.3
Linked water depletion to climate change	8	33.3
Not concerned because the site used was not a threat	4	16.7
Aware but no labour to remove already grown trees	4	16.7
<b>TOTALS</b>	<b>24</b>	<b>100</b>

**TABLE 4: ACTION TO TAKE ON WRONGLY SITED EUCALYPTUS TREE PLANTATIONS**

VIEWS OF FARMERS	NUMBER	%
To get rid of plantations outside one’s field	4	16.7
Concerned with removal but face labour challenges	16	66.7
Support plantation existence to play economic and ecological roles	4	16.7
<b>TOTALS</b>	<b>24</b>	<b>100</b>

In as much as the study has justified the need to discourage people from establishing eucalyptus trees in areas where land size and use might not permit, incorrect handling of the study outcomes might result in;

- Sedimentation of water sources due to complete removal of the tree where it could serve the purpose.
- Disruption of the hydrological cycle in areas which are naturally bare and a bit further from water sources where the tree could serve the purpose.
- Relocating the farmers threatened by depleted water sources in areas they were used to depend on available water could be a bit expensive as there is need to find alternatives like sinking costly boreholes for individual poor rural farmers.
- There are some challenges to convince people to get rid of their small plantations for the good of availing water for the farmer whose farming activities are situated at lower sites of the plantations.

**Acknowledgement**

The author is grateful to the sons Vigil N Gwemende and Redemption M Gwemende for running around on questionnaire distribution.



**Figure 3** shows a water depleted site, slightly behind the background water used to sustain for a longer period in the season before canopy development of the tree species which seemed to have drawn the water that used to seep through the underlying pervious parent rock...

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learning

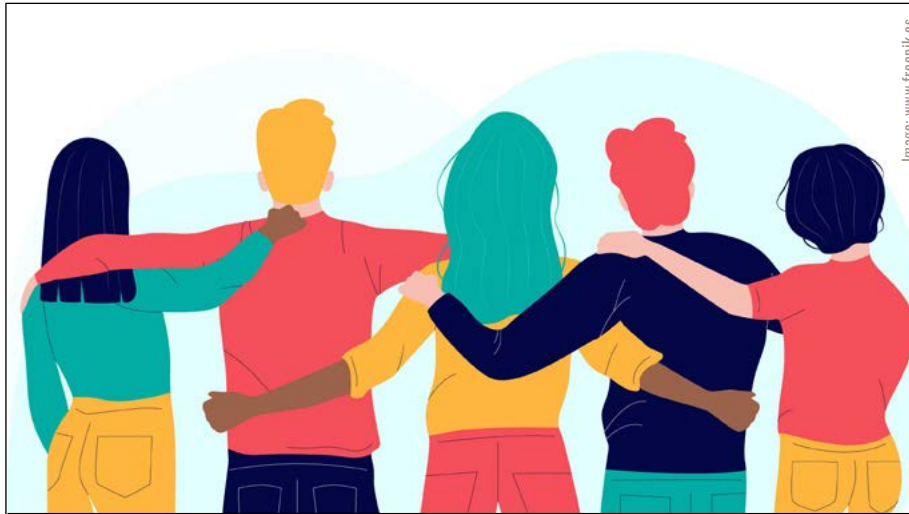


Image: www.freepik.es

# Empathy

Learn the difference between different types.

We generally think of empathy as the capacity to place ourselves in another person’s shoes. However, research has found that it is possible to have several types of empathy, and cognitive empathy and emotional empathy are two primary empathy types.

Cognitive empathy means that you can understand another person’s perspective. It is also referred to as perspective-taking or putting yourself in someone else’s shoes.

In essence, you can imagine what it might be like to be that person in their situation, giving you a better understanding of their experience.

Emotional empathy is when you can feel another person’s emotions. If you’re sitting close to a loved one and they start to cry, for example, you might begin to feel sad too. This

is emotional empathy. What they are experiencing emotionally has an impact on your emotional state.

When we experience emotional empathy, we are moving from the cognitive perspective into a shared emotional experience.

Research indicates that there is a positive correlation between emotional empathy and a willingness to help others. In other words, it is more likely that someone with emotional empathy will be moved to help a person in need.

Compassionate empathy refers to having sympathy or compassion for another person and their circumstances. Some consider this one of the main types of empathy that a person can experience, along with cognitive and emotional ... **Read full text:** <https://www.verywellmind.com/cognitive-and-emotional-empathy-4582389>

# Volcanic supereruption

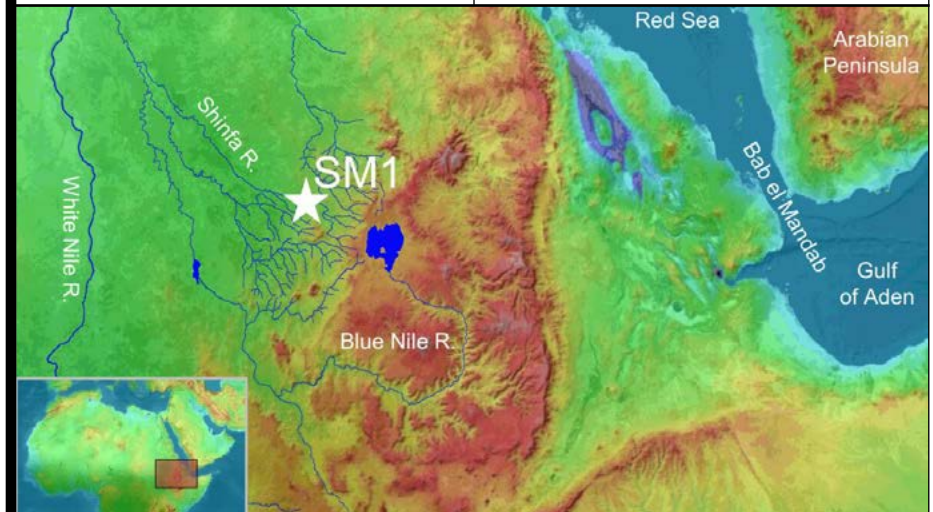
It may have facilitated human dispersal out of Africa.

Researchers working in the Horn of Africa have uncovered evidence showing how Middle Stone Age humans survived in the wake of the eruption of Toba, one of the largest supervolcanoes in history, some 74,000 years ago. The behavioral flexibility of these Middle Stone Age people not only helped them live through the supereruption but may have facilitated the later dispersal of modern humans out of Africa and across the rest of the world.

Modern humans dispersed from Africa multiple times, but the event that led to global expansion occurred less than 100,000 years ago. Some researchers hypothesize that dispersals were restricted to “green corridors” formed during humid intervals when food was abundant and human populations expanded in lockstep with

their environments. But a new study in Nature led by scientists at The University of Texas at Austin suggests that humans also may have dispersed during arid intervals along “blue highways” created by seasonal rivers. Researchers also found stone tools that represent the oldest evidence of archery.

