

# CAMPUS *mundi*

113

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Animal Rights + Artificial Intelligence + About AIU**



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**Campus Mundi**  
MY AIU MAGAZINE  
Year 10, #113  
April 2023  
[www.aiu.edu](http://www.aiu.edu)

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the contents  
of this magazine  
with you  
in mind  
-to inspire you  
and make you  
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in touch

# Graduated with Distinction

**MARCH, 2023.** These graduate students completed their program with a high cumulative grade point average, which reflects the quality of performance within their respective major. **Congratulations!**



**DISTINCTION**

**Eridania Rodriguez Pegueron**

DOCTOR OF EDUCATION  
Education



**DISTINCTION**

**Bruce Raymond Phillips**

DOCTOR OF PHILOSOPHY  
Education



**DISTINCTION**

**Mounir Joudeh**

DOCTOR OF PHILOSOPHY  
Auditing

# Graduated with Honors

**MARCH, 2023.** These graduate students completed the majority of the requirements to obtain honors, which included a 4.0 GPA, published works, recommendation from their respective advisors, patent a product, etc. **Congratulations!**



**CUM LAUDE**

**Tamalee Renea Dwyer**

BACHELOR OF BUSINESS ADMINISTRATION  
Business Administration



**CUM LAUDE**

**Shernel Constancia Mayou**

BACHELOR OF SCIENCE  
Architecture

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



### Call for Papers

This Conference will be held  
7–8 March, 2024  
at The Polytechnic University  
of Valencia, Valencia, Spain.

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

### 2024 Special Focus:

“People, education, and technology for a sustainable future”

**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**  
May 7, 2023

**Advance registration deadline**  
June 7, 2023

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<https://ubi-learn.com>

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# Graduates of the month

## MARCH 2023

**Martin Carvajal Morales**  
BACHELOR OF LEGAL STUDIES  
Juridical Science  
BRAZIL

**Bakiéné Aboubacar Hema**  
BACHELOR OF SCIENCE  
Logistics  
BURKINA FASO

**Phuong Trieu Dang**  
DOCTOR OF SCIENCE  
Mathematics  
CANADA

**Lynda Ijeoma Akhionbare**  
BACHELOR OF BUSINESS ADMINISTRATION  
BUSINESS ADMINISTRATION  
CANADA

**Tran Bao Dang**  
DOCTOR OF SCIENCE  
Computer Science  
CANADA

**Gregorio Deoleo Perez**  
MASTER OF SCIENCE  
Automotive Mechanical Engineering  
DOMINICAN REPUBLIC

**Jose Francisco Valentin Felix**  
BACHELOR OF POLITICAL SCIENCE  
Political Science  
DOMINICAN REPUBLIC

**Eridania Rodriguez Pegueron**  
DOCTOR OF EDUCATION  
Education  
DOMINICAN REPUBLIC

**Mayra Alexandra Cordova Velez**  
MASTER OF SCIENCE  
Nutrition  
ECUADOR

**Miguel Fernando Mora Font**  
BACHELOR OF ECONOMICS  
Economics  
ECUADOR

**Herman Alexander Anaya Regalado**  
BACHELOR OF SCIENCE  
Mechanical Engineering  
EL SALVADOR

**Patricio Bakale Mba Medja**  
DOCTOR OF SPORTS SCIENCE  
Health Science in Sports  
EQUATORIAL GUINEA

**Yilikal Assefa Teferi**  
DOCTOR OF PHILOSOPHY  
Public Health  
ETHIOPIA

**Belle Dollar-Bill**  
MASTER OF ARTS  
Corporate Communication  
GHANA

**Heather Botchway**  
DOCTOR OF SCIENCE  
Education  
GHANA

**Marco Vinicio Fajardo Mazariegos**  
BACHELOR OF SCIENCE  
Information Technology  
GUATEMALA

**Simone Bennett**  
DOCTOR OF PHILOSOPHY  
Human Resources Management  
GUYANA

**Debra Angela Bilal Atu**  
DOCTOR OF EDUCATION  
Special Education  
GUYANA

**Alfredo Benjamin Haces Prudencio**  
DOCTOR OF EDUCATION  
Education  
HONDURAS

**Jose Edgardo Gomez Cardona**  
BACHELOR OF SCIENCE  
Architecture  
HONDURAS

**Idit Klein**  
DOCTOR OF SOCIAL SCIENCE  
Sociology  
ISRAEL

**Arlení Peña Del Orbe**  
BACHELOR OF POLITICAL SCIENCE  
Political Science  
ITALY

**Savana Penola Thompson-Paul**  
MASTER OF ARTS  
Educational Leadership  
JAMAICA

**Tamalee Renea Dwyer**  
BACHELOR OF BUSINESS ADMINISTRATION  
Business Administration  
JAMAICA

**Bartholomew Kamara**  
BACHELOR OF SCIENCE  
Marketing  
KENYA

**Elijah Ithamba Ngili**  
BACHELOR OF SCIENCE  
Agribusiness  
KENYA

**Maxwell Harrison Mataka**  
BACHELOR OF SCIENCE  
Electronics Engineering  
MALAWI

**Marie Rachëlle Cheryle Astruc**  
DOCTOR OF LITERATURE  
French Literature  
MAURITIUS

**Jessica García Cortés**  
MASTER OF BUSINESS ADMINISTRATION  
Business Administration  
MEXICO

This month we have graduates from: Brazil · Burkina Faso · Canada · Dominican Republic · Ecuador · El Salvador · Equatorial Guinea · Ethiopia · Ghana · Guatemala · Guyana · Honduras · Israel · Italy · Jamaica · Kenya · Malawi ·

<p><b>Adriana Zavaleta Nava</b> DOCTOR OF PUBLIC HEALTH Education Administration MEXICO</p> <p><b>Amiakhor Ejaeta Beatrice</b> MASTER OF SCIENCE Accounting NIGERIA</p> <p><b>Aliyu Adamu Tsafe</b> DOCTOR OF SCIENCE Organizational Development NIGERIA</p> <p><b>Michael Owire Avwerhota</b> DOCTOR OF PHILOSOPHY Public Health NIGERIA</p> <p><b>Onyeaboh A. Ekwe</b> DOCTOR OF PHILOSOPHY Public Health NIGERIA</p> <p><b>Emhonyon, Odianoson Monday</b> POST-DOCTORATE OF FINANCE Finance and Accounting NIGERIA</p> <p><b>Onyenma Obioma</b> BACHELOR OF SCIENCE ELECTRICAL ENGINEERING NIGERIA</p> <p><b>Wasiu Ayodeji Jimoh</b> DOCTOR OF ECONOMICS Health Economics NIGERIA</p> <p><b>Vivian Akwuaka</b> DOCTOR OF HEALTHCARE MANAGEMENT Healthcare Management NIGERIA</p> <p><b>Hector Emeka Akwuaka</b> DOCTOR OF PHILOSOPHY Legal Studies NIGERIA</p>	<p><b>Rukayya Muhammad Bawa</b> DOCTOR OF SOCIAL SCIENCE International Relations NIGERIA</p> <p><b>Yahaya Umar Namahe</b> DOCTOR OF PHILOSOPHY Social Work NIGERIA</p> <p><b>Dauda Mohammed Alkali</b> DOCTOR OF PHILOSOPHY Crime and Terrorism Prevention NIGERIA</p> <p><b>Odusami Adebayo Ayobami</b> CERTIFICATE OF MANAGEMENT Hospitality Management NIGERIA</p> <p><b>Carol Melissa Vega</b> DOCTOR OF SOCIAL WORK Forensic Social Work PANAMA</p> <p><b>Elvis Enríquez Ortega Ortega</b> DOCTOR OF MANAGEMENT Project Management PANAMA</p> <p><b>Jilma E. Quiel L.</b> DOCTOR OF COMMUNICATIONS Communications PANAMA</p> <p><b>Fritz Karl Petersen Chauran</b> BACHELOR OF COMMUNICATIONS Communications PARAGUAY</p> <p><b>Luis Alfonso Carrera Fuentes</b> BACHELOR OF BUSINESS ADMINISTRATION Business Administration PERU</p> <p><b>Arwa Saud AlMutairi</b> BACHELOR OF SCIENCE Biotechnology Science SAUDI ARABIA</p>	<p><b>Heidi Miller</b> DOCTOR OF SCIENCE Psychology SOUTH AFRICA</p> <p><b>Bruce Raymond Phillips</b> DOCTOR OF PHILOSOPHY Education SOUTH AFRICA</p> <p><b>Eremencia Mandabva</b> BACHELOR OF HUMAN SCIENCES Human Resources Management SOUTH AFRICA</p> <p><b>Thebe Forster Malatji</b> DOCTOR OF SCIENCE Information Technology and Management SOUTH AFRICA</p> <p><b>Elena Erasmus</b> DOCTOR OF PHILOSOPHY Education SOUTH AFRICA</p> <p><b>Kwumi Sefedin Ibrahim Alamin</b> MASTER OF CONFLICT MANAGEMENT Peace and Development Studies SOUTH SUDAN</p> <p><b>Susana María Merck Castellanos</b> BACHELOR OF BUSINESS ADMINISTRATION Business Administration SPAIN</p> <p><b>Shernel Constancia Mayou Evans</b> BACHELOR OF SCIENCE Architecture ST. KITTS</p> <p><b>Llydion Michaëlangelo Dalfour</b> MASTER OF MANAGEMENT Information Technology and Management SURINAME</p> <p><b>Mehmet Beyaz</b> DOCTOR OF PHILOSOPHY Telecommunications TÜRKİYE</p>	<p><b>Nabaa Al Battawi</b> BACHELOR OF ARTS Interior Design TÜRKİYE</p> <p><b>Ishmael Innocent</b> BACHELOR OF BUSINESS ADMINISTRATION Business Administration TURKS AND CAICOS ISLANDS</p> <p><b>Aamar Shehzad</b> BACHELOR OF SCIENCE Electrical Engineering UNITED ARAB EMIRATES</p> <p><b>Edison Ayim Awa</b> DOCTOR BUSINESS ADMINISTRATION Business Administration UNITED KINGDOM</p> <p><b>Alan Robert Jordan</b> DOCTOR OF THEOLOGY Theology UNITED KINGDOM</p> <p><b>Evelyn Efua Payin</b> DOCTOR OF PHILOSOPHY Nutrition UNITED KINGDOM</p> <p><b>Gabriel Dario Chevalier Garbarino</b> BACHELOR OF SOCIOLOGY Sociology URUGUAY</p> <p><b>Kiersten A Woodward</b> DOCTOR OF SCIENCE Biology USA</p> <p><b>Shugu Ernest Vegah</b> DOCTOR OF PHILOSOPHY Leadership, Peace Building and Holistic Dev. USA</p>	<p><b>Paola Pamela Rojas Candanedo</b> MASTER OF EDUCATION Education USA</p> <p><b>Mounir Joudeh</b> DOCTOR OF PHILOSOPHY Auditing USA</p> <p><b>Edouard Marc Metellus</b> DOCTOR OF ARTS Strategic Development and Diplomacy USA</p> <p><b>Hagos Wondim Afewerki</b> DOCTOR OF SUSTAINABLE DEVELOPMENT Environmental Studies USA</p> <p><b>Lisdanay Campos Santiesteban</b> BACHELOR OF EDUCATION Special Education USA</p> <p><b>Nellie Muyatwa Nyambe</b> DOCTOR OF SCIENCE Renewable Energy ZAMBIA</p> <p><b>Borniface Chilufya</b> BACHELOR OF EDUCATION Education ZAMBIA</p> <p><b>Justin Majakwara</b> DOCTOR OF BUSINESS ADMINISTRATION Business Management ZIMBABWE</p> <p><b>Jospher Chibisa</b> DOCTOR OF BUSINESS MANAGEMENT Business Management ZIMBABWE</p>
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FIND MORE TESTIMONIALS FROM AIU STUDENTS HERE: [www.aiu.edu/Testimonials.aspx](http://www.aiu.edu/Testimonials.aspx)

