

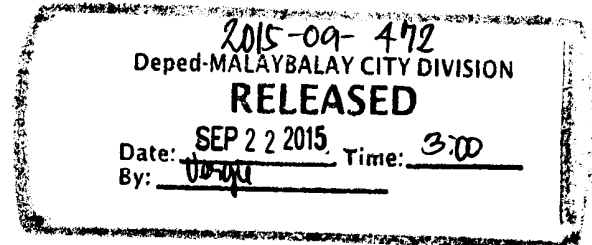


Department of Education
Region X- Northern Mindanao
DIVISION OF MALAYBALAY CITY
Casasang, Malaybalay City




DIVISION MEMORANDUM

No. 38 s. 2015



To: Chief Education Supervisors – SGOD & CID
Education Program Supervisors/Specialists
Public Schools District Supervisors
Elementary and Secondary School Heads

From:  **LORENZO O. CAPACIO, Ed.D.**

SOIC to the office of the Schools Division Superintendent

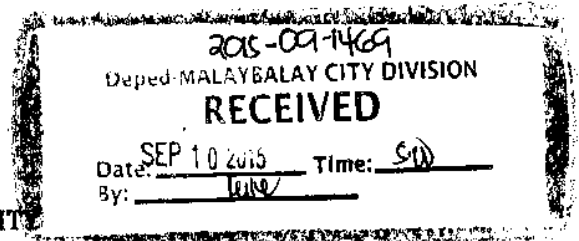
Date: September 22, 2015

Re: **2015 BUKIDNON PHYSICS SOCIETY MEETING AND CONFERENCE**

1. For the information and guidance of all concerned, enclosed is a copy of the invitation letter of the Bukidnon Physics Society President Ms. Normie Jean B. Sajor and the contest mechanics of its activities dated September 10, 2015 re : **2015 BUKIDNON PHYSICS SOCIETY MEETING AND CONFERENCE** which is self-explanatory.
2. Interested participants must write a letter of intent to the Schools Division Superintendent and shall be recommended by their School Heads to ensure the non-disruption of classes in compliance to DepED Order No. 9 s. 2005 re: "Instituting Measures to Increase Engage Time on Task and Ensuring Compliance Therewith" and shall be submitted to this office attention : ANALY L. OCIER, EPS in Science on or before November 16, 2015.
3. A registration fee of Php 800.00 will be charged to each teacher participant and Php 600.00 for student participants to cover expenses for the certificates and Olympics materials. Expenses incurred shall be charged to non- government organization, Local Government Unit (LGU) and other non DepEd sources.
4. Attendance to the said activity will be on *official time only*.

Immediate dissemination of this Memorandum is desired.

Bukidnon Physics Society
and the
Department of Physics
College of Arts and Sciences
CENTRAL MINDANAO UNIVERSITY
University Town, Musuan, Bukidnon 8710



September 10, 2015

EDILBERTO L. OPLENARIA, PhD
Schools Division Superintendent
DepEd Division Malaybalay

Re: 2015 Bukidnon Physics Society Meeting and Conference

Dear Dr. Oplenaria,

In preparation of the university's hosting of the 38th Annual National Philippine Physics Society (PPS) Convention this April 6-9, 2016 with a theme "Physics and Indigenous Cultures and Development". The Bukidnon Physics Society (BPS) will hold its **10th Meeting and Conference on November 26-27, 2015** at the College of Arts and Sciences, Central Mindanao University, Musuan, Bukidnon. With the United Nation proclaiming 2015 as the International Year of Light and Light-based Technologies, the theme of the conference will be "**Physics, Light, Culture and Life**". This meeting and conference is for physics/science teachers and enthusiasts who are interested for new approaches to teaching and learning physics. We also invite the policy makers who have been very influential in making a difference to the teaching and learning of physics to meet challenges for global competitiveness. High school students are highly encouraged to participate in the Physics Olympics and Inter-school quiz bowl.


The conference recognized the importance of raising global awareness about how light-based technologies promote sustainable development and provide solutions to global challenges in energy, education, agriculture and health. This is also an avenue for physics teachers to learn and share about how to improve public and political understanding of the central role of light in the modern world. The Registration Fee is eight hundred pesos only (P 800.00) and Student's fee is six hundred pesos (P 600.00) inclusive of certificates, and Olympics materials.