The team investigated the Shinfa-Metema 1 site in the lowlands of present-day northwestern Ethiopia along the Shinfa River, a tributary of the Blue Nile River. Based on isotope geochemistry of the teeth of fossil mammals and ostrich eggshells, they concluded that the site was occupied by humans during a time with long dry seasons on par with some of the most seasonally arid habitats in East Africa today. ... **Read full text:** <https://news.utexas.edu/2024/03/20/surviving-a-volcanic-supereruption-may-have-facilitated-human-dispersal-out-of-africa/>



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Thuban, our once and future North Star.

Image: David Ritter / Wikimedia Commons (CC BY-SA 4.0)

## Polaris

### Good bye Polaris, the Earth will get a new North Star.

If you look up into the clear night sky in the Northern Hemisphere, you will see the star Polaris, more commonly known as the North Star.

Sitting around 1 degree away from the geographic North Pole, Polaris has been used in navigation (of the Northern hemisphere) for centuries. But it hasn't always been our North Star. That title has previously been held by binary star system **Thuban**, which was closer to the geographic North Pole between 3942 and 1793 BCE.

Thuban, named in Ancient Egypt and meaning "head of the serpent", consists of a white giant star 2.8 times as massive as the Sun, with a secondary star thought to be an A-type main-sequence star around 2.6 solar masses.

The reason why it used to be, and one day will again be, our North Star has to do with the Earth's axial precession.

"Forces associated with the rotation of Earth cause the planet to be slightly oblate, displaying a bulge at the equator. The moon's gravity primarily, and to a lesser degree the Sun's gravity, act on Earth's oblateness to move the axis perpendicular to the plane of Earth's orbit," NASA explains. "However, due to gyroscopic action, Earth's poles do not 'right themselves' to a position perpendicular to the orbital plane. Instead, they precess at 90 degrees to the force applied. This precession causes the axis of Earth to ... **Read full text:** <https://www.iflscience.com/so-long-polaris-the-earth-will-get-a-new-north-star-73745>

# Invisibility cloak tech

## 'Mysterious' leafhopper particles could hold key to it.

Leafhoppers, which are found around the world, coat themselves in particles known as brochosomes. The study by researchers at Penn State replicated the complex geometry of the particles, and studied how they absorb visible and ultraviolet (UV) light.

That understanding could enable the development of bioinspired optical materials with applications ranging from cloaking devices to coatings for more efficient solar energy, said **Tak-Sing Wong**, professor of mechanical and biomedical engineering.

The tiny particles have an unusual geometry with cavities. Their exact purpose was "something of a mystery" since the 1950s, the university announcement said, but in 2017 **Wong** led a research team that created a basic,

synthetic version to better understand their function.

Making them in a lab was a challenge due to the complexity of the particle's geometry, said **Lin Wang**, lead author of the new study. "It has been unclear why the leafhoppers produce particles with such complex structures," he said. "We managed to make these brochosomes using a high-tech 3D printing method in the lab. We found that these lab-made particles can reduce light reflection by up to 94%."

The researchers found that the size of the holes in the brochosome is extremely important. The size is consistent across leafhopper species, no matter the size of the insect's body. ... **Read full text:** <https://www.imeche.org/news/news-article/mysterious-leafhopper-particles-could-hold-key-to-invisibility-cloak-tech>

Football-like brochosome particles, produced by leafhoppers.

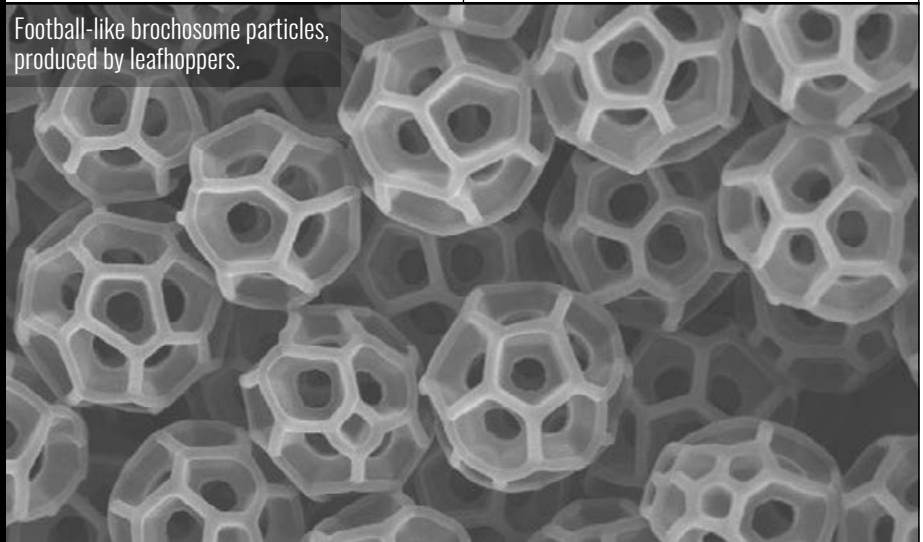


Image: Lin Wang and Tak-Sing Wong / Penn State

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## Musicians

### Fighting AI for fair wages.

Last week, nonprofit musician advocacy group *Artist Rights Alliance* posted an open letter on *Medium* pleading with AI companies to not use the technology to devalue their music.

“Unchecked, AI will set in motion a race to the bottom that will degrade the value of our work and prevent us from being fairly compensated for it,” says the letter. It’s signed by over 200 big hitters in the music industry, including **Billie Eilish, Smokey Robinson, Kacey Musgraves, Elvis Costello, Katy Perry,** and even the estate of **Frank Sinatra**, whose voice has been a ubiquity in the “AI generated covers” trend.

Universal Music Group also took a swing against AI earlier this year when it pulled its entire catalog off of TikTok. UMG’s open letter touted similar themes, explaining how the platform is allowing AI-generated content to “massively dilute the royalty pool for human artists, in a move that is nothing short of sponsoring artist replacement by AI.” ...

As the music industry scrambles to find solutions, OpenAI just announced a tool that can create a replica of a human voice. **Read full text:** <https://blog.medium.com/how-musicians-are-fighting-ai-for-fair-wages-c0c7bb7423e0>

# Polycarbonate

## Eco-friendly solutions in Design and Architecture

Established in 2006, *Polypiu* is a family business dedicated to innovation in the construction industry for over four decades. The company engages closely with designers and installers of skylights and industrial coverings, dedicating comprehensive resources towards practical, effective solutions.

They utilize polycarbonate, an adaptable material perfect for various uses. Polycarbonate is a sophisticated polymer, consisting of numerous molecular groups linked in a chain through repeated covalent bonds. Specifically, polycarbonate is produced from carbonic acid and a chemical group from Bisphenol. There are compact and multiwall variants of polycarbonates. Within interior design, polycarbonate facilitates the partitioning of spaces without resorting to construction. Additionally, it allows

for the customization of panels through coloring and/or decorating. ...

“Polycarbonate honeycomb systems are innovative modular structures designed for various applications including industrial glazing and windows. These systems are designed to be cost-effective with high light transmission, good thermal insulation properties, and an attractive aesthetic finish without the need for connection profiles. They are complemented by framing profiles and finishing accessories to meet diverse construction needs.