**Goodness Chinyaka**  
Bachelor of Music Education  
October 17, 2022

“My name is Goodness Chinyaka, an undergraduate student in the prestigious **Atlantic International University**. I completed my last education in 2014, Muson Diploma School of Music, Lagos, Nigeria. I initially planned to study abroad immediately but I had financial restraint.

After many trials I decided to work, I had set up a school of music in 2017, GoodyTunes Music Academy, I got so busy with activities that I thought I could easily forget about studying, I was mistaken. 2019, I knew there was no way I could devote fully to physical full time undergraduate program, there had to be a way out. I asked several friends in Nigeria if they knew of any school offering online music degree with no positive response. ... I'll go online daily hoping to find something useful, fortunately for me in one of my searches, December 2019, I stumbled on **AIU**, could this be the solution to what I have been searching for these years? I asked, called the number available, **Amalia Aldrett**, she was amazing, she lifted my hopes again, realized the school was 100% online ...

**READ TEXT:** <https://www.aiu.edu/testimonials/goodness-chinyaka-bachelor-of-music-education/>



**Ogbor Sylvanus**  
Doctor of Leadership and Change Mgmt.  
October 19, 2022

“I stumbled on the **Atlantic International University** site at a time I was desperately looking for University outside my Country Nigeria. I was challenged in my current work to go for a Doctorate degree because I was facilitating trainings for people in Government Ministries with various Doctorates in their chosen fields.

I was told that my program would span two and half to three years. I promised there and then to accelerate the program for an initial 14 months and agreed on course credit and course outline. My admission Counselor **Sarah Oguntade** was very helpful to streamline the program side by side school fees spread over the period. **AIU** offered me a unique opportunity in several ways: I designed and accelerated my program to fit my schedule. School fees was spread overtime making the program pocket friendly. I was assigned Tutors who kept up with my steps and pace and reverted my assignments sometimes within 24 hours in spite of time zone differences. A well stocked and up-to-date on-line library ...

**READ TEXT:** <https://www.aiu.edu/testimonials/ogbor-sylvanus-doctor-of-leadership-and-change-management/>



**Oswald Sinyangu**  
Master of Mechanical Engineering  
October 27, 2022

“My journey at **Atlantic International University** has been a life changing opportunity in my life. This is of course due to organization's flexibility in delivering education to individuals who have to balance their academic and professional life. ...

As a consulting engineer who has worked without having specific academic qualification in the field of mechanical engineering, the inferiority complex has always hampered my personal progress as I could not use the credentials to stand on my own to be part of bigger projects which require higher academic qualifications. As such, the joy of having acquired this Master's Degree could not have come at the better time than this. The most interesting part of **AIU** is that the student is given an opportunity to choose the courses that best suits their interest and according to the work, community and region and as such students don't study courses which are irrelevant to their line of duty, but courses are tailored to suit one's future actual application. I must confess that this is one of the most difficult parts ...

**READ TEXT:** <https://www.aiu.edu/testimonials/osward-sinyangu-master-of-mechanical-engineering/>



**Abatneh Mnuye Enyew**  
Master of Project Management  
November 8, 2022

“It is a privilege to be an alumnus for a graduation in Masters' Degree in Project Management after completing required academic performance in **Atlantic International University**, and a privilege to be a storyteller about an experience in this great online academic center.

At **AIU**, it was very simple to study my courses online as I have enjoyed the online platform provided as Student Portal, which is designed as simple to use, much interactive, and with comprehensive content in relation to resources and communication sections.

Though, due to time constraints, I did not exploit enough the chances given to me to participate in various Webinars offered by **AIU** through the Student Portal and reading articles such as those of various publications and **Campus Mundi** Magazine, **AIU** offers such chances tremendously which are again valuable sources of knowledge and contributions to communities related to such Webinars. I strongly commend students to give sufficient time for such participations. ...

**READ TEXT:** <https://www.aiu.edu/testimonials/abatneh-mnuye-enyew-master-of-project-management/>

# The communication we need in a global society

Whether we agree or not, we are part of a globalizing society: everything is through digital communication regardless of where we live on the planet. Nowadays, governments and the community dedicated to the production of goods and services, have to join this type of relationship or stay out of the market and communication.

Together with globalization it seems that the way we communicate has been left behind. The use of digital forms, the platforms, which seem to have no regulation, is one thing, and the language used as an element of communication is another. We are facing two major problems: the way in

which digital platforms are operating and the use that users make of them.

We are living in the era of the denaturation of languages when using any form of expression, reaching the high-sounding, we could say the aggressive and even rude. People who have university degrees amazed others people to hear them some of the expressions they have as if it were demonstrative language of the degrees they have.

We are also witnesses of the absence of human rights towards women, of certain races, and the forgetfulness about children about the use of platforms. We lived with the culture that impolite words were not said and if they were, it was in the bathroom of the house. Today we hear women and men that it doesn't matter how they express themselves. It does not matter how they want to achieve a university degree: there is the "copy and paste" with the greatest tranquility.

Also, the fact that information devoid of scientific truth



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

is uploaded because many say what they want because there is no regulation of what is published.

We are in a society that, regardless of undeclared wars and the effects of climate change, we only hear the wrong language and human relationships

that every day make coexistence and peace a distant goal for good living. What do we have to do?

UNESCO, the United Nations Educational, Scientific and Cultural Organization was created in 1945 to "contribute to peace and security

by promoting collaboration among nations through education, science and culture in order to ensure universal respect for justice, the rule of law, human rights and the fundamental freedoms that are affirmed for the peoples of the world. *UNESCO-GLOBAL CONFERENCE:*



GUIDELINES FOR REGULATING DIGITAL PLATFORMS: A MULTI-STAKEHOLDER APPROACH TO SAFEGUARD FREEDOM OF EXPRESSION AND ACCESS TO INFORMATION". PARIS, FEBRUARY 2023, P. 2. POR UN INTERNET CONFIABLE – HACIA UNAS DIRECTRICES PARA REGULAR LAS PLATAFORMAS DIGITALES PARA LA INFORMACIÓN COMO BIEN COMÚN, PARIS, 2023

UNESCO, before working on the problem of the Platforms, carried out work on radio broadcasting.

The objective of the Guidelines is that human beings acquire the processes that guarantee freedom of expression, obtain information and live in democracy.

"Also, that there are regulations: The scope of these Guidelines covers digital platforms, which allow users to disseminate content to the general public, including social networks, messaging applications, search engines, app stores and platforms to share content". POR UN INTERNET CONFIABLE – HACIA UNAS DIRECTRICES PARA REGULAR LAS PLATAFORMAS DIGITALES PARA LA INFORMACIÓN COMO BIEN COMÚN, PARIS, 2023, PP. 4-5.

We are living in a society in which the platforms are used by States and individuals according to their interests.

The Guidelines worked by UNESCO seek to meet the Sustainable Development goals proposed in the United



Nations-UN General Assembly in 2015 whose purpose is to achieve a just society for all, a society where no one is left behind. The Sustainable Development Goals have a goal of 2030 to have reached their realization. The objective of this March 2023 is –Clean Water and Sanitation.

The Guidelines to regulate the Platforms are:

1. Information about its use
2. Comply with the laws of nations
3. Create a secure internet
4. Spread digital literacy
5. Review of false or illegal content
6. Have the necessary and trained personnel to review false content
7. Notify people when the content they upload is subject to review

8. Notify people when the content they upload will be restricted

9. Offer information about political ads
10. They must be able to empower people
11. They must have staff who know the language of the countries to which they offer service
12. Consider people with disabilities
13. Take into account the characteristics of childhood
14. Avoid gender misinformation
15. They must review political advertising and who pays for the service.

Analyzing the society in which we live, with violence in deeds and words, and reading this document on the Guidelines to

regulate digital platforms, we ask ourselves: What to do. What to contribute.

To live in a society where peace and personal growth are possible: What you can do is study thinking about the Guidelines proposed by UNESCO and avoid carrying out actions contrary to this proposal. Remember to review the information on which you base your work; copy and paste will not give you any benefit. Learning is what will give you results in personal decisions and in the quality of your work.