In this regards, we are inviting your school to participate in this conference by sending your science/physics teacher/s as well as their students. Aside from the plenary sessions and paper presentation, we also have three major activities lined up: **Physics Fair** to be participated by the teachers, **Physics Olympics** and **Inter-school quiz bowl** for the students. Attached herewith are the various mechanics for the said activities and the program.

We assure you that the time and effort of the participants, as well as the monetary support from your office shall not go to waste in this conference. We are looking forward to your positive response on this matter.

Thank you.

Respectfully yours,


NORMIE JEAN B. SAJOR
BPS President

0917 705 5287

10th Bukidnon Physics Society (BPS) – Annual Meeting and Conference
November 26-27, 2015
CENTRAL MINDANAO UNIVERSITY
University Town, Musuan, Bukidnon 8710

Theme: "Physics, Light, Culture and Life"

ANNOUNCEMENT/INVITATION

DepEd-MALAYBALAY CITY DIVISION
RECEIVED

Date: _____ Time: _____
By: _____

The Bukidnon Physics Society (BPS) and the Physics Department of Central Mindanao University would like to invite all college and high school physics/science teachers, students as well as education policy makers to participate in the 2015 BPS Meeting and Conference with the theme "Physics, Light, Culture and Life" to be held at the College of Arts and Sciences, Central Mindanao University, Musuan, Bukidnon on **November 26-27, 2015**. This is also in preparation of the university's hosting of the 38th Annual National Philippine Physics Society (PPS) Convention this April 6-9, 2016 with the theme "Physics and Indigenous Cultures and Development".


The conference will feature plenary sessions, paper presentations, workshops, demonstrations/exhibits, equipment construction and utilization. We also have three major activities lined up: **Physics Fair** to be participated by the teachers, **Physics Olympics** and **Inter-school Quiz Bowl** for the students. Attached herewith are the various mechanics for the said activities and the program.

For the sub-plenary sessions, physics/science teachers are also encouraged to contribute research papers, lectures, workshops or demonstration. An abstract or description of the presentation (not exceeding half of an 8 ½ " x 11" page, single spaced) or three hundred (300) words should be received not later than **October 31, 2015** by email: bukidnonphysicsociety@gmail.com. Presenters are requested to submit a one-paragraph profile to accompany the abstract.

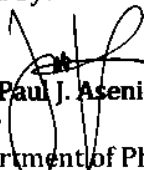
The registration fee is P 800 inclusive of certificates, Olympic materials and hand-outs. For participants who prefer to stay overnight, the lodging fee is P 150 to P 500 per night per person.

For more information, please contact us by email or by phone.

Respectfully yours,


NORMIE JEAN B. SAJOR
BPS President
Email: njsajor@gmail.com and bukidnonphysicsociety@gmail.com
Phone: +639177055287

Noted by:


John Paul J. Aseniero
Chair
Department of Physics

THE CONFERENCE & THEME

The Department of Physics of Central Mindanao University, and the Bukidnon Physics Society organized the 2015 Bukidnon Physics Society Meeting and Conference on November 26-27, 2015 at the College of Arts and Sciences, CMU, Musuan, Bukidnon. The conference features plenary sessions and paper presentations that will address the theme: **Physics, Light, Culture and Life**. Other major activities includes the **Inter-school Quiz Bowl, Physics Fair and Physics Olympics**. In this event physics teachers and students will be working together through the discussions for the development of new approaches to teaching and learning physics to meet the global challenges of this generation.

This meeting and conference aim to:

1. recognized the importance of raising global awareness about how light-based technologies promote sustainable development and provide solutions to global challenges,
2. Improved the public and political understanding of the central role of light in the modern world,
3. encourage students to demonstrate practical physics applications,
4. prepare the Bukidnon Province for the hosting of the Central Mindanao University in the National Philippine Physics Society (PPS) Convention 2016.

