

Outreach Program for Talented Students Bahir Dar University

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Wisdom at the source of Blue Nile

Introduction

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- Outreach Program for Talented Students was a two year project financed by
 - Bahir Dar University and
 - Mr. Mark Gelfand, an American Philanthropist
 - Objective is to maximize the number of science and technology students with a motto
"Inside every child is a scientist".

Inauguration of The Program in July 2012



... Introduction

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- In addition, Mr. Mark has financed the construction of Science, Technology, Engineering and Mathematics (STEM) Incubation center at Bahir Dar.
- The center is now equipped with necessary laboratory materials and started to function in this summer training and continue to be fully functional in the next academic years.

Subjects Included in the Program

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- Science (Physics, Chemistry, Biology)
- Mathematics
- ICT
- Electronics
- Technical Drawing
- English
- Projects can be done in any field of study
- Extracurricular Activities and Educational Trips were also included in the previous trainings.

Training Types

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- Summer Training,
- Project Advising and Short Term Training,
- Supporting Science and Technology clubs in schools,
- Designing and Distributing standardized exam questions in different subjects and grade levels.

Summer Training

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- 40-45 days training during July and August;
- 300-500 students can be beneficial in each summer;
- Grade 7-12 students can join the program;
- Hands on Laboratory Experiments can be conducted including mathematics;
- Group based training is given
 - Group-1: grades 7-8
 - Group-2: Grades 9-10
 - Group-3: Grades 11-12

... Summer Training

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- So far 1340 students are participated in the program
 - In 2004 E.C. 450 students
 - 50 students from 10 administrative zones in Amhara Region
 - 20 students from Benshangul Gumuz Region
 - 380 students from Bahir Dar City (Both gov'tal and private schools)

... Summer Training

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- In 2005 E.C. 550 students
 - 150 students from zones in Amhara Region
 - 150 students from Benshangul Gumuz Region
 - 200 students from Bahir Dar City (Both gov'tal and private schools)
 - 50 students from BDU community

... Summer Training

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- Number of Teacher Participants in the last three summer trainings are:
 - 74 University Instructors
 - 64 Laboratory Technicians
 - 60 upper elementary, secondary and preparatory School Teachers
- In 2014, school teachers were not invited to participate



Students in Science Lab (2013)



Students in ICT and Electronics Labs (2012)



... Summer Training

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- In 2006 E.C. 340 students
 - 104 students from zones in Amhara Region
 - 20 students from Benshangul Gumuz Region
 - 160 students from Bahir Dar City (Both gov'tal and private schools)
 - 20 students from BDU community
 - 36 students selected from the previous trainings.



**Students
in STEM
Center**

Project Advising and Short Term Training

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- 10 % of the students are selected based on Aptitude tests and instructors recommendations for further training and project works during the whole academic year.
- So far $45 + 52 = 97$ students were selected in the years 2004 to 2005 E.C.
- $30 + 35 = 65$ students were actively participating in projects and trainings.

Students Selection Criteria

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- Club activity (participation) of the student,
- Creativity of the student,
- Average mark of the student in science subjects,
- Ethics and gender was also considered for selection.

Mode of Training

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- A team teaching mode is followed
 - 1 University instructor
 - 1 Laboratory Technician
 - 1 School Teacherhelp students to practice in experiments in one class.
(this summer the school teachers were not included)
- 25 students placed in one class
- 3 hrs. laboratory work



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STEM
INCUBATION
CENTER



STEM Incubation Center

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- The Center has the following facilities

- Laboratory Rooms

- Physics
- Optics
- Space Science
- Chemistry
- Biology
- Biochemistry
- Electronics
- Mathematics
- ICT (Two Rooms)
- Workshop