These structures are used in diverse construction contexts, including industrial windows and glazing, curtain walls, roofs, and modular systems for both commercial and civil projects. ... **Read full text:** <https://designwanted.com/polypiu-eco-friendly-polycarbonate-enhance/>



### Personalized accessibility

To avoid bad design in general, and even more so when it comes to people living with disabilities, it is critical to recruit a representative group of the people you want to design for. And, in fact, not design for them but design with them. This is the best and fastest way to check if you are on the right track.

It takes a two-minute discussion with even a small group of people living with accessibility needs to understand that one-size-fits-all does not work. There are too many different and complex conditions and challenges to cover.

Investing massively to find the perfect product that works for everyone and then mass-producing it could take an eternity and might never work. So why not embrace the ever-improving possibilities offered by online customization, 3D printing or other emerging technologies? ...

**Read full text:** <https://www.dezeen.com/2023/09/27/accessible-designs-luc-speisser-landor-and-fitch-opinion/>



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Image: www.freepik.es

## Seasonal allergies

May be getting worse because of climate change.

Every spring, people start flocking to **Neelima Tummala's** ear, nose and throat clinic. They seek remedies for sinus infections, a scratchy throat and other pollen-induced allergy symptoms. And over the past several years, many have complained that their hay fever symptoms are worsening and lasting many weeks longer than they used to. The likely culprit, **Tummala** says, is climate change.

As fossil-fuel burning continues to flood the atmosphere with carbon dioxide and other greenhouse gases, driving up average global temperatures, the planet's seasons are also shifting. ... With toasty temperatures dominating more of the year, pollen and other seasonal allergens can flourish, exacerbating symptoms for the 26% of adults and

19% of children in the US who experience them. "The prevalence of allergic rhinitis has increased each year over the past decades," says **Tummala**, who practices in the Division of Otolaryngology at the George Washington School of Medicine and Health Sciences ...

Climate change could be altering US pollen patterns by lengthening the country's "frost-free" season, the period between the final 32°F reading of the year in the spring and the first 32°F reading in the fall. During this time, plants are able to produce blossoms and sprouts without risk of frost damage and can welcome honeybees and other pollinators to collect nectar and distribute pollen. ... **Read full text:** <https://www.scientificamerican.com/article/why-climate-change-may-be-worsening-your-seasonal-allergies/#:~:text=This%20largely%20has%20to%20do,energy%20in%20producing%20more%20pollen.>

## Emotions

How the brain regulates them.

Researchers at Dartmouth have led a study that looks into how the brain regulates emotions. Published in *Nature Neuroscience*, this study shows the intricate mechanisms behind our emotional responses and how we manage them.

Lead author **Ke Bo**, a postdoctoral researcher at Dartmouth's Cognitive and Affective Neuroscience Lab, explains the excitement of uncovering brain regions solely dedicated to regulating emotions.

These findings offer new insight into the inner workings of our minds and could change clinical applications for mental health treatments. This study suggests targeting specific brain regions for stimulation to enhance regulations.

Researchers used computational methods to analyse participants' brain activity exposed to emotionally charged

images. They discovered distinct areas responsible for emotion regulation, shedding light on how we navigate and cope with negative experiences.

The study shows the role of the anterior prefrontal cortex and other higher-level cortical regions in emotion regulation. These brain regions, involved in abstract thinking and long-term planning, play a vital role in reframing our perceptions of challenging situations.

The study also explores the influence of neurotransmitters like dopamine, serotonin, and cannabinoids on emotion regulation. These chemicals, which shape neural communication, were found to interact with the brain's emotion regulation systems. ...

Source: <https://www.openaccessgovernment.org>

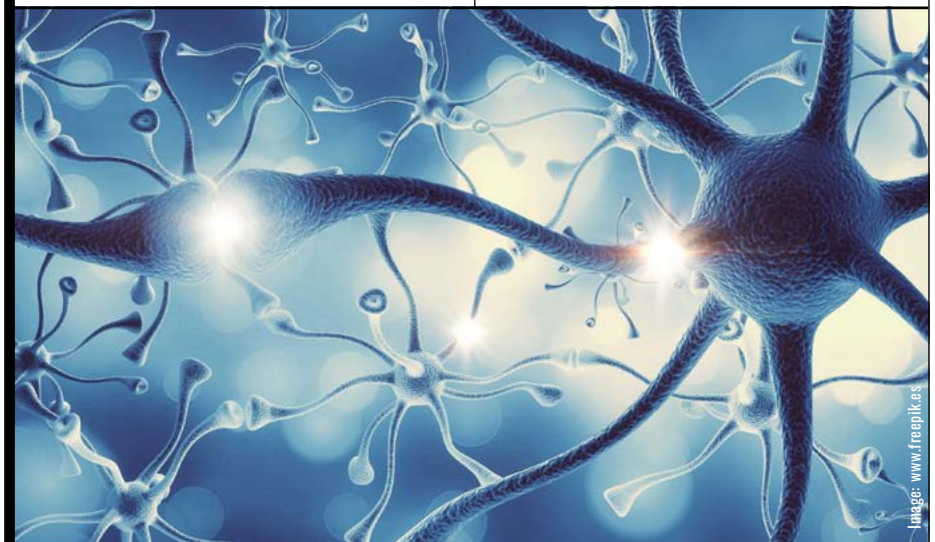


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Women carry a bag of sorghum during a food distribution in Mangwe district in southwestern Zimbabwe, March, 22, 2024.



## Drought crisis

### Zimbabwe declares state of disaster.

Zimbabwe declared a state of disaster April 3, over a devastating drought that’s sweeping across much of southern Africa. The country’s president declared it needs \$2 billion for humanitarian assistance. “Due to the El Niño–induced drought ... more than 80% of our country received below normal rainfall,” President **Emmerson Mnangagwa** said in a speech calling for international aid. The country’s top priority, he said, is “securing food for all Zimbabweans. No Zimbabwean must succumb to, or die from hunger.” He appealed to United Nations agencies, local businesses, and faith organizations to contribute towards humanitarian assistance.

El Niño, a naturally occurring climatic phenomenon that warms parts

of the Pacific Ocean every two to seven years, has varied effects on the world’s weather. In southern Africa, it typically causes below–average rainfall, but this year has seen the worst drought in decades. In Zimbabwe, the United Nations’ World Food Program has already rolled out a food assistance program targeting approximately 2.7 million people, nearly 20% of the country’s population, from January to March.

Zimbabwe, once a regional agricultural powerhouse and grain exporter, has in recent years relied more and more on aid agencies to avert mass hunger due to extreme weather conditions such as heat waves and floods. ...