**BIBLIOGRAPHY.** UNESCO-Conferencia Global: Directrices para regular las plataformas digitales: Un enfoque de múltiples partes interesadas para salvaguardar la libertad de expresión y el acceso a la información". París 2023. Retrieved from: Por un internet confiable – Hacia unas directrices para regular las plataformas digitales para la información como bien común, Paris, 2023

We can't have a society where life is possible in peace and harmony with growth and freedom for all if we do not work for it and the first thing is to take each of our actions into consideration.

In the environment where you operate, set an example for each human being with whom you interact. Life in peace, harmony and possible development is only achievable by us with our actions.

As a student, as these Guidelines indicate, carry out your work and work for one of the Sustainable Development Goals of the UN proposal for 2030, as also requested by **Atlantic International University (AIU)** —your university.

You can choose one goal for this job, another goal for the next. Also think about the needs of your community, your country or the world.

The world is as it is  
because that is how  
we humans have  
made it and it will  
not change  
if we humans  
do not change.

# Neuroscience and theory of neurodiversity

Julia Koifman | Post-Doctorate - Neurodiversity and Special Education



## Abstract

Mental, neuropsychic, and behavioral reactions of a person have attracted the attention of researchers since ancient times. Neuroscience and research conducted by scientists reveal the causes and patterns of deviations in behavior, which is essential for helping people suffering from mental disorders. And also open up new possibilities in treating many other diseases and health disorders.

Neuroscience is evolving from the molecular and cellular levels to the systemic and cognitive levels. Based on applied research conducted at the cognitive level, various methods are being developed to improve memory, brain neuroplasticity, and the ability to concentrate and assimilate new information. These studies, one way or another, underlie many motivational pieces of training that always appeal to the human

mind. The achievements of neuroscience are of great importance for developing the education system.

*Key words: neurodiversity, nervous system, disorders, learning differences, special education*

## Introduction

Neuroscience is the study of the nervous system. It involves different specialists in the natural sciences, such

as biologists, chemists, and physicists. The development of neurosciences is possible only with close interaction between the fundamental research sector and medicine, aimed at developing new methods for diagnosing and treating brain diseases.

Neuroscientists specialize in a wide variety of fields, from neuroanatomy to neuropsychology. They study the nervous system's evolutionary, molecular, cellular, functional, and medical aspects. (NORDQVIST, 2018). But mainly, neuroscientists focus on the brain and how the brain regulates behavior. Cognitive neuroscience deals with the principles of cognitive psychology, mental activity as an information-processing problem.

The brain is the most complicated object in the human body, controlling physiological and psychological functions. It transmits sensory reception from the peripheral nervous system. After the invention of the microscope, studies of the brain have become more modernized and sophisticated. Hopes for a deeper understanding of the structure and operation of the brain

Molecular biology, electrophysiology, and computational

neuroscience have contributed a significant breakthrough to modern neuroscience. Furthermore, it describes neurodiversity, such as neurological conditions such as autism spectrum disorder (ASD) and attention deficit hyperactivity disorder (ADHD), as more than just a disability. Due to detailed neuroscience, we understand the nature of delays in learning, mental development, and other learning difficulties (LD). Since my thesis topic is about forenamed disorders, this article deals mainly with neuropsychology and neurodiversity.

## Nervous system

Neuroscience refers to the field of medicine that focuses on the nervous system, which controls, and coordinates. It regulates the coordinated work of all organ systems, maintaining the constancy of its internal environment composition (MEDLINEPLUS, 2007). Due to this, the human body functions as a whole. With the participation of the nervous system, the organism is connected to the external environment. It is divided into two parts: the central and the peripheral ones. The first is composed of the brain and spinal cord,

and the second is composed of nerves that connect the spinal cord and all parts of the body. (CHERRY, 2022).

The main function of the central nervous system is the analysis of information coming from outside and the development of a response signal or reaction. The cerebrum, divided into two hemispheres, is the largest portion of the human brain. The basic structures of each hemisphere of the brain include the cortex, basal ganglia, amygdala, and hippocampus. Still, inside they are very complex, and each hemisphere is responsible for one or another activity of the brain. The research claims that the left hemisphere is called the digital brain, which means that if it is dominant, the person is good at logic, mathematics, and languages. If the right hemisphere is dominant, the person is creative and talented at music, art, etc. (CHERRY, LEFT BRAIN VS. RIGHT BRAIN DOMINANCE, 2022). Apart from this, both cerebral hemispheres stand for the brain's cognitive capabilities. Connecting each of the hemispheres are the corpus callosum and several additional commissures.

The peripheral nervous system is an intermediary between the central nervous system and human organs

—both external and internal. It includes almost all the nerves in the human body. Peripheral nerves are all those in the body branching off from the central nervous system—the brain and spinal cord. Those that branch directly from the brain and spinal cord are called the cranial and spinal nerves, respectively. The peripheral nervous system is made up of neurons or nerve cells. Each neuron has a cell body, which contains the nucleus and organelles of the cell. Nerve cells receive information from other neurons through short, branching fibers called dendrites. An axon's long projection carries nerve signals from the cell body to other nerve cells and target tissues.

Neurons transmit information both to the central nervous system and from it. They are tightly connected and “send and receive signals from your brain. While neurons have a lot in common with other types of cells, they're structurally and functionally unique.” (ZIMLICH, 2022). Their primary function is processing information: receiving, conducting, and transmitting to other cells. There are three types of neurons: motor, sensory, and interneurons. Some neurons perform both motor and sensory functions.

Dysfunction of neurons leads to nervous diseases.

### Cognitive neuroscience

Cognitive psychologists are interested in studying the brain's functions and describing human performance. Brain areas are interconnected and form higher-level circuits involved in complex behaviors, such as motor control, visual perception, and cognitive processes. The development of the nervous system begins at an early stage in utero. (GAZ-ZANIGA, 2014, p. 74)

Cognition in neuropsychology and neurology is complicated, and it starts when young kids just learn to perceive the world fully. Children's cognitive neurology studies the most complex

cortical functions in adolescents and schoolchildren. These functions include the assimilation of information and processing, the transmission of information, perception, and memory. In recent years, the number of students with learning difficulties (LD) has dramatically increased.

“Cognitive function is a major determinant of an individual's quality of life. However, the number of individuals developing a neurocognitive disorder (NCD) is increasing as the population ages: the number of individuals with dementia doubles every 20 years. It will reach over 115 million worldwide by 2050.” (McDONALD, 2017). At the cognitive level, cognitive neuroscience answers the question of how

psychological functions are produced by neural circuitry.

### Neurolinguistics

Neurolinguistics is a modern discipline that arose due to the development of computer technology and the convergence of the scientific interests of neurology and linguistics. It belongs to the field of cognitive sciences. The focus of the new discipline was shifted from the study of language as a communication tool to the brain's neurological reactions during communication. It studies the brain's functioning and properties during speech activity, thinking, emotional perception, and memory. Thus, neurolinguistics has established itself as an interdisciplinary science closest to psycholinguistics.

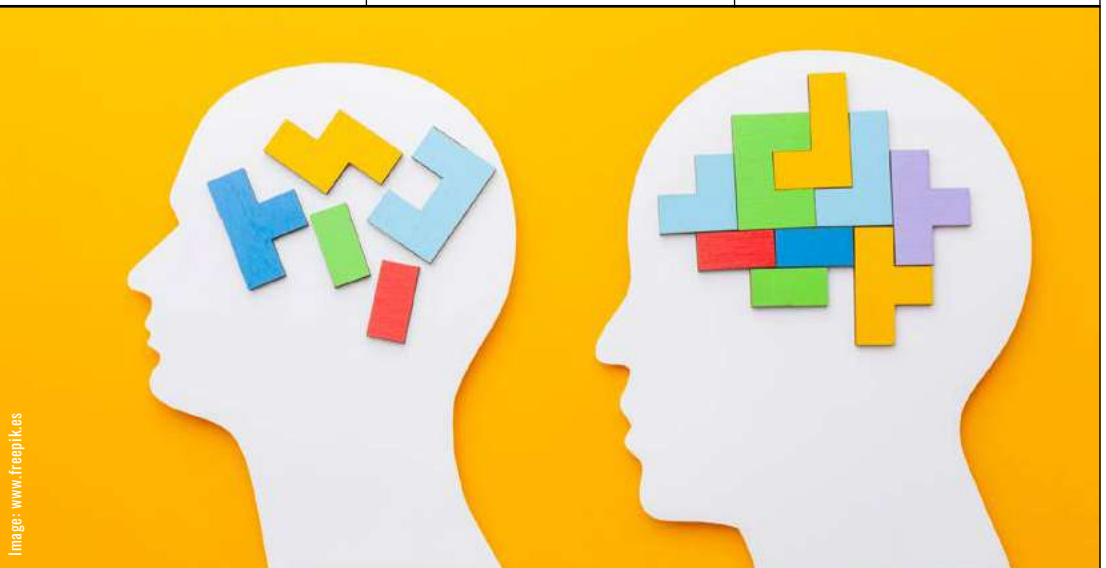


Image: www.freepik.es



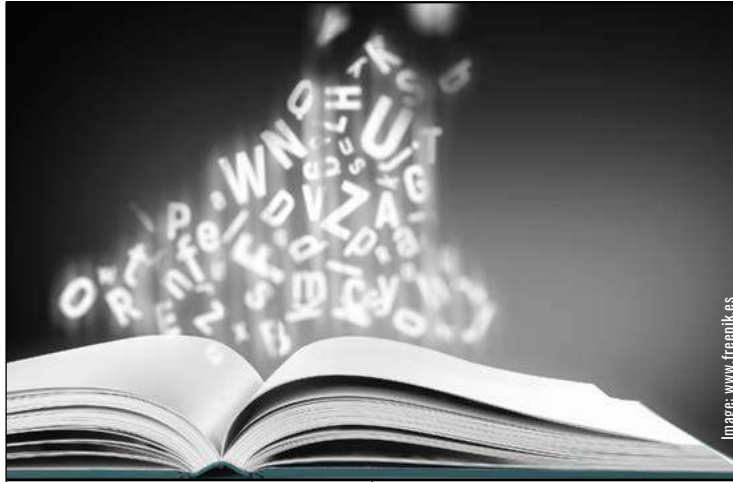


Image: www.freepik.es

And sometimes, they are considered a single science.