REGISTRATION FEE

Php 800.00 for teachers and Php 600.00 for students inclusive of certificates, Olympics materials, and hand-outs;

For inquiries, please contact:

Normie Jean B. Sajor
Department of Physics
Central Mindanao University
Musuan, Bukidnon 8710
E-mail: njsajor@gmail.com
bukidnonphysicsociety@gmail.com
Mobile Phone: 09177055287

CENTRAL MINDANAO UNIVERSITY
College of Arts and Sciences
Department of Physics

in cooperation with

DepEd Division of Bukidnon
DepEd Division of Malaybalay
DepEd Division of Valencia



**2015 Bukidnon Physics Society
Meeting and Conference**

November 26—27, 2015
CAS Audio Visual Hall
CMU, Musuan, Bukidnon

Physics, Light, Culture and Life

PROGRAMME

Day 1—November 26, 2015

07:00	Registration	
08:00	Opening Ceremony Invocation	Mr. Lloyd Allan T. Cabañog Faculty, Physics Department
	National Anthem	Ms. Hazel Marie D. Paculba
	Words of Welcome	Dr. Rolito G. Eballe Dean, CAS
	Introduction of the Participants :	Ms. Normie Jean B. Sajor Faculty, Physics Department
	Introduction of the Speaker Seminar-Workshop Orientation	

Emcee: Ms. Meriam A. Gabule

PLENARY TALK :

08:45	Plenary Talk I	
09:30	Coffee Break/ Refreshments	Room AS 13
09:45	Plenary Talk II	
10:45	Plenary Talk III	
11:45	Lunch Break	Room AS 13
13:00	Registration for Physics Olympics, Physics Fair and Quiz Bowl	CAS Lobby
13:30	Sub Plenary Session I	Rooms AS 14, AS 15 and AS 16
14:30	Sub-Plenary Session II	
15:30	Coffee Break/ Refreshments	Room AS 13
15:45	BPS Business Meeting and Election of Officers	

Day 2—November 27, 2015

07:00	Registration for Physics Olympics, Physics Fair and Quiz Bowl	CAS Lobby
07:30	Physics Fair	Rooms AS 14, AS 15 and AS 16
09:00	Coffee Break/ Refreshments	Room AS 13
09:30	Physics Olympics (Student Category)	Rooms AS 14, AS 15 and AS 16
11:45	Lunch Break	Room AS 13
13:00	Quiz Bowl (Student Category)	CAS AV Hall
18:00	Coffee Break/ Refreshments	Room AS 13
18:15	Closing Program Impressions Message from New BPS President Distribution of Certificates Closing Remarks	

Mr. John Paul J. Aseniero

Emcee: Ms. Meriam A. Gabule

Focal Persons

Teresita D. Taganahan and Normie
Jean B. Sajor
Lotis R. Racines and Hazel Marie D.
Paculba
Meriam A. Gabule, Myra Vanessa C.
Teofilo

Committees

Program and Invitation
Registration
Evaluation & Certificates
Food
Hall Preparation, Sounds and
Equipment
Physics Olympics
Documentation
Ushers and Usherettes

John Paul J. Aseniero, Christine
Adelle Rico-Yuson and Joeje
Adorable
Roger Joseph L. Lacubtan
Jaymor O. Ledesma and Roel N.
Baybayon
Lloyd Allan T. Cabañog
BSED Physics and BS Physics
students of CMU

Participants are requested to bring with them a laptop, tablet
or ipad for the workshop.

Bukidnon Physics Society
Physics Fair (Instructional Materials Competition)
Physics Quiz Bowl
Physics Olympics
General Guidelines

Physics Fair (Instructional Materials Competition)

Criteria for entry

- Instructional material is either new in design or a modification of an existing design.

Rules and Regulations for Participants

1. This contest is open to all interested science teachers in Bukidnon.
2. IM's should have some pedagogical value in teaching physics (i.e. demonstration, introductory labs, advanced labs, high school, outreach activities, etc.)
3. Only one IM entry will be allowed for each teacher.
4. Competition entrants must provide all pieces of IM's necessary to exhibit and operate their entries. Electrical outlets will be provided on request.
5. All entries should be submitted to the organizer on the first day of conference (during registration).

Safety

1. Exhibits should not leave exposed any electrical contacts which could cause injury if touched.
2. Exhibits should not include any chemicals that could cause injury if inhaled, ingested, touched, or contacted by eyes or other sensitive parts of the body.
3. Exhibits must be sufficiently stable so that the probability of any part of the exhibit falling or coming apart is negligible.
4. Exhibits should not leave exposed pieces of IM's which are so hot that injury could result to a person touching the apparatus.
5. Exhibits must not include features which could explode as a result of either chemical or mechanical interactions.
6. Exhibits that use lasers must include protective devices that make it impossible for injurious laser light to enter the eye of the observer.