**Read full text:** [https://www.lemonde.fr/en/le-monde-africa/article/2024/04/04/zimbabwe-declares-state-of-disaster-to-tackle-the-prolonged-drought-crisis\\_6667313\\_124.html](https://www.lemonde.fr/en/le-monde-africa/article/2024/04/04/zimbabwe-declares-state-of-disaster-to-tackle-the-prolonged-drought-crisis_6667313_124.html)

# Madagascar

## Rio Tinto’s mine promised prosperity. It tainted a community.

Bloated and distorted carcasses shimmered on the surface of Lake Ambavarano in southeastern Madagascar. Forty-year-old fisherman **Olivier Randimbisoa** lost count as they floated by. “I’d never seen anything like this” he said. ... As **Randimbisoa** paddled around in his canoe, he recognized the species and called them by their local names. Overnight, the fish he made his living from, the fish that supported the entire lakeside community, were nearly gone.

“It was scary, because we have been eating fish from this lake for so long, and now it’s polluted,” said **Randimbisoa**. “We have told our families not to go to the lake.” He has a theory about what killed the fish. “It’s dirty water from the factory of QMM,” he said.

Lake Ambavarano is connected to two other lakes —Besaroy and Lanirano— through a series of narrow waterways. The lakes are adjacent to QIT Madagascar Minerals, or QMM: a mine in Madagascar that’s 80% owned by the Anglo–Australian mining and metals behemoth Rio Tinto, and 20% by the government of Madagascar. The mine extracts ilmenite, a major source of titanium dioxide, which is mainly used as a white pigment in products like paints, plastics, and paper. QMM also produces monazite, a mineral that contains highly sought–after rare–earth elements used to produce the magnets in electric vehicles and wind turbines.

... **Read full text:** <https://theintercept.com/2024/04/03/madagascar-rio-tinto-mine-water-contamination/>

General view of the QIT Madagascar Minerals mine in Fort Dauphin, Madagascar, on July 10, 2023.



Image: Patrick Meinhardt for The Intercept

**Eco Fact: Protecting and restoring natural ecosystems, such as old-growth forests, could provide 1/3 of the action needed to avoid the worst impacts of climate change.**

Source: [www.conservation.org](http://www.conservation.org)

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Image: insightcrime.org

## Neglected in the jungle

Inadequate protection for migrants crossing the Darién Gap.

Over half a million people crossed the Darién Gap [a swampy jungle at the Colombia–Panama border] in 2023, often heading to the United States. During their journey through this difficult terrain, Venezuelans, Haitians, and Ecuadorians, as well as people from Asia and Africa, have experienced serious abuses, including sexual violence. Dozens, if not hundreds, have lost their lives or gone missing trying to cross. Many have never been found.

Human Rights Watch (HRW) visited the Darién Gap four times between April 2022 and June 2023 and interviewed almost 300 people. HRW documented why migrants and asylum seekers flee their own countries and are reluctant to stay in other countries in South America; how criminal groups

abuse and exploit them on the way; and where Colombia’s and Panama’s policies fall short in assisting, protecting, and investigating abuses against them.

This report focuses on Colombia’s and Panama’s responses to migration across their border. It identifies specific shortcomings in their efforts to protect and assist these people—including those at higher risk, such as unaccompanied children—as well as to investigate abuses against them. The report provides concrete recommendations to the governments of Colombia and Panama on how to address these shortcomings and to donor governments, the United Nations and regional bodies, and humanitarian organizations on how to support and cooperate ... **Read full text:**

<https://www.hrw.org/report/2024/04/03/neglected-jungle/inadequate-protection-and-assistance-migrants-and-asylum-seekers>

# We’ve let them down

Hilary Cass on her review of gender identity services.

In the autumn of 2019, leading consultant paediatrician Hilary Cass agreed to conduct a review of international research into puberty blockers for NHS England. She expected it to be a short, straightforward task. ...

Cass’s review is written in a calmly clinical tone but there are moments when her anger about how NHS England has cared for a generation of vulnerable children is barely disguised. Clinicians have become “fearful”. The available evidence is “poor”. Her efforts to conduct a vital and comprehensive study into the outcomes of all 9,000 children and adolescents treated at the Tavistock and Portman gender identity development service (Gids) clinic between 2009 and 2020 were “thwarted”.

Cass knows her recommendations will be hugely controversial and that

some children waiting for treatment will be dismayed by her conclusions but she is adamant that she has young people’s best interests at heart.

“We’ve let them down because the research isn’t good enough and we haven’t got good data,” she said.

The scope of her review is huge; she has set out to review all the available evidence on which gender medicine has been based globally, as well as trying to answer the puzzling question of why the numbers of children seeking referrals to gender clinics in the UK and in other developed countries began an exponential rise in around 2014, and why so many more girls began seeking treatment. (In 2011–12 there were just under 250 referrals ... **Read full text:** <https://amp.theguardian.com/society/2024/apr/10/children-are-being-used-as-a-football-hilary-cass-on-her-review-of-gender-identity-services>

Find the report here: <https://cass.independent-review.uk/home/publications/final-report/>



Image: Yui Mok / PA

Fox cubs venture out from their den under a popular boardwalk alongside Lake Ontario, in Toronto, Canada April 22, 2020.



Image: Carlos Osorio / Reuters

# ‘Anthropause’

Huge wildlife study probes its nuances.

In the early days of the pandemic, the Internet was rife with tales of nature reclaiming the world as humans were confined to their homes. ... But it turns out this quieting of the human presence on the planet —the “anthropause” as scientists called it— didn’t just turn into a coming-out party for wildlife. Different types of animals reacted very differently, according to research published this month. Some animals proved relatively unfazed, while others shifted their behavior significantly as nearby human activity waxed and waned. ...

To capitalize on the moment, a group of scientists contacted researchers who were using motion-triggered cameras to monitor mammal movements both before and during the lockdowns. The

observations covered everything from hulking polar bears to diminutive cottontail rabbits. Most came from North America and Europe, though a smattering of studies originated in Latin America, Africa and Asia. ... In forests, meadows and other less-developed areas, animals generally moved around less when humans were more active (like the other animals, human movements were gauged by how often they were captured by the cameras). The mammals’ appearance in photos fell by 6% as human activity rose, the scientists reported in *Nature Ecology & Evolution*. The effect was greatest for carnivores such as wolverines, wolves and cougars. ... **Read full text:** <https://www.anthropocenemagazine.org/2024/03/huge-wildlife-study-probes-the-nuances-of-the-anthropause-created-by-the-covid-pandemic/>

# Earth/Percent

Unleashing the power of music in service of the planet.

Musicians including **Brian Eno** are to name the Earth as a co-writer of their music, in order to divert a portion of their royalties towards environmental activism.

Described as “a poetic construct ... a beautiful idea” by **Eno**, the likes of **Dave** and **Stormzy** producer **Fraser T Smith** and multiple Grammy winner **Jacob Collier** will add the Earth to the credits of a forthcoming song or composition. A royalties percentage of their choice will be given in perpetuity to **EarthPercent**, a charity of which **Eno** is a founder and trustee, that raises money from the music industry to fund environmental activism.

**Smith** hailed it as “a brilliant initiative ... adding the Earth as a beneficiary on projects is not only a choice but a necessity”. **Rostam Batmanglij**,

formerly of **Vampire Weekend** and now an acclaimed solo artist, hailed the scheme as “an intelligent use of the income our intellectual property generates”.