Neuro-linguistic research has a more apparent subject field of study since a laboratory experiment shows which part of the brain is involved during the experience. (RILLING, 2017). The direct interest of neuro-linguistics is directed to the study of three zones of the left hemisphere responsible for the functioning of speech:

- \* Broca's area (reactions to control oral speech occur in it);
- \* Wernicke's area (responsible for perception and understanding);
- \* Occipital part (logic-gram-matical memorization takes place in it). (PAUL, 2020).

The interest of neuro-linguistic research is to study language's influence on brain speech mechanisms. Typically, these observations have three complementary stages:

- Linguistic stage.
- Neurophysiological stage
- Psychological stage.

In the process of producing human speech in the brain, several zones are involved —some perform the main functions, and others are auxiliary. Therefore, neuro-linguistic research, in addition to its special methods, always uses the methods of related sciences, such as neurology, psychology, psycholinguistics, neurophysiology, neuropsychology, speech therapy, neurosurgery, biophysics, and biochemistry. A wide range of brain research methods shows not only the interdisciplinary status of neurolinguistics but also the long-term formation of this science into a particular field of knowledge.

“Language and speech are rarely present in both hemispheres; they are either in one

or the other. While it is true that the separated left hemisphere normally comprehends all aspects of language, the linguistic capabilities of the right hemisphere do exist, although they are uncommon” (GAZZANIGA, 2014, p. 125). Despite the definition of zones that are responsible for our ability to communicate, they are developed differently for everyone. Thus, several types of micro-level asymmetries between the hemispheres have been identified in language-associated regions.

A thorough understanding of the anatomy and physiology of language-associated cortices could shed considerable light on the cortical mechanisms that facilitate linguistic analysis and production. It also enables us to understand the nature of such disorders as dyslexia and autism. “Interestingly, MRI studies reveal that the area of the planum temporal is approximately symmetrical in children with dyslexia —a clue that their language difficulties may stem from the lack of a specialized left hemisphere. Interestingly, an MRI study on adults with dyslexia found that the typical medial temporal lobe asymmetries were reversed in dyslexic adults” (GAZZANIGA, 2014, p. 126). The research claims that dyslexia and autism are not

transmitted genetically, but children might inherit structural features of the brain and the whole nervous system.

Neuropsychological research refers to the study of both speech perception disorders and the observation of neurolinguistic processes in people with obvious abnormalities, for instance:

- speech pathologies
- the influence of meditation on the character of a person and changes in his brain
- oncological diseases of the brain
- challenges with short- and long-term memory
- speech encoding in the cerebral hemispheres, which occurs differently in right-handers and left-handers
- how writing from left to right (in most world languages) and right to left (in Semitic languages) affects the perception of language and brain function, the formation of mental space
- difficulties in brain decoding of speech in children
- challenges with language acquisition, information processing in the brain
- phenomena of hallucinations. (MATH, 2021)

### Causes of neuro-logical and cognitive dysfunction

The specific causes of

neurological problems differ but may include genetic or congenital disorders, infections, lifestyle or environmental health problems, malnutrition, brain, and spinal cord trauma, or nerve damage.

Due to the complexity and fragility of the nervous system's structure, injuries and diseases (including genetic ones) can disrupt its well-coordinated work. Thus, “understanding autism, for example, will require us to understand the specifically human circuits for language and empathy because the disease manifests as a dysfunction of these circuits.” (SÜDHOF, 2017). Moreover, molecular neuroscience enables psychiatrists to treat such psychiatric and neurological diseases as schizophrenia and Parkinson's.

Since forms and types of neurological disorders vary, it can be difficult to identify common symptoms. Still, there are a number of the most common signs that may indicate the development of a disease of the nervous system, such as:

- Sleep disorders – insomnia
- Increased anxiety and irritability
- Decreased performance
- Memory problems
- The occurrence of obsessive thoughts and phobias
- Nervous tics, involuntary muscle contractions

- Headaches, migraines, pain in limbs
- Frequent drops in blood pressure
- Smell disturbances, taste disturbances, vision problems
- Mental and cognitive disorders.

(MEDLINEPLUS, 2007)

Most diseases —chronic and severe differ in pathogenesis and etiology— occur in children with the forenamed severe nervous and physical disorders. As a result, they might have cognitive dysfunctions. The number of children with neurological disorders is constantly growing, and the signs of impaired neuro-cognitive diseases are as follows:

- delay in the emergence of skills —they begin to sit, crawl, walk or talk after a certain age
- impaired concentration
- learning difficulties
- lack of curiosity
- problems with logical



Judy Singer is a sociologist noted for the coinage of the word "Neurodiversity" in a thesis published at the University of Technology, Sydney in 1998.

- thinking
- infantile behavior that persists through preschool and school age
- attention deficit hyperactivity disorder (ADHD).

Nevertheless, there has been a growing push for the last decades to focus on our brain differences, cognitive deficits and learning disabilities. Scientists claim that each individual's brain develops and functions differently, so developmental disorders nowadays are called neurodiversity. Neurodiversity commonly refers to people with ADHD and such disorders as:

- Dyslexia
- Dysgraphia
- Dyspraxia
- Dyscalculia
- Autism spectrum disorder
- Other learning disabilities (WIGINTON, 2021).

## Conclusion

The fundamental goal of neuroscience is the scientific study of the nervous system in all aspects: structure, work, development throughout the lifetime, and changes. Neuroscience also studies all the possible malfunctions. Thus, at the molecular level, it explains the mechanisms of how neurons produce and respond to molecular signals and how axons form complex patterns of connectivity. Furthermore,

it defines which disorders can happen if the neurons stop transmitting them correctly. At the physiological level, neuroscience describes the structure of the nervous system and its possible diseases, which might also happen due to the forenamed reason. At the cognitive level, neuroscience studies human behavior, mental operations, cognitive tasks, and possible neurodiversity.

There are many diseases of the central nervous system. Some of them are caused by genetics, such as dyslexia, dysgraphia, ADHD, and others. Some neurological disorders are caused by brain or spinal cord traumas, and some by infections, such as meningitis. If one or both parents' nervous systems develop differently, their children might inherit these features —that is why LDs often run in families. And cognitive psychology identifies various mental operations required to perform cognitive tasks and explores possible limitations in performing such tasks.

Neurolinguistic studies prove that language is an essential factor in socialization and a tool for forming neural connections responsible for a person's normal development. What does neurodiversity mean? There is no clear answer to this question. Medical

experts and people with neurodiverse features think differently. Some of them claim that conditions like autism are disabling, and some consider that it is a person's self-identity, maybe even giftedness, that enables them to do something that neurotypical people cannot.

Many autistic people have skills in some very high areas of cognition, while other areas of cognitive functioning are below what is expected for their age. Thus, most people with autism have uneven cognitive abilities. This "uneven cognitive profile" often leads to problems during schooling. On the other hand, some

cognitive features in autism may be strengths of autistic people. Furthermore, dyslexic people may be very good at art and music.

No doubt, all people are different. However, neurodiversity is recognized within reasonable limits beyond which disability begins. Besides, the older people with neurodiversity become, the more likely they develop psychic disabilities. However, some want to hold on to their disability to recognize that the workplace and school environment have not yet adapted to their needs. Nevertheless, people with neurodiversity are still at a disadvantage.

**BIBLIOGRAPHY.** Cherry, K. (2022, September 7). How the Peripheral Nervous System Works. Retrieved from <https://www.verywellmind.com: https://www.verywellmind.com/what-is-the-peripheral-nervous-system-2795465> | Gazzaniga, M. S. (2014). Cognitive neuroscience, the biology of the mind. London - New York: W. W. Norton & Company., pp.120-126. | Math, P. S. (Director). (2021). Disorders of perception [Motion Picture]. | McDonald, W (2017, Januar 11). <https://www.ncbi.nlm.nih.gov. Retrieved from Overview of neurocognitive disorders: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6519631/> | MedlinePlus. (2007). <https://medlineplus.gov. Retrieved from Neuroscience: https://medlineplus.gov/ency/article/007456.htm> | Nordqvist, C. (2018, June 26). About neuroscience. Retrieved from <https://neuro.georgetown.edu/: https://neuro.georgetown.edu/about-neuroscience/> | Paul, R. (2020). Language disorders. Handbook of clinical neurology, pp. 21-35. Retrieved from <https://www.sciencedirect.com: https://www.sciencedirect.com/science/article/abs/pii/B9780444641489000028> | Rilling, J. (2017). Broca's and Wernicke's areas. Retrieved from <https://carta.anthropogeny.org: https://carta.anthropogeny.org/moca/topics/brocas-and-wernickes-areas> | Sidhartha Sekhar Dash, P. D. ( 2020). Neurolaw: a new horizons of neuroscience. European Journal of Molecular & Clinical Medicine, 91. Retrieved from [https://ejmcm.com. | Südhof, T. C. \(2017, November 1\). https://www.ncbi.nlm.nih.gov. Retrieved from Molecular neuroscience in the 21st century: a personal perspective: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5689449/](https://ejmcm.com. | Südhof, T. C. (2017, November 1). https://www.ncbi.nlm.nih.gov. Retrieved from Molecular neuroscience in the 21st century: a personal perspective: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5689449/) | Wiginton, K. (2021, April 7). What is neurodiversity? Retrieved from <https://www.webmd.com: https://www.webmd.com/add-adhd/features/what-is-neurodiversity> | Zimlich, C. V. (2022, February 28). An easy guide to neuron anatomy with diagrams. Retrieved from <https://www.healthline.com: https://www.healthline.com/health/neurons>

**Publications by students:** [aiu.edu/StudentPublication.html](http://aiu.edu/StudentPublication.html)



learning





## The ‘other kids’

### What about the ‘other kids’ in the room?

Your student is breaking stuff. Not idly breaking stuff, I mean tearing apart your carefully composed bulletin board, knocking your framed poster to the floor and shattering the glass, red-in-the-face and not responding to anyone’s words kind of breaking stuff. How teachers and schools respond to this moment falls across a wide spectrum. Using our “teacher voice.” Yelling. Calling in an administrator. Calling the parents. Calling the police. Physically restraining the child. Moving the child to a seclusion room. Threats. Punishments. Bribes.