General Guidance

1. All IM's should have a professional appearance.
2. You will not be presenting when the judges view your IM. Thus you should provide simple operating instructions and/or explanation to display near your IM.
3. The description for each IM should include suggestions on how this IM can be used to teach science.
4. Judges will have a solid background in physics, but should not be expected to have studied the theory behind each IM in depth.
5. Entrants may stay with their equipment during the public viewing to clarify the operation and theory of their IM's.

Guidelines for Judging

1. Judges will be selected by the organizer(s) of the Competition. Spectators may also be asked to choose their favorite IM to produce a popular vote.
2. IM must demonstrate originality of idea and/or simplicity of design of new, or modification of existing IM.
3. IM must show good construction, reliable performance, and must not, in its display at the Competition, violate the safety provisions set forth under General Rules.
4. IM must be accompanied by adequate supporting documentation to allow the judges to verify the physical principles demonstrated.
5. The participant's display should indicate the extent to which the IM is useful in an educational mode.
6. Until judging is complete, every effort must be made to preserve the anonymity of the entrants.
7. It is mandatory that judges choose a first, second and third prize winners.

Inter-School Quiz Bowl

Rules:

- This contest is open to all high schools students in Bukidnon. The participating school can send only one team. The team shall be composed of three (3) bona-fide students of the participating school.
- The quiz bowl is composed of three rounds: Easy, Moderate, and Difficult Rounds. Easy round will have ten (10) questions while moderate and difficult rounds will have five questions each. Easy round questions are worth 1 point, 3 points for the moderate round and 5 points for the difficult round.
- Teams will be given fifteen (15) seconds to answer for the easy round, thirty (30) seconds for the moderate round and sixty (60) seconds for the difficult round. Timer starts after the second reading of the question.
- Each team will be provided with board and chalk, from which they will write their answers.
- Scores will be added cumulatively, after all three rounds. The team with the highest score wins the Quiz Bowl. Second and third placers will also be awarded. In case of a tie, clincher questions will be asked.
- The question will be read twice by the moderator.
- Answers without units & spelled incorrectly will not be considered.
- Once the board is raised, nobody will be allowed to make any changes to their answer.
- Any clarifications/concerns regarding the questions and /or answers shall be raised before the next question.
- In case of questions, judges' decision is final and irrevocable.

Coverage: Mechanics, Electromagnetism & Optics

Physics Olympics (Student Category)

PAPER TOWER

OBJECTIVE: To construct a free-standing tower of maximum height using a single sheet of bond paper (long size).

TEAM: Maximum of two (2) members in a team.

MATERIALS:

To be prepared by host:

1. Two-meter long measuring scale
2. Scotch tape (smallest size of roll, one roll for each team; or one-meter long piece of tape for each team)
3. bond paper, 8.5" x 13"
4. Ruler
5. Pair of scissors, cutter, and/or blade

RULES:

1. Each team will be given one sheet of paper and one small roll of scotch tape at the start of the contest.
2. The sheet of paper may be cut into pieces and reassembled as desired. Parts may be rolled, folded, or slit.
3. Scotch tape may be used to fasten the parts of the tower together. It may not be used to attach the tower to the floor or any other object.
4. No glues or other tapes may be used. The paper may not be soaked, painted or chemically treated to add rigidity.
5. A tower shall be declared free-standing if it remains self-supporting until measurements on all entries are finished. This means standing during the time between the end of the construction period and the end of the measurement period. If a tower has been measured but collapses or falls before all other towers are measured, it shall be disqualified from winning.
6. Height is determined by measuring the perpendicular distance from the highest point of the tower to the floor.
7. Each team must complete the construction of each tower within an hour.
8. The three tallest towers will be declared First, Second and Third Place Winners, respectively.

BRIDGE BUILDING

OBJECTIVE: To build a bamboo bridge that can support the heaviest load.