Other musicians joining the scheme include **Anna Calvi**, **Mount Kimbie**, **Erland Cooper** and **Aurora**. **Aurora** said: “I am currently writing my next album—it’s an album about interconnectedness and the art of coexistence. There is no greater teacher than Mother Earth. There is no greater home, or provider. There is no better place than Earth. And that is why I want to make this whole album with Mother Earth as a co-writer, because without her there wouldn’t be any such thing as music.”

... **Read full text:** <https://www.theguardian.com/music/2023/mar/02/and-on-drums-earth-musicians-to-credit-planet-as-collaborator-to-raise-funds-for-activism>

‘A beautiful idea’ ... Anna Calvi, Brian Eno and Jacob Collier.



Composite: Redferns/ Cecily Eno/Shutterstock

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# The cost of Indonesia's brand new city



An aerial view of the construction of a multistorey building in Indonesia's new capital city, Nusantara.

Image: Anadolju / Getty Images

In eastern Borneo, beyond the thick jungle forests, an epic building project is under way. Giant trucks, cement mixers and diggers lumber along battered roads. Cranes tower overhead. Yellow dust clouds the air, caking everything in reach: the leaves of eucalyptus trees, the sides of passing vehicles and the homes of nearby residents. This site —a 2,560 sq km [.39 sq miles] area encompassing industrial plantations, mines, Indigenous communities and

agricultural land— is to form Nusantara, Indonesia's new administrative capital. The decision to move the country's capital to a new site was taken because Jakarta is rapidly sinking. In a single year, some areas of the capital subside by as much as 11 cm [.39 in], a problem driven by excessive groundwater extraction and rapid urban development. On top of this, the climate crisis is making storm surges and extreme weather more likely, and causing sea

levels to rise. By 2050, about 25% of the capital could be submerged if there is no effective action, according to a study by the government's National Research and Innovation Agency. Nusantara's location, in the province of East Kalimantan, means the new capital will be at the centre of Indonesia's archipelago of 17,000 islands, to help spread power and wealth more evenly across the country. The development is

welcomed by many in the wider province, who hope it will bring investment and better infrastructure. Officials promise the capital will be a modern, sustainable forest city that coexists with nature and is carbon neutral by 2045.

Others are less convinced that a new capital is an effective solution to Jakarta's subsidence, or the best way to decentralise wealth —and it is seen by many as an attempt by the outgoing president, **Joko Widodo**, to create a grand legacy. The presidential palace —to be shaped like the country's emblem, the mythological bird Garuda— is due to be inaugurated in August.

However, critics say the development is too ambitious and rushed. They also warn it could come with high costs, not only to the state —which will fund 20% of the \$32bn bill— but also to the surrounding environment and local Indigenous communities.

Construction started in July 2022, and by 2045 the area is expected to be home to 1.9 million people —more than twice the current population of Balikpapan, the nearest city.

“Nusantara is changing the shape of everything,”

says **Pandi**, a member of the Indigenous Balik community. His family has lived in the area, and depended on nature, for seven generations. He has already witnessed the damage brought by industrialisation over the decades, as areas have been deforested to make way for plantations.

“You can see how the plantation company changed the shape of the hill above us now —it made this area prone to flooding in the rainy season,” **Pandi** says, sitting in the front room of his house, which is built on stilts to avoid intruding waters. The impact of Nusantara, which is far greater in scale, will be worse, he says.

Already, development has affected the local environment and Balik traditions. A dam has been built nearby, **Pandi** says, which has altered the flow of water at the nearby river that the local population uses for transportation, as well as fishing and picking nipa leaves. A sacred stone, where his community leaves offerings, has been removed. Graves belonging to Indigenous people have been relocated in some areas.

Most people in **Pandi's** community do not have the

papers to prove land ownership, or the resources to fight a legal battle in court.

In November last year, 33-year-old **Yati Dalia** returned home to find a notice plastered to the wall. It ordered her to vacate her home within two weeks. She has lost the house, as well as the small adjoining shop she ran. Her siblings lost their farmland. “It makes us feel so far away from the area and from our families,” says **Yati**, of members of the Balikpapan Indigenous community who have been forced out.

She has been promised 150m rupiah (£7,500) in compensation, but this is yet to materialise, and it is unlikely to cover the cost of another home nearby, she says; land has become more expensive since the development began.

**Myrna Asnawati Safitri**, the Nusantara authority’s deputy for environment and natural resources, says regulation is being finalised that will recognise areas of historical significance to local communities. Issues such as land disputes are long-running and complex, she says, and until recently were the responsibility only of the East Kalimantan provincial government, which is a separate entity.

The scale of Nusantara — and its huge need for water,

energy and infrastructure— means that its impact will be felt far beyond the core of the city, where government buildings and offices will eventually stand, through to outer rings of the development and beyond. On an island known as the “lungs of the world”, which is home to some of the most endangered species, this makes planning decisions especially sensitive.

**Lamale** has spent more than two decades restoring stretches of mangrove trees that line the serene waters near his home in Mentawir. The trees were previously destroyed to make way for prawn and fish farms, and to build harbours.

His area has been selected as an eco-tourism location in the outer ring of the capital, and so is not at risk of demolition. But a section —about 15 by 2 km [9.32 by 1.24 mi]— of mangrove has fallen victim to the construction of electricity lines, **Lamale** says, and there’s now a plan to build a toll road that will cut through the area.

It is still not clear how much would be removed. “We can imagine how the mangrove will be affected,” says **Lamale**. “I hope the development will be as minimal as possible.” So far, in total, 1,700 hectares [42,000 acres] of mangrove have been cut down, says **Mappaselle**, a

director with the local environment group **Pokja Pesisir**. He worries that the entire stretch of the estimated 12,000 hectares [29,600 acres] of mangrove that lines Balikpapan Bay is vulnerable.

“The more mangrove is cut down, the greater the catastrophe,” **Mappaselle** says. Destroying mangrove could increase sedimentation in the bay, which sticks to the gills of some fish species, smothers their eggs and damages the coral. It also clouds the water, preventing the seagrass from photosynthesising. When seagrass is gone, there’s nothing for the dugong —a marine mammal, sometimes known as a sea cow— to eat.

Such changes could also leave the local fishing communities with no choice but to leave. “The easiest way to push the fishermen out of the area is to damage their three essential parts of the sea: to destroy the mangrove, the seagrass and the coral. There will be no fish there that can be caught by the fishermen,” says **Mappaselle**.

Nusantara authorities say that mangrove within the city’s perimeters is protected. However, areas outside are not, and, regardless, enforcement is a challenge. It is also unclear how the critically endangered local population

of Irrawaddy dolphins will be affected in the long term by the project, which has seen an increase in ship traffic.

Some fear that, in an effort to attract private investment — to fund 80% of the development— environmental standards could be weakened. Environmental groups have long warned of companies operating in the area with little oversight.