We also have trauma-informed practices. Calm, quiet voices. Reassurances of safety. Clear options using few words. Reminders of pre-taught strategies and cues. Restorative conferencing to follow up. Getting to the root of the problem

once we’re ready to talk again. ...

When I work with teachers on making the shift from punitive discipline to trauma-informed, restorative approaches, a question often comes up: “what about the other students in the room?” This question is both about “in the moment” —what about the other kids present when their classmate is loudly struggling?— as well as “out of the moment” —what about the other kids when their classmate shows up the next day and the other kids haven’t seen them being suspended or punished? ... The ‘other kids’ can have proactive conversations. The ‘other kids’ need your help to make meaning. The ‘other kids’ can be helped to feel safe. The ‘other kids’ aren’t actually ‘other kids’. ... **Read full text:** <https://unconditional-learning.org/2023/02/01/what-about-the-other-kids-in-the-room/>

## Gaslighting, narcissist ...and more psychology terms you’re misusing.

If you spend any amount of time online, you’ve probably picked up a few psychology terms without realizing it. Take “gaslighting”—which recently became so popular that it clinched the mantle of Merriam-Webster’s 2022 Word of the Year. Other terms that have crept from the therapist’s couch into the public lexicon include love-bombing, triggered, grooming, and toxic. Frequently, mental-health experts say, when we overuse these words, we also misuse them. Here are 10 psychology terms mental-health experts say that we’re using the wrong way, plus what they really mean.

**Gaslighting** (misused to describe any act that’s insensitive, a lie, or simply a difference of opinion). True gaslighting occurs when someone manipulates you into questioning “your sanity, your

experience, your memory, even your reality.” It often happens within abusive relationships.

**Traumatized** (misused as embarrassing, mortifying, shocking, or upsetting). Trauma is “a serious, often chronic physiological disruption of the nervous system.”. People with post-traumatic stress disorder (PTSD), for example, can experience intense distress that makes them feel like they’re reliving the horrible emotions of earlier traumatic experiences.

**Triggered** (misused as feeling offended or shocked). Being triggered means encountering a reminder of a traumatic experience, followed by a response like flashbacks, self-harming thoughts, or a panic attack ... **Read full text:** <https://time.com/6262891/psychology-terms-misused-gaslighting-toxic-narcissist/>



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## Powerful antibiotics

...that kill superbugs are being found by AI.

Artificial intelligence (AI) has proved to be a useful ally in the battle against antibiotic resistance. A powerful antibiotic that's even able to kill superbugs has been discovered thanks to a machine-learning algorithm.

Researchers from MIT used a specially designed computer algorithm to sift through a vast digital archive of over 100 million chemical compounds and spot those that were able to kill bacteria using different mechanisms from existing drugs.

Reported in the journal *Cell* in February 2020, this method highlighted a molecule that appeared to possess some truly remarkable antibiotic properties. The team named the molecule halicin, a hat tip to the sentient AI

system "Hal" from Stanley Kubrick's film 2001: A Space Odyssey.

When tested in mice, halicin was able to effectively treat tuberculosis and drug-resistant Enterobacteriaceae, the family of bacteria that includes *E. coli* and *Salmonella*. It also proved extremely effective against *Clostridium difficile*, a "stomach bug" that often sweeps through hospitals, and another drug-resistant bacterium that can cause infections of the blood, urinary tract, and lungs.

"Our approach revealed this amazing molecule which is arguably one of the more powerful antibiotics that has been discovered," James Collins, in MIT's Institute for ... Read full text: <https://www.iflscience.com/antibiotics-that-kill-superbugs-are-being-found-by-ai-67797>

## Rare black hole

...could upend our understanding of galaxy formation.

A rare supermassive black hole found hiding at the dawn of the universe could indicate that there were thousands more of the ravenous monsters stalking the early cosmos than scientists thought —and astronomers aren't sure why.

The primordial black hole is around 1 billion times the mass of our sun and was found at the center of the galaxy COS-87259. The ancient galaxy formed just 750 million years after the Big Bang and was spotted by the Atacama Large Millimeter Array (ALMA), a radio observatory in Chile, in a tiny patch of sky less than 10 times the size of the full moon.

Obscured beneath a cloak of turbulent stardust, the rapidly growing black hole was seen consuming part

of its accretion disc of orbiting matter while spewing the leftovers out in a jet traveling close to the speed of light. The monster black hole appears to be at a rare intermediate stage of growth, somewhere between a dusty, star-forming galaxy and an enormous, brightly glowing black hole called a quasar.

And the cosmic behemoth could be just one of thousands of inexplicably large black holes lurking beneath the cloud cover of the early universe, the researchers suggest. They published their discovery Feb. 24 in the journal *Monthly Notices* of The Royal Astronomical Society. Black holes are born from the collapse ... Read full text: <https://www.livescience.com/rare-black-hole-one-billion-times-the-mass-of-the-sun-could-upend-our-understanding-of-galaxy-formation>

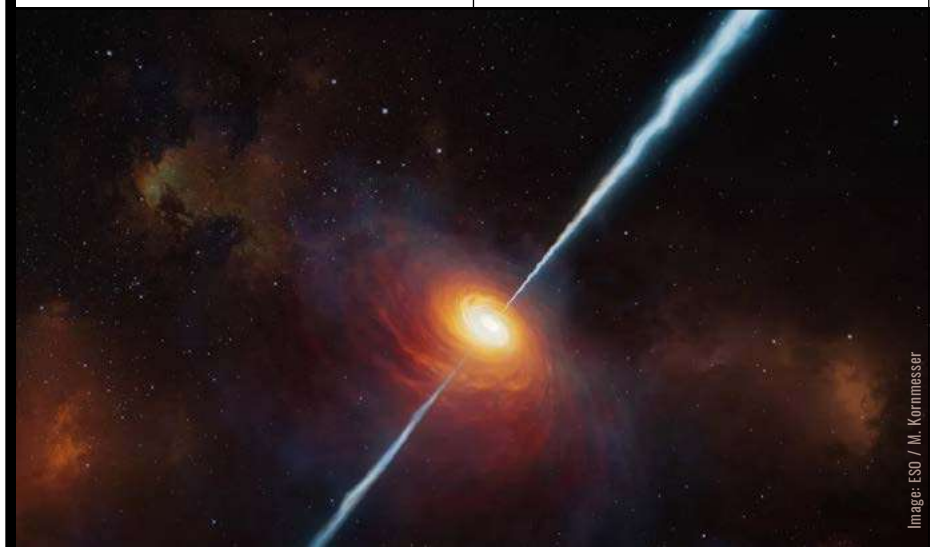


Image: ESO / M. Kornmesser

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Image: Josh Parlee

## Biomaterials

### Beyond mass timber

Canadian mass-timber pioneer **Michael Green** has hit out at architects designing unusually shaped buildings rather than embracing biomaterials in an interview as part of *Dezeen's* Timber Revolution series.

Using engineered wood products to replace concrete and steel is a step in the right direction but should not be considered the endgame, said **Green**, principal of British Columbia-based Michael Green Architects and an early advocate for building tall with timber.

For **Green**, the growing use of mass timber proves that the construction industry can change by shifting to more carbon-friendly and renewable materials, but this in itself it will not fix the problems of “overbuilding” and waste inherent to the industry. ... For **Green**, architects have to play a role in shifting perceptions about what’s possible and mass timber is only one step towards all aspects of the built environment being made from biomaterials. ...

**Read full text:** <https://www.dezeen.com/2023/03/13/michael-green-interview-timber-revolution/>

# Ignacio Rojas Hirigoyen

Develops modular building system to address housing crisis.



Photos: Cristóbal Valdés

The Industrialized Building System Prototype was designed by Ignacio Rojas Hirigoyen Architects and The Andes House and fabricated by Cromolux in Santiago, before being assembled in the nearby town of Casablanca, Chile.

“The prototype was conceived to give an answer to the urgent global dwelling crisis,” architect **Ignacio Rojas Hirigoyen** told *Dezeen*.

“We decided to build a house as a first prototype of the Building System but with these parts and pieces that work as a ‘LEGO,’ you can design and build any other typologies.”

Drawing on innovations by **Walter Gropius** and other Bauhaus designers, the prototype consists of a thick, layered recycled wood fiber panel framed by “wooden sub-modules that

link together by a system of locks and wedges” to form building blocks for walls, floors and ceilings.

“All of this creates the modular coordination of steel and wood carpentry with no surplus material, and where every part has its own place and function,” **Hirigoyen** said, explaining that the layered assembly provides thermal and acoustic comfort for the home. ...

**Read full text:** <https://www.dezeen.com/2023/03/14/ignacio-rojas-hirigoyen-modular-building-global-housing-crisis/>



Image: www.alinker.com

## Alinker

### R-revolution

Walking aids for people with disabilities or chronic illnesses tend to be straightforward: canes, poles or crutches for modest assistance, a rollator for more support, and then a full-on walker. But there is another radical option: The Alinker, the world’s first walking bike.

Alinker is a 3-wheeled walking bike developed in the Netherlands for people who have mobility challenges. **Barbara Alink** was inspired to create it by her mother, who —facing a future of using a walker— stubbornly proclaimed “over my dead body will I use such a thing.” ... “When I discovered that,” says **Barbara**, “it became my challenge to develop a better functional device to improve walking, something that would invoke a more positive reaction from others. I wanted to make something that would make the user feel happy and proud.” ...

**Read full text:** <https://www.activemeters.org/post/review-alinker-r-revolution>

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## Face blindness

Could be yet another unexpected symptom of Covid-19.