TEAM : Maximum of two (2) members

MATERIALS:

To be prepared by host:

1. Balance/ weighing scale
2. Vernier caliper or ruler with mm scale
3. Sturdy rope, at least half a meter long
4. Heavy duty weight hanger
5. Weights, a total of 20 kgs with one kg composed of weights of 100 g or smaller
6. Match box type toy car
7. Cube of edge 10 cm
8. Rectangular box, 40 cm wide and 2 cm high

APPARATUS: Construction and materials of the bridge are as follows:

1. The bridge shall be constructed by the team before the contest.
2. Bamboo sticks and sewing thread are the only materials to be used.
3. Only cloth sewing thread will be used in tying or fastening the bamboo sticks of the bridge.
4. The total mass of the bridge and sewing thread shall not exceed 100 grams.
5. The bridge shall allow a 10 cm cube to slide underneath, perpendicular to the bridge's length, without touching the bridge.
6. The bridge shall allow a 40 cm wide by 2 cm high board to slide underneath perpendicular to the bridge's length without touching the bridge.
7. The bridge must be free-standing.
8. The bridge shall provide a smooth and level surface across which a small car of the "Matchbox" variety may roll given a single push of the hand. The road surface (level surface) shall have a minimum length of 20 cm.
9. The bridge shall contain no element wider than 5 mm x 5 mm bamboo stick. Two or more single pieces, each separately qualifying, may be attached by the student without violating this requirement.
10. The bridge design shall allow masses ("weights") to be hung at the center of the bridge. For this purpose, a rope should be used. It should be placed over the level surface, at the center of the bridge, and should be formed into a closed loop such that a weight hanger can be hung at the lower portion of the loop. Weights can then be placed on the weight hanger.
11. Only one bridge may be entered per team. All entries must be submitted during registration.
12. Any bridge not meeting the above restrictions will be automatically disqualified.
13. Once the bridge is checked in, no further work on it will be allowed.

TESTING:

1. The bridge shall be placed upon the ends of two level table surfaces approximately 35 cm apart.
2. A weight hanger shall be suspended from the lower portion of the loop of a rope placed over the level surface at the center of the bridge. Standard weights should be slowly added until an audible cracking sound, or any sign indicating the failure of some structural member or joint of the bridge, is noted.
3. The maximum load supported by the bridge before cracking divided by the mass of the bridge will determine the winners accordingly.

LARGE BARGE

OBJECTIVE: To construct a barge that can support the greatest load without sinking.

TEAM : Maximum of two (2) members.

MATERIALS:

To be prepared by host:

1. Washers of practically uniform size to serve as weights, to total 1500 g
2. Three or four basins (palanggana/batya)
3. Pieces of aluminum foil of equal sizes, each not exceeding 30 cm in length, one piece per team

RULES :

1. Each team will be given a piece of aluminum foil not more than 30 cm in length.
2. Each team will construct within 15 minutes a barge out of the given material without using tape, glue, staples or any other material.
3. The barge must be loaded by the team while floating on a basin of water.
4. Only dry loads should be used. If any water leaks into the barge during the loading process, the barge will be considered sinking. Thus damp or wet cargo must be unloaded, the barge dried and reloaded. Only two reloadings will be allowed.
5. Each team will be allowed one repair of its construction after thorough drying.
6. The barge that supports the heaviest dry load will be considered the winner and others will be judged accordingly.
7. Loads will consist of washers. The dry load just before the barge sinks will be the one recorded. If the load gets wet, the test must be repeated. Only 2 repetitions will be allowed. Consistently wet cargo will be a cause for disqualification.
8. Winners will be determined on the basis of the number of washers as load before the boat sinks. If entries have the same number of washers as load, a tie shall be declared. This means load is quantized.

PAPER AIRPLANE

OBJECTIVE: To construct an airplane of largest range and longest time of flight.

TEAM: Maximum of two (2) members per team.