**Sulfikar Amir**, an associate professor at Nanyang Technological University in Singapore, was a spokesperson for the opposition presidential candidate **Anies Baswedan** in last month’s elections. He says it does not appear to be an attractive offer for investors, pointing to a similar project, Forest City in Johor,

Malaysia, which was backed by Chinese funding. “It has become a ghost city and it’s only 20 minutes from Singapore,” he says.

Foreign investment for the development has been slow to arrive. The president, **Joko Widodo**, widely known as **Jokowi**, said in November last year that the project had received a lot of interest from potential investors, but had yet to draw in foreign funding.

Back in **Pandi**’s stilted house, he expresses fears his village will be demolished to make way for a water management facility. He cannot comprehend leaving. “My parents’ graveyard is near this house,” he says. “If I must go, I must abandon my tradition, my ancestors’ legacy —and all of the memories here.”

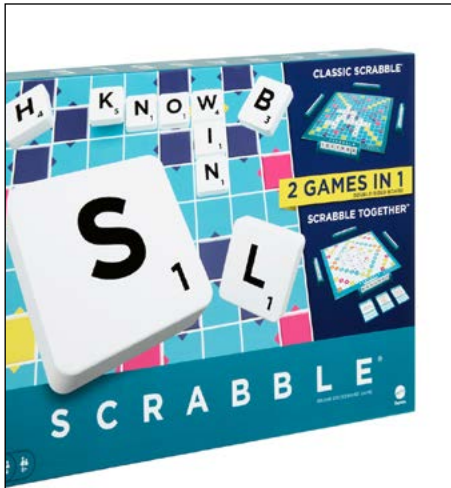


Lamale’s area has been selected as an eco-tourism location in the outer ring of the capital, and so is not at risk of demolition.

Image: Fu ad Muhammad / The Observer

Read full text by **Rebecca Ratcliffe** and **Richaldo Hariandja**: <https://www.theguardian.com/environment/2024/apr/01/indonesia-balikpapan-bay-borneo-nusantara>

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# Say what?

“Of course I talk to myself. Sometimes I need expert advice.”

Source: 100 Funny sayings that are definitely worth memorizing. [www.rd.com](http://www.rd.com)

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“Sometimes, suffering is just suffering. It doesn’t make you stronger. It doesn’t build character. It only hurts.”

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BACHELOR'S DEGREE

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AIU staff working in conjunction with Faculty and Academic Advisors will assist students in setting up a custom-made program, designed on an individual basis. This flexibility to meet student needs is seldom found in other distance learning programs. Our online program does not require all students to take the same subjects/courses, use the same books, or learning materials. Instead, the online Bachelor of Transportation Management and Logistics curriculum is designed individually by the student and academic advisor. It specifically addresses strengths and weaknesses with respect to market

opportunities in the student's major and intended field of work. Understanding that industry and geographic factors should influence the content of the curriculum instead of a standardized one-fits-all design is the hallmark of AIU's unique approach to adult education. This philosophy addresses the dynamic and constantly changing environment of working professionals by helping adult students in reaching their professional and personal goals within the scope of the degree program.

**IMPORTANT:** Below is an example of the topics or areas you may develop and work on during your studies. By no means is it a complete or required list as AIU programs do not follow a standardized curriculum. It is meant solely as a reference point and example. Want to learn more about the curriculum design at AIU? Go ahead and visit our website, especially the Course and Curriculum section: <https://www.aiu.edu/academic-freedom-and-open-curriculum/>

**Orientation Courses:**

- Communication & Investigation (Comprehensive Resume)
- Organization Theory (Portfolio)
- Experiential Learning (Autobiography)
- Academic Evaluation (Questionnaire)
- Fundament of Knowledge (Integration Chart)
- Fundamental Principles I (Philosophy of Education)

- Professional Evaluation (Self Evaluation Matrix)
- Development of Graduate Study (Guarantee of an Academic Degree)

**Core Courses and Topics**

- Distribution Channels
- Air Transportation
- Logistics Technologies & Procedures
- Transportation Law
- Global Supply Chain
- Financial Evaluation
- Accounting Principles
- Industrial/Consumer Sales
- Global Trade Intermediaries
- Management Information Systems
- Public Policy
- Hazardous Material Transportation

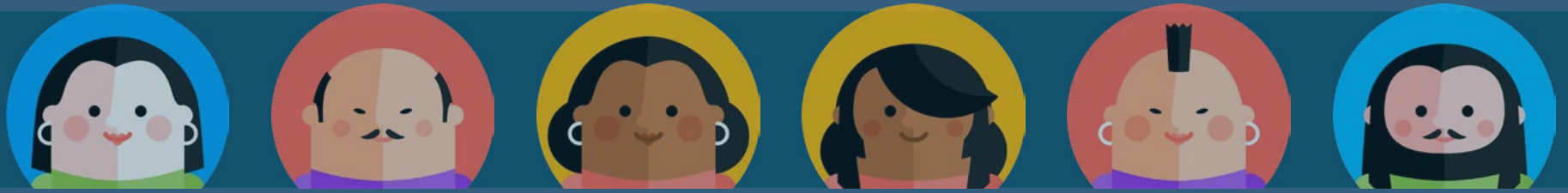
**Research Project**

- Bachelor Thesis Project
- MBM300 Thesis Proposal
- MBM302 Bachelor Thesis (5,000 words)

**Publication.** Each graduate is encouraged to publish their research papers either online in the public domain or through professional journals and periodicals worldwide.

**CONTACT US TO GET STARTED**

Submit your **Online Application**, paste your resume and any additional comments/questions in the area provided. [aiu.edu/apply-online.html](http://aiu.edu/apply-online.html)  
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 800-993-0066 (Toll Free in US)  
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about us

**Atlantic International University** offers distance learning degree programs for adult learners at bachelors, masters, and doctoral level. With self paced program taken online, **AIU** lifts the obstacles that keep professional adults from completing their educational goals. Programs are available throughout a wide range of majors and areas of study. All of this with a philosophical-holistic approach towards education fitting within the balance of your life and acknowledging the key role each individual can play in their community, country, and the world.

### Accreditation



**Atlantic International University** is accredited by the Accreditation Service for International Schools, Colleges and Universities (ASIC). ASIC Accreditation is an internationally renowned quality standard for colleges and universities. Visit ASIC's Directory of Accredited Colleges and Universities. ASIC is a member of CHEA International Quality Group (CIQG) in the USA, an approved accreditation body by the Ministerial Department of the Home Office in the UK, and is listed in the International Directory of the Council for Higher Education Accreditation (CHEA). The University is based in the United States and was established by corporate charter in 1998.