Covid has previously been linked to a multitude of neurological symptoms, such as “brain fog” and the loss of smell and taste. Now, for the first time, face blindness, or prosopagnosia, has been associated with Covid infection.

“Researchers from Dartmouth College outline the case of **Annie**, a 28-year-old who was diagnosed with Covid in March 2020. Following a relapse of symptoms two months later, **Annie** reported experiencing difficulty recognizing faces, including those of her family, and issues with navigation. ...

**Annie** now relies on voices in order to recognize people that she knows. As well as face recognition, her navigational abilities are also much worse than before she became ill, which the authors say, is often seen following brain trauma.

“The combination of prosopagnosia and navigational deficits ... is something that caught our attention because the two deficits often go hand in hand after somebody either has had brain damage or developmental deficits,” said senior author **Brad Duchaine**. ...

To see if prosopagnosia following Covid has been experienced by others, the team obtained self-reported data from 54 people who had long Covid symptoms for 12 weeks or more, and 32 people who had fully recovered from the infection. “One of the challenges that many respondents reported was a difficulty with visualizing family and friends, which is something that we often hear from prosopagnosics ... **Read full text:** <https://www.iflscience.com/-face-blindness-could-be-yet-another-unexpected-symptom-of-covid-19-67968>

## Colorectal cancer

It is rising among Gen X, Y & Z.

About 20,000 people in the U.S. under the age of 50 will be diagnosed with colorectal cancer this year. And an estimated 3,750 young adults will die. “Colorectal cancer is rapidly shifting to diagnosis at a younger age,” conclude the authors of an American Cancer Society report released this month [March]. Since the mid-’90s, cases among people under 50 have increased by about 50%. It’s one of the deadliest cancers in this age group. ... The good news is that colorectal cancer is very treatable when caught early. So, what can you do to protect yourself? Here are five strategies to guide you.

### 1. Know the signs and symptoms.

Some of the early symptoms can include blood in your stool, a change in bowel habits, weight loss for no known reason,

a feeling of bloating or fullness and fatigue. Talk to your doctor.

**2. Don’t let 45 pass you by.** If you’re younger and have a family history of colorectal cancer or polyps, your doctor may recommend earlier screening.

**3. Talk to your family about cancer history.** Ask your parents and siblings if they’ve ever had polyps or been diagnosed with colorectal cancer.

### 4. Choose your screening option.

You don’t necessarily have to get the colonoscopy. There are several other effective screening options.

**5. Change your diet and increase physical activity.** “Colorectal cancer is one of the cancers most strongly linked to diet and lifestyle” ... **Read full text:** <https://www.npr.org/sections/health-shots/2023/03/20/1163697875/colon-cancer-signs-screening-young-adult>



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## Willow Project

The controversial oil-drilling venture has been approved.

ConocoPhillips' massive Willow oil drilling project on Alaska's North Slope moved through the administration's approval process for months, galvanizing a sudden uprising of online activism against it, including more than one million letters written to the White House in protest of the project and a *Change.org* petition more than 3 million signatures.

ConocoPhillips' Willow Project is a massive and decadeslong oil drilling venture on Alaska's North Slope in the National Petroleum Reserve, which is owned by the federal government. The area where the project is planned holds up to 600 million barrels of oil. That oil would take years to reach the market since the project has yet to be constructed.

Willow was proposed by

ConocoPhillips and originally approved by the Trump administration in 2020. ConocoPhillips was initially approved to construct five drill pads, which the Biden administration ultimately reduced to three. Three pads will allow the company to drill about 90% of the oil they are pursuing.

The Willow Project will almost certainly face a legal challenge. *Earthjustice* has told *CNN* it is preparing a complaint, and it has already started laying out their legal rationale, saying the Biden administration's authority to protect surface resources on Alaska's public lands includes taking steps to reduce planet-warming carbon pollution — which Willow would ultimately add to.

... Read full text: <https://edition.cnn.com/2023/03/14/politics/willow-project-oil-alaska-explained-climate/index.html>

# Water

What happens when it runs out?

The Age of Abundance is over —and now the Age of Exinction is here. Extinction doesn't mean we all die, but it does mean that our civilization is now at severe, critical risk. Because our most basic resources are all running out.

What's basic? What's more basic than food, water, energy, clean air, and medicine? Now, when I issue these warnings, and I know they're a lot to take in, I'm sometimes accused of hyperbole or exaggeration. But I'm not kidding. You see, when you look at the statistics —the empirical state of things— well, they're shocking.

How shocking? Here's a screamer of a headline for you. "The world is facing an imminent water crisis, with demand expected to outstrip the supply of fresh water by 40% by the end of this decade,

experts have said on the eve of a crucial UN water summit." Did you get that? You see, these changes are happening faster than we know. Most of us don't know the basic statistics, and when we find out, we react badly, because, well, they're terrifying. Demand exceeding supply, by almost half. By the end of the decade. This is 2023. In the next seven years. ...

This finding comes from a new report by the Global Water Commission. It's the first of its kind —and think about that, too. We think of ourselves as an advanced civilization— but we haven't built a single functioning global system yet, not for democracy, not for education or healthcare, not even for water.

... Read full text: <https://eand.co/welcome-to-the-21st-century-what-happens-when-the-water-runs-out-f158611eb91a>



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## Fatal lung disease

Australia moves to ban on silica stone benchtops that cause it.

Australia has taken a major step towards a world-first total ban on engineered stone products in response to rising rates of silicosis from dry-cutting silica products commonly used in kitchen and bathroom benches.

Safety regulators in the UK, US and Canada have warned that respirable crystalline silica is a cause of silicosis, a serious and irreversible lung disease that can cause permanent disability and early death. Australia would be the first country in the world to ban the product, although New Zealand has said it may follow suit.

Earlier in February, the Australian prime minister, **Anthony Albanese**, said his government would “respond as quickly as we can” to calls to ban engineered stone. On Tuesday [28] **Burke** told reporters in Canberra that

“silica has the risk of becoming the new asbestos”. “The number of Australians with silicosis keeps rising, if you’re talking about kitchen, bathroom benchtops, some of them go up to 95% silica,” he said. “Safe Work Australia have the expertise to work through exactly where the line should be drawn.” ...

One estimate from Curtin University puts the number of silicosis cases between 80,000 and 100,000, with about 600,000 workers exposed to the potentially deadly dust each year.

Caesarstone, a manufacturer of engineered stone, has argued that working with its products can be done safely in certain conditions, such as wet-cutting. Over the weekend, it took out full-page ads ... **Read full text:** <https://www.theguardian.com/australia-news/2023/feb/28/australia-moves-to-ban-silica-engineered-stone-benchtops-silicosis-fatal-lung-disease>

## Signspaces

A free Chrome extension that translates English words into ASL videos.

As a Deaf person, ASL is my first language. As a kid, when I started reading, there were many words I didn’t know the meaning of or how to sign. I used a dictionary calculator from the 1990’s to find the meaning. There was one problem, the dictionary calculator didn’t show me how to sign the word I was searching for. I asked my hearing parents how to sign it. Sometimes, my parents didn’t know what the sign was either because they were learning ASL as their second language. I felt frustrated and confused why there wasn’t an easier way.

Now there are pop-up dictionary’s everywhere provided in different languages. However, ASL is not an option on many programs. That’s why I decided to create a Chrome extension ASL pop-up dictionary to increase

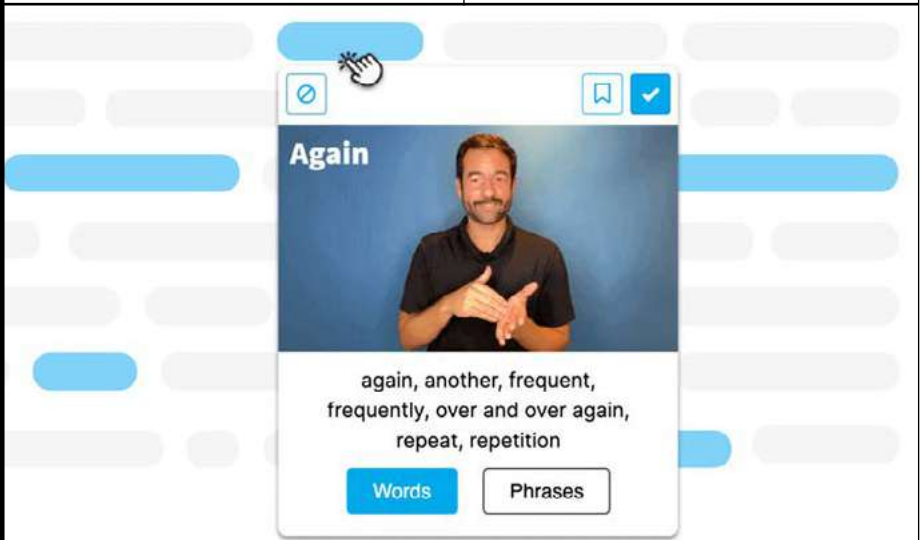
accessibility for Deaf children and help people learn ASL. It’s called Signspaces.

I’ve been working on this project for almost a year. Finally, it’s here and ready to use. I’m so excited to see my vision for my start-up company come to fruition.

This simple Chrome extension will translate English words on the web into ASL videos. Just click the highlighted words you want to learn, and Signspaces will provide a pop-up video of the sign as well as the meaning of the word, and examples of sentences using that word.

Learning ASL is literally as easy as clicking and watching all in one place. Try Signspaces for yourself and start to learn ASL.

**Sources:** <https://signspaces.com>  
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## Dogs of Chernobyl

'Genetically distinct' 40 years after the massive radiation leak.

Almost 40 years after the nuclear disaster at Chernobyl, hundreds of feral dogs still live in the abandoned world surrounding the ruins of the Ukrainian power station. The canine population is now the focus of a scientific study to look at what the genetic makeup of the animals might reveal about living in a radioactive environment.