MATERIALS:

To be prepared by host:

1. Long tape or rope (20 m long, marked at one-meter intervals), meter stick
2. Three stop watches, timers

A. The competition

1. Two separate rounds will be run, one for distance and one for time of flight. The same plane must be used for each round. Each team will have only one airplane.
2. Regarding the construction of the paper airplane, the following procedure shall be followed:
 - a. Each team will be given a piece of paper out of which the paper airplane is to be constructed.
 - b. Each team should finish construction of the plane within 30 minutes after the start of the contest.
3. The following rules and requirements shall be followed:
 - a. Preferably, competition will take place in an open air field or gymnasium where wind velocity is negligible and insignificant. Launches will be executed by the competitor horizontally from a standing position, and at shoulder level. If a launch violates this rule, the contestant shall be given another chance. A second violation disqualifies the team.
 - b. Stepping beyond the assigned marker will be a fault.
 - c. A second fault will disqualify the contestant.
 - d. Each team will be allowed two launches in each round with the best score for the set being retained for purposes of the competition.
 - e. Each team will compete in each part of the competition.
 - f. No practice flights will be allowed in the vicinity of the launching area during the duration of the contest.

B. Scoring

Distance Round

1. The plane should be launched horizontally at shoulder level.
2. Horizontal distance from the point in the ground directly below the launch point to the position of first impact with the ground will be measured.
3. Impact with any object prior to hitting the ground will allow a repetition of a launch.
4. The greatest distance achieved will be awarded 20 points with all other scores scaled proportionately to distance achieved to the nearest tenth of a point.

Time-of-Flight Round

1. In this part of the contest, the airplane may be launched at any angle.
2. Time from the flight of the airplane until first impact with the floor will be measured by two or three timers.
3. Impact with any object prior to hitting the ground will allow a repetition of a launch.
4. The average time of the timers to the nearest tenth of a second will be recorded.
5. Greatest duration will be assigned 20 points with all other scores scaled proportionately to the nearest tenth of a point.

Total Score is composed of the two (2) scores thus obtained. The highest scoring team will be awarded 20 points towards the total competition; the second, 15 points; the third, 10 points.

EGG TRANSPORT

OBJECTIVE: To build a vehicle powered by a rubber band(s) or rubber strip(s), which can carry an egg to the greatest horizontal distance.

TEAM: Maximum of two (2) members per team.

MATERIALS:

To be prepared by host: Balance/ weighing scale, Meter stick

RULES:

1. The contestants are to design and construct their own "cart" or vehicle prior to the contest. The cart or vehicle can be made of any inanimate material (commercial or scratch-built) like an empty spool. This is to be checked in. No further work will be allowed after checking in the device during registration.
2. The rubber band(s) or strip(s) as a source of energy must be a part of the vehicle. Catapults or other launching devices external to the vehicle (or initially connected or attached to an object/point external to the vehicle) are not allowed.
3. Up to 6 rubber bands or strips may be used. A strip formed into a loop will be counted as two strips. The width of the band/strip should not exceed 5 mm.
4. The maximum mass of the vehicle or device should not exceed 100 grams.
5. The egg may be rolled or carried by the vehicle.
6. The egg should remain unbroken or undamaged during the roll or transport.
7. A starting line will be marked on the floor.
8. The vehicle must move on a lane 50 cm wide. If the vehicle strikes the boundary side or line in the course of the roll/transport, that point will be marked as the end of the roll.
9. If the egg separates from the vehicle, the point at which the egg separates will be marked as the end of the roll/transport.
10. Winners will be determined on the basis of horizontal distance moved (perpendicular to the starting line) during the roll/transport.
11. Each team will be allowed two trials, with the greater distance retained for purposes of the competition.

SUPER MAGNET

OBJECTIVE: To construct an electromagnet that can support the largest load possible.

TEAM: Maximum of two (2) members

MATERIALS: Half-inch nails (suelas), Balance (weighing scale), DC power supply, about 3 V

RULES:

1. The electromagnet should be constructed before the contest and submitted for weighing before the contest begins.
2. The maximum mass of the electromagnet should not exceed 200 grams.
3. The electromagnet should be constructed in such a way as to leave two ends free (about 10 cm) for connection to a voltage source, preferably a DC power supply of 3 Volts. The same power supply should be used for all entries. If dry cells (two 1.5V dry cells connected in series) are used as the voltage source, the dry cells should be changed often so that the same voltage and current, as much as possible, will be used for all entries.
 1. The magnet will be dipped into a box of nails (half-inch long, suelas). The nails it lifts will be weighed.
 5. The average of three trials will be taken.
 6. The winners will be determined from the average mass of the nails lifted.