STEM Incubation Center

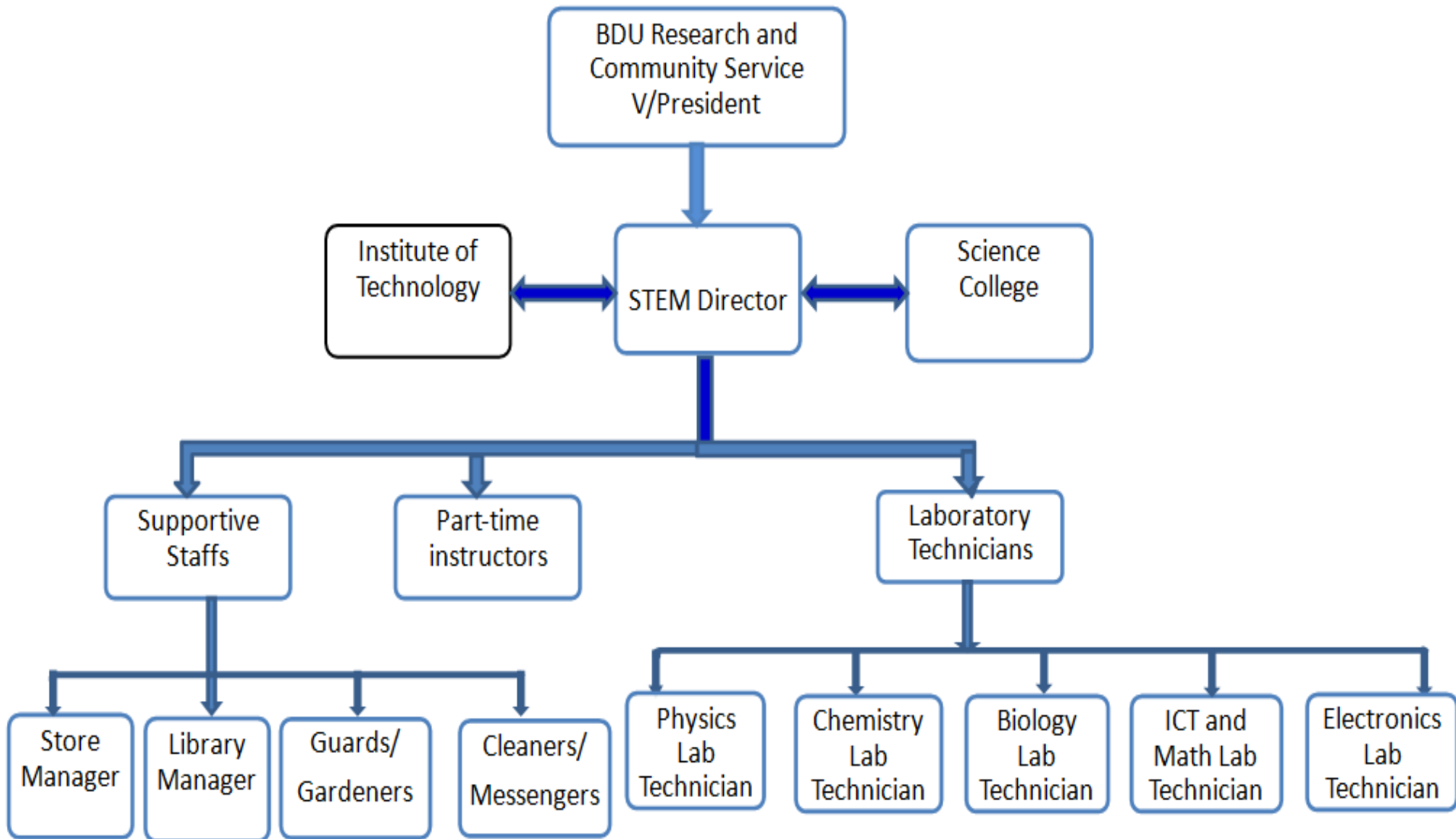
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- Mini Library
- Meeting Hall
- Offices
 - Manager Room
 - Store Room
 - Staff Room
- Toilets
 - Staff (Female/Male)
 - Students (Male/Female)
- **Cafeteria** (Required to be constructed)



STEM Organizational Structure

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Future Plan

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- **Supporting Schools and school students**
 - ✓ Supporting Science and Technology clubs;
 - ✓ Providing teaching and learning resources, like audio and video files, books, laboratory manuals, learning/teaching softwares and standardized exam items;
 - ✓ Providing Library, Internet and Laboratory Services to students including primary school students.

...Future Plan

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- **Functioning the STEM Incubation Center fully** for the whole academic year so that students either individually or in group or with their school teachers can conduct laboratory works.
- **Supporting Innovation**
 - ✓ The STEM Center will be a Technology park
- **Designing lessons and lab manuals**
- **Searching and supporting more talented students to involve in projects.**



STEM Meeting Hall



Challenges Faced

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- Participant Students inclination towards preparing for national exams.
 - Students need Exam oriented lessons
 - They are now coming to accept our mode of training
- Lack of enough amount of Training Resources
 - Lab. Rooms and Equipments
 - Is going to be fulfilled in the Center Soon

... Challenges

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- Cafeteria and Transport Services
 - Students got such services during the last two Summer trainings
 - This year it was a challenge
 - Transport fee is finally covered by Educational Bureaus.
- The Society's expectation from the program
 - They should not expect every thing from Government
 - They should support the program for their children benefit

Collaborations

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- Mr. Mark Gelfand and Family Charitable Trust
- MOE
- Amhara Educational Bureau
- Benshangul Gumuz Educational Bureau
- Bahir Dar City Educational Offices
 - ✓ Funding the Outreach Program and STEM CENTER
 - ✓ Selection of Students
 - ✓ Covering Transport costs of students

LOGO

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End

FOG

Inside Every Child
is a Scientist!
M.G.

Thank you