Our founding principles are based on the United Nations Universal Declaration of Human Rights; per article 26, **AIU** believes that Higher Education is a Human Right. The University has implemented a paradigm shifting educational model for its academic programs that have allowed it to move closer to this goal through the self-empowerment of its students, decentralization of the learning process, personalized open curriculum design, a sustainable learning model, developing 11 core elements of the Human Condition within **MYAIU**, and utilizing the quasi-infinite knowledge through the use of information technology combined with our own capacity to find solutions to all types of global issues, dynamic problems, and those of individuals and multidisciplinary teams. Due to these differentiations and the university's mission, only a reputable accrediting agency with the vision and plasticity to integrate and adapt its processes around **AIU**'s proven and successful innovative programs could be selected. Unfortunately, the vast majority of accrediting agencies adhere to and follow obsolete processes and requirements that have outlived their usefulness and are in direct conflict with the university's mission of offering a unique, dynamic, affordable, quality higher education to the non-traditional student (one who must work, study what he really needs for professional advancement, attend family issues, etc.).

We believe that adopting outdated requirements and processes would impose increased financial burdens on students while severely limiting their opportunities to earn their degree and advance in all aspects. Thus, in selecting the ASIC as its accrediting agency, **AIU** ensured that its unique programs would not be transformed into a copy or clone of those offered by

the 10,000+ colleges and universities around the world. Since ASIC is an international accrediting agency based outside the United States, we are required by statute HRS446E to place the following disclaimer: ATLANTIC INTERNATIONAL UNIVERSITY IS NOT ACCREDITED BY AN ACCREDITING AGENCY RECOGNIZED BY THE UNITED STATES SECRETARY OF EDUCATION. Note: In the United States and abroad, many licensing authorities require accredited degrees as the basis for eligibility for licensing. In some cases, accredited colleges may not accept for transfer courses and degrees completed at unaccredited colleges, and some employers may require an accredited degree as a basis for eligibility for employment. Potential students should consider how the above may affect their interests, **AIU** respects the unique rules and regulations of each country and does not seek to influence the respective authorities. In the event that a prospective student wishes to carry out any government review or process in regards to his university degree, we recommend that the requirements of such are explored in detail with the relevant authorities by the prospective student as the university does not intervene in such processes.

**AIU** students can be found in over 180 countries, they actively participate and volunteer in their communities as part of their academic program and have allocated thousands of service hours to diverse causes and initiatives. **AIU** programs follow the standards commonly used by colleges and universities in the United States with regards to the following: academic program structure, degree issued, transcript, and other graduation documents.

**AIU** graduation documents can include an apostille and authentication from the US Department of State to facilitate their use internationally.



### The AIU Difference

It is acknowledged that the act of learning is endogenous, (from within), rather than exogenous. This fact is the underlying rationale for "Distance Learning", in all of the programs offered by **AIU**. The combination of the underlying principles of student "self instruction", (with guidance), collaborative development of curriculum unique to each student, and flexibility of time and place of study, provides the ideal learning environment to satisfy individual needs. **AIU** is an institution of experiential learning and nontraditional education at a distance. There are no classrooms and attendance is not required.

### Mission & Vision

**MISSION:** To be a higher learning institution concerned about generating cultural development alternatives likely to be sustained in order to lead to a more efficient administration of the world village and its environment; exerting human and community rights through diversity with the ultimate goal of the satisfaction and evolution of the world. **VISION:** The empowerment of the individual towards the convergence of the world through a sustainable educational design based on andragogy and omniology.

### Organizational Structure

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<b>Dr. Miriam Garibaldi</b> VICEPROVOST FOR RESEARCH	<b>Carlos Aponte</b> TELECOMMUNICATIONS COORDINATOR	<b>ADMISSIONS COORDINATORS:</b> <b>Amalia Aldrett</b> <b>Sandra Garcia</b> <b>Junko Shimizu</b> <b>Veronica Amuz</b> <b>Alba Ochoa</b> <b>Jenis Garcia</b> <b>Judith Brown</b> <b>Chris Soto</b> <b>René Córdón</b>
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<b>Kevin Moll</b> WEB DESIGNER FRONT-END DEVELOPER	<b>Chris Benjamin</b> IT AND HOSTING SUPPORT	
<b>Daritzza Ysla</b> ACCOUNTING COORDINATOR	<b>Marel Pastrana</b> ACCOUNTING COORDINATOR	
<b>Nadeem Awan</b> CHIEF PROGRAMMING OFFICER	<b>Roberto Aldrett</b> COMMUNICATIONS COORDINATOR	
<b>Dr. Edward Lambert</b> ACADEMIC DIRECTOR	<b>Giovanni Castillo</b> IT SUPPORT	<b>ACADEMIC COORDINATORS:</b> <b>Dr. Adesida Oluwafemi</b> <b>Dr. Emmanuel Gbagu</b> <b>Dr. Lucia Gorea</b> <b>Dr. Edgar Colon</b> <b>Dr. Freddy Frejus</b> <b>Dr. Nilani Ljunggren</b> <b>De Silva</b> <b>Dr. Scott Wilson</b> <b>Dr. Mohammad Shaidul</b> <b>Islam</b> <b>Dr. Betsy Marvel</b> <b>Dr. Antonio Garibaldi</b>
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<b>Leonardo Salas</b> HUMAN RESOURCE MANAGER	<b>Jaime Rotlewicz</b> DEAN OF ADMISSIONS	
<b>Benjamin Joseph</b> IT AND TECHNOLOGY SUPPORT	<b>Michael Phillips</b> REGISTRAR'S OFFICE	
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**FACULTY AND STAFF PAGE:**  
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School of Business and Economics



**THE SCHOOL OF BUSINESS AND ECONOMICS** allows aspiring and practicing professionals, managers, and entrepreneurs in the private and public sectors to complete a self paced distance learning degree program of the highest academic standard.

The ultimate goal is to empower learners and help them take advantage of the enormous array of resources from the world environment in order to eliminate the current continuum of poverty and limitations.

Degree programs are designed for those students whose professional experience has been in business, marketing, administration,

economics, finance and management.

**Areas of study:** Accounting, Advertising, Banking, Business Administration, Communications, Ecommerce, Finance, Foreign Affairs, Home Economics, Human Resources, International Business, International Finance, Investing, Globalization, Marketing, Management, Macroeconomics, Microeconomics, Public Administrations, Sustainable Development, Public Relations, Telecommunications, Tourism, Trade.