In a new report released in the journal *Science Advances*, scientists examined the genetic structure of 302 dogs representing three distinct "free-roaming dog populations" —comparing those living within the power plant and others living from about 9–28 miles away. The team of researchers conducted a genetic analysis that found the dogs living in the 18-mile exclusion

zone are "genetically distinct" from those living farther away from the disaster's epicenter.

While these results do not show that radiation is undoubtedly what caused these genetic differences, the data could help better understand the long-term effects of radiation exposure.

Differentiating between which genetic changes are caused by radiation and which are caused by "other influencing factors" will be complex. Even so, the researchers have a "golden opportunity" to start to answer the question: "How do you survive in a hostile environment like this for 15 generations?" said co-author of the study and geneticist **Elaine Ostrander** ... **Read full text:**

<https://businessinsider.mx/dogs-chernobyl-exclusion-zone-are-genetically-distinct-scientists-say-2023-3/?r=US&IR=T>

## Muntjac deer

It has fewer chromosomes than a fruit fly.

With protruding fangs and taste for corpses, the diminutive Muntjac deer cuts an eerie figure in the forests of Indonesia and southern Asia. But its vampiric traits aren't even the strangest thing about it. Not only is the Muntjac the most ancient deer on the planet, it's also got the lowest chromosome count of any other mammal. In fact, it's got fewer chromosomes than the lowly fruit fly.

There are 12 known species of Muntjac deer, and the most common species, the Indian Muntjac (*Muntiacus muntjak*), has the dubious honour of being one of the most widespread but least known mammals in Southeast Asia.

Indian Muntjac have short, curled antlers that are carried on their foreheads by bony 'pedicles' —stalk-like

structures that extend down the face to form a pair of dark ridges. In the males, these antlers are just a few centimetres long, and you can see them sitting atop the pendicle stalks. Once a year, the Muntjac males will shed the curled tips of their antlers. The females don't grow antlers —they just have small, bony knobs instead.

Nicknamed the 'barking deer', when Muntjac sense a nearby threat, they will release a low, barking call for up to an hour, in an effort to scare off any would-be predators. If that doesn't work, Muntjac can defend themselves using their antlers, but the males will even use their fangs on each other if they find themselves in a territorial

scuffle ... **Read full text:** <https://www.australiangeographic.com.au/blogs/creatura-blog/2017/10/the-muntjac-deer/>

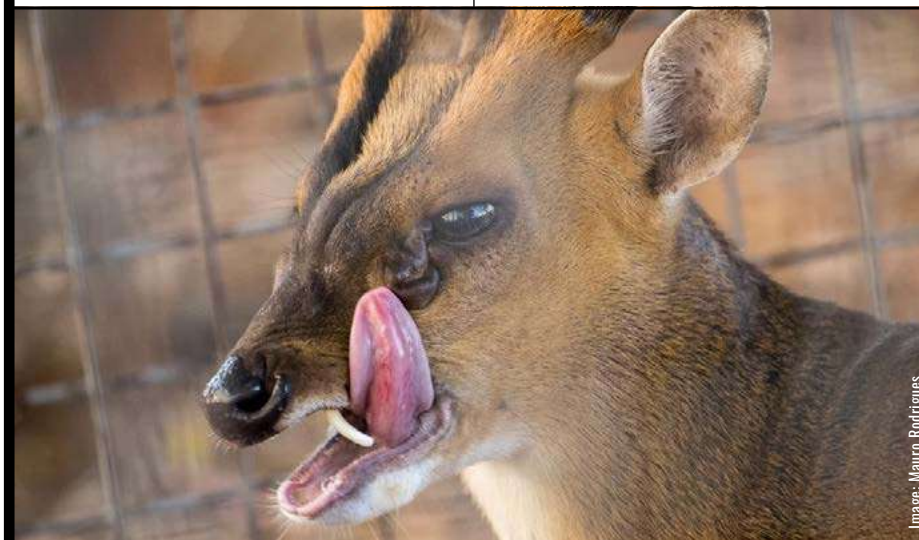


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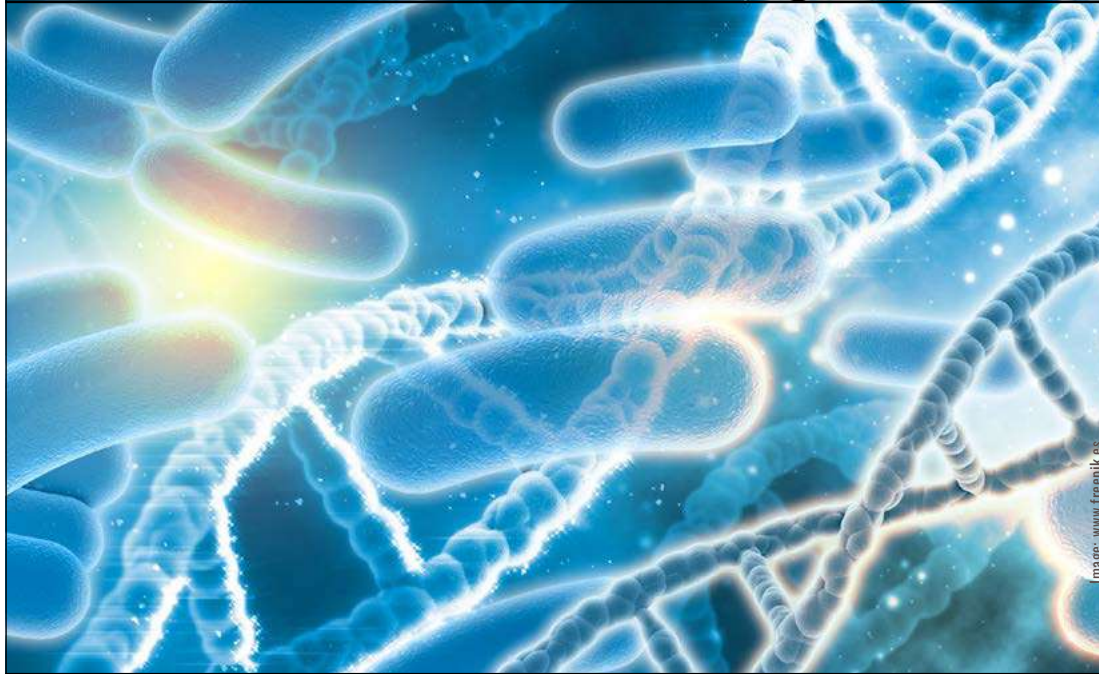


campus



# What is life?

## Scientists still can't agree.



We know life when we see it. Flying birds are clearly alive, as are microscopic creatures like tardigrades that scurry around in a single drop of water. But do we, humans, know what life fundamentally is? No.

"No one has been able to define life, and some people will tell you it's not possible to," says **New York Times** columnist and science reporter **Carl Zimmer** on *Unexplainable* — **Vox's** podcast that explores

big mysteries, unanswered questions, and all the things we learn by diving into the unknown.

It's not for a lack of trying. "There are hundreds, hundreds of definitions of life that scientists themselves have published in the scientific literature," says **Zimmer**, who wrote about them in his book *Life's Edge: The Search for What It Means to Be Alive*. They include everything from

simple definitions like "Life is a metabolic network within a boundary" to sentences that seem to require a PhD to decipher: "Life is a monophyletic clade that originated with a last common universal ancestor and includes all its descendants."

There's no consensus definition, but still the question teases us. It feels like it should be easy, something a fifth grader ought to be able to

answer for science homework.

"It does feel like it should be easy because we feel it," **Zimmer** says. "Our brains are actually tuned to recognizing things like biological motion. We're sort of hardwired for recognizing life. But that doesn't actually mean that we know what it is."

But it still might be essential to answer. "Like imagine astronomers not agreeing on the definition of a star," **Zimmer** says. "But this is even more fundamental. This is life."

The problem is, for every definition of life, there's a creature or perplexing life-like entity that just sends us right back to the drawing board.

I spoke to **Zimmer** about why it has been so damn hard to define life, and whether it might not be possible to define it at all. (This conversation is pulled from the third episode in a series all about how life began on Earth, and has been edited for length and clarity.)

**Brian Resnick:** So what's wrong with the NASA definition of life, or any of the hundreds of others that exist?

**Carl Zimmer:** There are lots of edge cases where things get really hard, so then people start arguing about who gets to be in the club.

**BR:** I know one of the most famous ones are viruses. Can

you explain why viruses have been just so confounding? Are they alive? Are they not alive?

**CZ:** So in some ways, viruses just seem incredibly alive. We're talking during a pandemic — there are who knows how many copies of SARS-CoV-2 that have been produced over the past few years through reproduction.

Not only that, but those viruses mutate. Some of those mutations make them better at certain jobs. It's made of genes. It's made of protein. I mean, what more do you want? It seems alive to me, right?

**BR:** Yeah, that seems alive!

**CZ:** But you might say no because if what's really important to you is metabolism, you know, eating stuff, well, viruses don't do it. Viruses don't have any way of taking in molecules and fashioning those molecules by themselves into new molecules. They don't have a mouth, they don't have a stomach, they don't have enzymes, they don't have any of that.

All they have are basically instructions that reprogram a cell. And that cell, not the virus, makes new viruses.

**BR:** You mentioned that NASA definition, "life is a self-sustaining chemical system capable of Darwinian evolution." So viruses check Darwinian evolution, they're a



<p>chemical system, but they're not self-sustaining.</p> <p><b>CZ:</b> Right, right.</p> <p><b>BR:</b> So if viruses aren't alive, what are they?</p> <p><b>CZ:</b> I don't know. It would be weird to say that they're dead because, by definition, they'd have to be alive first to be dead. Would you say they're inert or inanimate? Well, I don't know. Something that can go through such dramatic changes, but also be passing genes down through the generations —to say that that has nothing to do with life, just ... it feels weird.</p> <p><b>BR:</b> What's the problem if we expand the definition to include viruses? Why does that make people unhappy?</p> <p><b>CZ:</b> Well, you know, one issue is where do you stop?</p> <p><b>BR:</b> If you have a more expansive definition of life, what else could be considered alive?</p> <p><b>CZ:</b> Red blood cells are an interesting example.</p> <p>If I took all your red blood cells out of you, you'd be dead. Done. These cells have lots of proteins inside of them that do lots of important jobs, particularly getting oxygen from your lungs and ferrying it around your body.</p> <p>So here are these things, they have boundaries like living things do, they carry out complicated biochemical jobs. People will talk about the</p>	<p>lifespan of red blood cells. They basically are only around for a few months in your body. So you'd think that something that has a lifespan is alive.</p> <p>What are these things? Are they alive or not? They have some of the characteristics of life, some really important ones, but they're totally missing one of these really central ones.</p> <p><b>BR:</b> The central one being?</p> <p><b>CZ:</b> Genes. Red blood cells have no genes. There's no way for them to grow and divide and replicate, that's it.</p> <p><b>BR:</b> To sum up, what's the case that red blood cells are alive distinct from us?</p> <p><b>CZ:</b> That's interesting that you would say that —“distinct from us.” Do things have to be distinct from you to be alive?</p> <p><b>BR:</b> Oh, I have no idea.</p> <p><b>CZ:</b> Well, think about this. So there are some kinds of insects —like cicadas, for example— that grow special organs inside their bodies where certain kinds of bacteria live inside the cells.</p> <p>These bacteria are vital to these cicadas. They will make certain kinds of amino acids for the insects that the insects can't get from eating plants.</p> <p>These bacteria in turn get lots and lots of food from the cicadas. And they cannot live outside of the cicadas. They are chemically incapable of</p>	<p>surviving. They have their own genes. So they can grow and replicate, but they're not distinct. They actually have to be inside of cicada cells. So they are as merged with them as you can imagine.</p> <p>Are they alive? Well, you know, I think you can make the case, but you can't. If one of your rules is all “it has to be distinct,” then I don't think they meet that.</p> <p><b>BR:</b> Those bacteria sound a little virus-like.</p> <p><b>CZ:</b> Viruses are a lot more alive in a way than these bacteria. These bacteria get passed down from mothers to their offspring. They're not floating around.</p> <p>We ourselves are resident to some former bacteria. Two billion years ago, our single-celled ancestors formed a union with these oxygen-consuming bacteria. They became these little squishy things inside of our cells called mitochondria, which generate our fuel. We take out our mitochondria, we're dead.</p> <p>They still have a few genes left inside them. But you will never see mitochondria busting out of a cell and just crawling off by themselves. They can't do it. They can't. They don't have the means to survive.</p> <p><b>BR:</b> So are the bacteria in the cicadas alive and our mitochondria not alive?</p>	<p><b>CZ:</b> Another way to talk about it is to say, well, they're involved in the process of living.</p> <p><b>BR:</b> Okay, so red blood cells and mitochondria might not be alive, they're “involved in the process of living.” But are there also examples of things that definitely seem alive, no arguments, but still confuse definitions of life?</p> <p><b>CZ:</b> My favorite one is this fish called the Amazon molly.</p> <p>This is a fish. It looks completely innocuous. You would not look twice as this tiny little fish darts around in streams in Mexico and the Southern United States. It evolved several hundred thousand years ago when two other species of molly interbred and they produced a hybrid. And now that hybrid, the Amazon molly, only</p>	<p>produces daughters. They're all female, and they only produce daughters who are clones of themselves.</p> <p>However, if you just keep an Amazon molly by itself, or a whole tankful of Amazon mollies by themselves, they will not reproduce. The reason being that they actually still have to mate with a male from one of those ancestral species.</p> <p><b>BR:</b> So the Amazon molly needs a sexual partner to reproduce, but it doesn't actually reproduce with them. It's just reproducing with itself.</p> <p><b>CZ:</b> This is a species that cannot reproduce within itself. It needs to go and find a male of another species of fish. The sperm triggers this process of its eggs starting to develop. But that female Amazon molly destroys the sperm and all of the genes inside of it. It's like,</p>
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Amazon Molly

Image: www.chc.ca

thank you very much. I'm on my way. And then once it's been able to mate with a male fish from another species, it then just makes a whole bunch of clones of itself. So biologists call them sexual parasites.

**BR:** There's a funny head-spinny thing here because that also sounds like what the virus does. But the virus isn't alive. It needs another host to create more copies of its exact self. But the virus seems so different from a fish that swims around.

**CZ:** Right. Exactly. They are both sort of taunting us in the same way. It's a fish. Of course it's alive, of course. But when you actually try to put into words what it means

to be alive, the Amazon molly and things like it can get you all tangled up.

**BR:** I'm seeing why this simple question —what is life— has been so hard to answer. What are the words that puts you and me in the same box but keeps the red blood cells and viruses out and Amazon mollies in. I can see the language problem of drawing that circle around all that.

**CZ:** We're trying to draw these circles and maybe that's part of the problem. This is more a philosophical problem than a scientific one. Philosophers have been thinking about these issues for quite a while. A very simple way of trying

to understand this problem and perhaps one solution is instead of life, say like, well, what's a game? If you try to come up with some totally sharp circle definition of games, you're gonna fail.

**BR:** Are games really that hard?

**CZ:** Do games have to involve cards? Well, they can, but they can also involve tokens like in Monopoly. Do you make money playing games? Well, certain games, yes. And others you have to pay to play them. Do you have to win in a game? Well, sometimes.

But you never have a child go to a toy store and go to the game section and be like, "What is this? I don't

understand." What [philosopher **Ludwig**] **Wittgenstein** said was that games are these things that have family resemblances, so they're all connected in this sort of network of related meaning.

**BR:** Yeah, that feels so wishy-washy, though. Like red blood cells all in the same family as wombats and giraffes. I don't know.

Is this something we actually need to do as humans? Decide what life is?

**CZ:** Well, again, it really depends on who you talk to.

So there will be people who will say, we really do need a definition of life for scientific purposes. So NASA can have some idea of what they're doing, for example.

We need a definition of life for legal purposes. You know, because everyone's shouting about quote-unquote when life begins.

There are all these situations where we really need clear-cut definitions of life.

But there are other people who say a definition of life is absurd and a waste of time. There's a philosopher named **Carol Cleland** who has said this is like alchemists defining water in 1500. That's a waste of time [without understanding molecules and atomic structure]. These molecules

are composed of hydrogen and oxygen, and the way that they bond leads to all sorts of different behaviors that we know of for water.

**Leonardo da Vinci** wasn't there when it came to chemistry. He would pull his hair out trying to understand what water is. He would write in his journals like, "I don't know, like, you know, it's different colors. It has different tastes. It's like, what is this thing?" He was banging his head against the wall. We happen to live at a time where a theory of chemistry is pretty well worked out so we can understand water, whereas we're not there yet for life.

**BR:** Without having a solid theory of life ... does that complicate our search for it in space? Might we find something that looks totally unlike the life we have on Earth?

**CZ:** If we could find another form of life somewhere else, that would just change the game profoundly, and maybe we would have to step back and say, okay, what's our theory to explain life both on Earth and off on Alpha Centauri or wherever.

[But] I would not be surprised at all if our first encounter with something that seems like life just leaves us completely baffled.

Read text by **Brian Resnick**: <https://www.vox.com/unexplainable/23637531/what-is-life-scientists-dont-agree>





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## Say what?

“Someone asked me, if I were stranded on a desert island what book would I bring: ‘How to Build a Boat.’”

— Steven Wright

Source: [parade.com](http://parade.com)



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“I gravitate towards roles where women find strength in very difficult, uncompromising situations but maintain clarity in mind, discipline at heart, and a certain strength in spirit.”



**Michelle Yeoh Choo Kheng.** (1962). Malaysian actress who just won an Oscar for Best Actress.

Image: © Jingna Zhang



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## SCHOOL OF SCIENCE AND ENGINEERING



Image: www.freepik.es

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**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



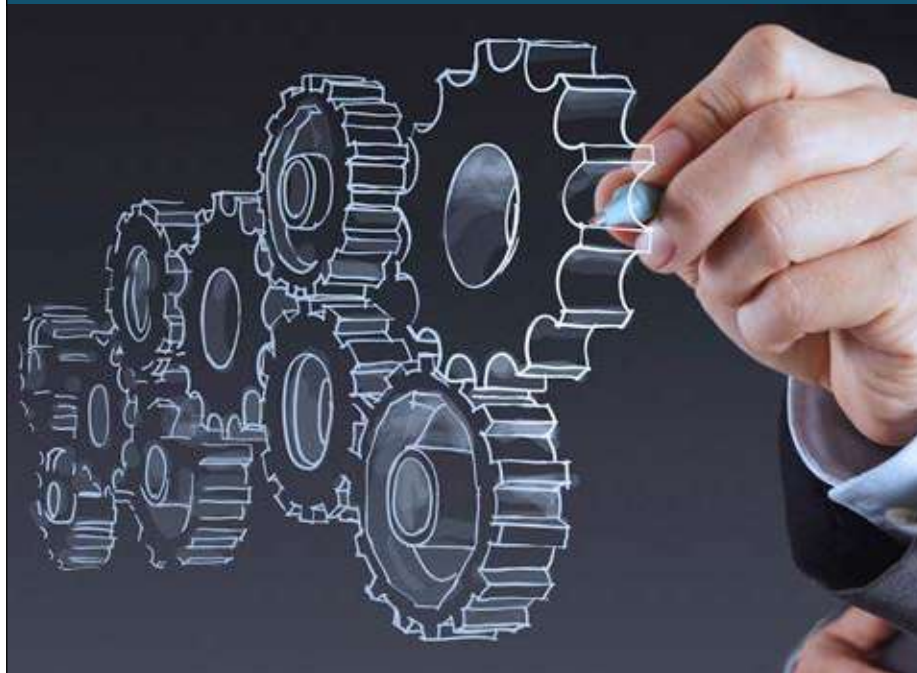
**THE SCHOOL OF SOCIAL AND HUMAN STUDIES** is focused on to the development of studies which instill a core commitment to building a society based on social and economic justice and enhancing opportunities for human well being.

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.

### Contact us to get started

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