School of Social and Human Studies



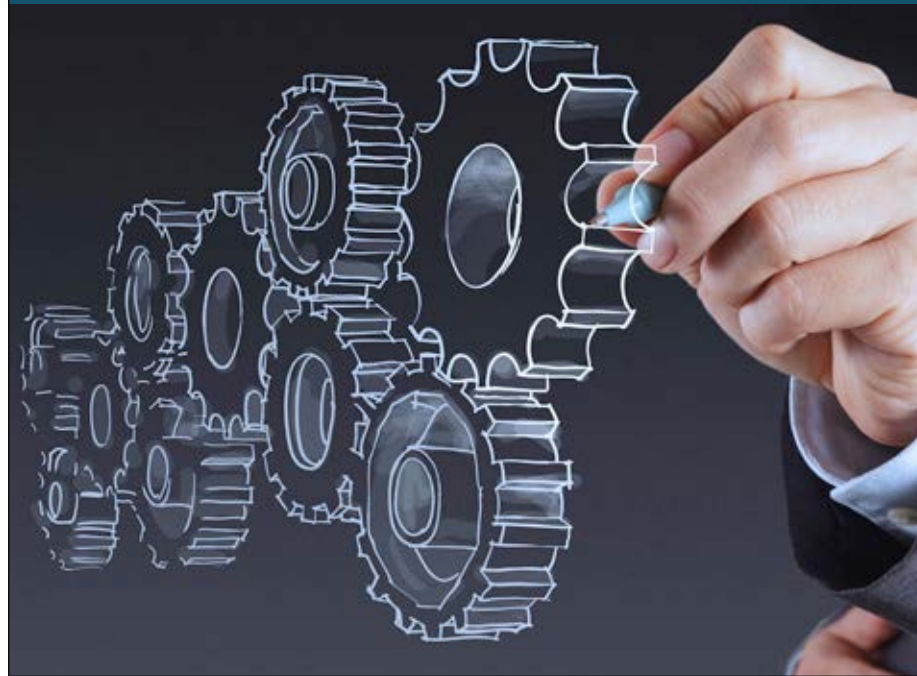
**THE SCHOOL OF SOCIAL AND HUMAN STUDIES** is focused on to the development of studies which instill a core commitment to building a society based on social and economic justice and enhancing opportunities for human well being.

The founding principles lie on the basic right of education as outlined in the Declaration of Human Rights. We instill in our students a sense of confidence and self reliance in their ability to access the vast opportunities available through information channels, the world wide web, private, public, nonprofit, and nongovernmental organizations in an ever expanding global community.

Degree programs are aimed towards those whose professional life has been related to social and human behavior, with the arts, or with cultural studies.

**Areas of Study:** Psychology, International Affairs, Sociology, Political Sciences, Architecture, Legal Studies, Public Administration, Literature and languages, Art History, Ministry, African Studies, Middle Eastern Studies, Asian Studies, European Studies, Islamic Studies, Religious Studies.

## School of Science and Engineering



**THE SCHOOL OF SCIENCE AND ENGINEERING** seeks to provide dynamic, integrated, and challenging degree programs designed for those whose experience is in industrial research, scientific production, engineering and the general sciences. Our system for research and education will keep us apace with the twenty-first century reach scientific advance in an environmentally and ecologically responsible manner to allow for the sustainability of the human population. We will foster among our students a demand for ethical behavior, an appreciation for diversity, an understanding of scientific investigation, knowledge of design innovation, a

critical appreciation for the importance of technology and technological change for the advancement of humanity.

**Areas of Study:** Mechanical Engineering, Industrial Engineering, Chemical Engineering, Civil Engineering, Electrical Engineering, Computer Engineering, Physics, Chemistry, Biology, Mathematics, Communications, Petroleum Science, Information Technology, Telecommunications, Nutrition Science, Agricultural Science, Computer Science, Sports Science, Renewable Energy, Geology, Urban Planning.

## Online Library Resources



**WITH ACCESS TO A GLOBAL CATALOG** created and maintained collectively by more than 9,000 participating institutions, **AIU** students have secured excellent research tools for their study programs.

The **AIU** online library contains over 2 billion records and over 300 million bibliographic records that are increasing day by day. The sources spanning thousands of years and virtually all forms of human expression. There are files of all kinds, from antique inscribed stones to e-books, from wax engravings to MP3s, DVDs and websites. In addition to the archives, the library **AIU** Online offers electronic access to more than 149,000 e-books, dozens of databases and more than 13 million full-text articles with pictures included. Being able to access 60 databases and 2393 periodicals with more than 18 million items, guarantees the information required to perform the assigned research project. Users will find that many files are enriched with artistic creations on the covers, indexes, reviews, summaries and other information. The records usually have information attached from important libraries. The user can quickly assess the relevance of the information and decide if it is the right source.

## Education in the 21<sup>st</sup> century

## AIU Service

**AIU** is striving to regain the significance of the concept of education, which is rooted into the Latin “educare”, meaning “to pull out”, breaking loose from the paradigm of most 21<sup>st</sup> century universities with their focus on “digging and placing information” into students’ heads rather than teaching them to think.

For **AIU**, the generation of “clones” that some traditional universities are spreading throughout the real world is one of the most salient reasons for today’s ills. In fact, students trained at those educational institutions never feel a desire to “change the world” or the current status quo; instead, they adjust to the environment, believe everything is fine, and are proud of it all.

**IN A WORLD** where knowledge and mostly information expire just like milk, we must reinvent university as a whole in which each student, as the key player, is **UNIQUE** within an intertwined environment.

This century’s university must generate new knowledge bits although this may entail its separation from both the administrative bureaucracy and the faculty that evolve there as well.

**AIU** thinks that a university should be increasingly integrated into the “real world”, society, the economy, and the holistic human being. As such, it should concentrate on its ultimate goal, which is the student, and get him/her deeply immersed into a daily praxis of paradigm shifts, along with the Internet and research, all these being presently accessible only to a small minority of the world community.

**AIU** students must accomplish their self-learning mission while conceptualizing it as the core of daily life values through the type of experiences that lead to a human being’s progress when information is converted into education.

The entire **AIU** family must think of the university as a setting that values diversity and talent in a way that trains mankind not only for the present but above all for a future that calls everyday for professionals who empower themselves in academic and professional areas highly in demand in our modern society.

We shall not forget that, at **AIU**, students are responsible for discovering their own talents and potential, which they must auto-develop in such a way that the whole finish product opens up as a flower that blossoms every year more openly.

**THE AIU STANCE** is against the idea of the campus as a getaway from day-to-day pressure since we believe reality is the best potential-enhancer ever; one truly learns through thinking, brainstorming ideas, which leads to new solutions, and ultimately the rebirth of a human being fully integrated in a sustainable world environment. Self-learning is actualized more from within than a top-down vantage point, that is to say, to influence instead of requesting, ideas more than power. We need to create a society where solidarity, culture, life, not political or economic rationalism and more than techno structures, are prioritized. In short, the characteristics of **AIU** students and alumni remain independence, creativity, self-confidence, and ability to take risk towards new endeavors. This is about people’s worth based not on what they know but on what they do with what they know.

Read more at: [aiu.edu](http://aiu.edu)

**AIU** offers educational opportunities in the USA to adults from around the world so that they can use their own potential to manage their personal, global cultural development. The foundational axis of our philosophy lies upon self-actualized knowledge and information, with no room for obsolescence, which is embedded into a **DISTANCE LEARNING SYSTEM** based on **ANDRAGOGY** and **OMNIOLOGY**. The ultimate goal of this paradigm is to empower learners and help them take advantage of the enormous array of resources from the world environment in order to eliminate the current continuum of poverty and limitations.

This will become a crude reality with respect for, and practice of, human and community rights through experiences, investigations, practicum work, and/or examinations. Everything takes place in a setting that fosters diversity; with advisors and consultants with doctorate degrees and specializations in Human Development monitor learning processes, in addition to a worldwide web of colleagues and associations, so that they can reach the satisfaction and the progress of humanity with peace and harmony.

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