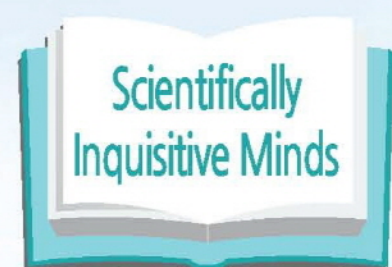


GWANGJU SCIENCE ACADEMY FOR THE GIFTED



Education Goals

Educating Scientifically Gifted Students for a Better World



Scientifically Inquisitive Minds
with Vision and Motivation



Well-rounded Personalities
with Cooperative Spirits

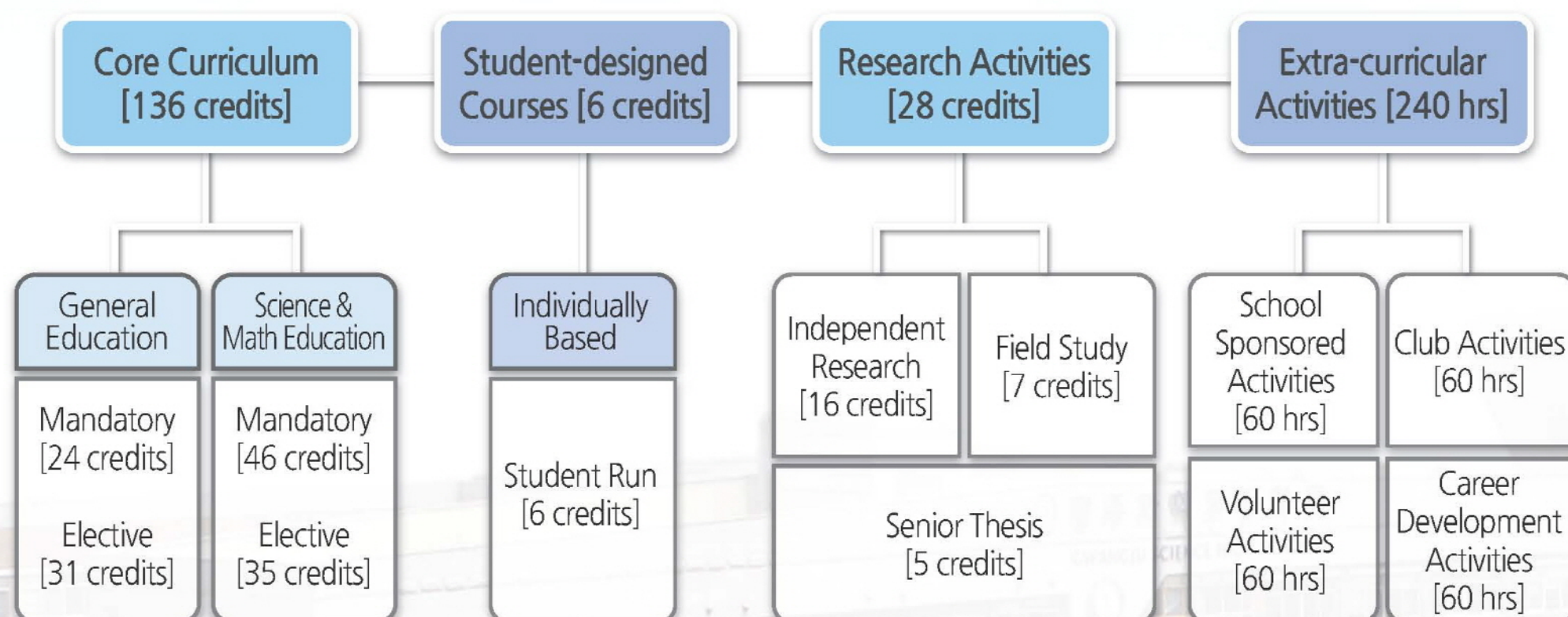


STEAM Researchers
with Innovative Ideas



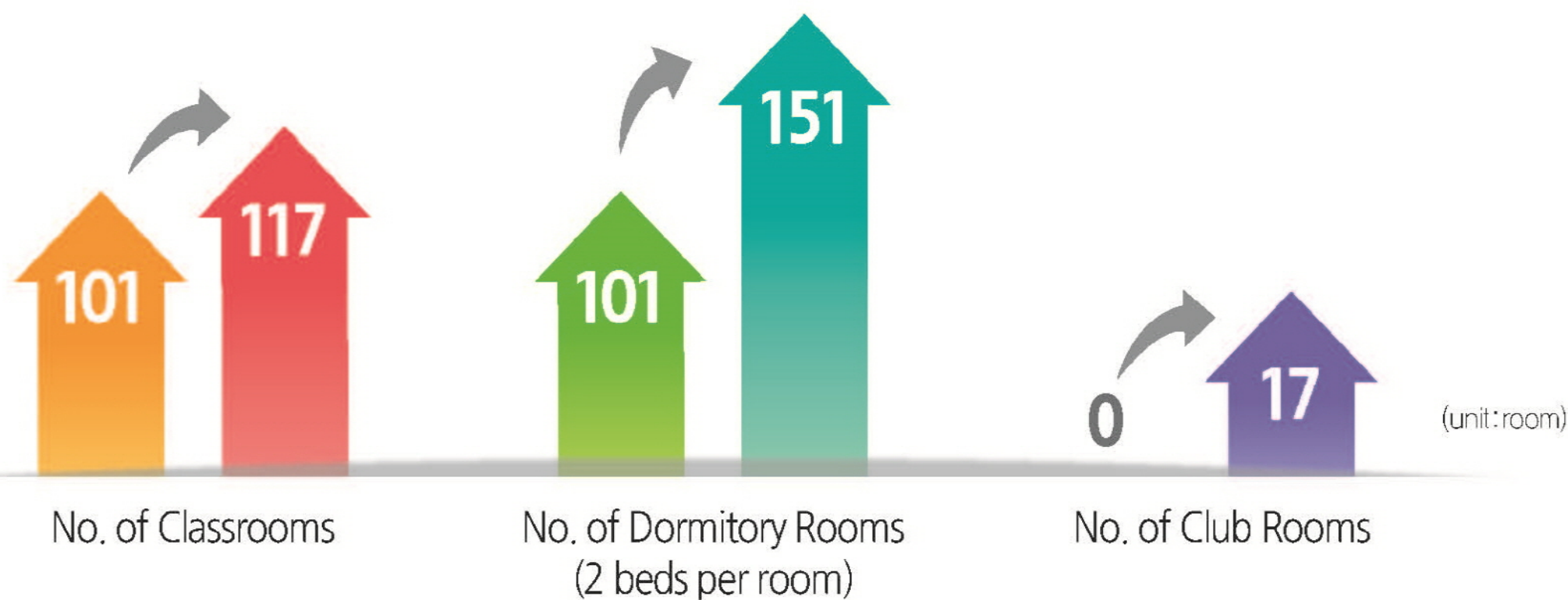
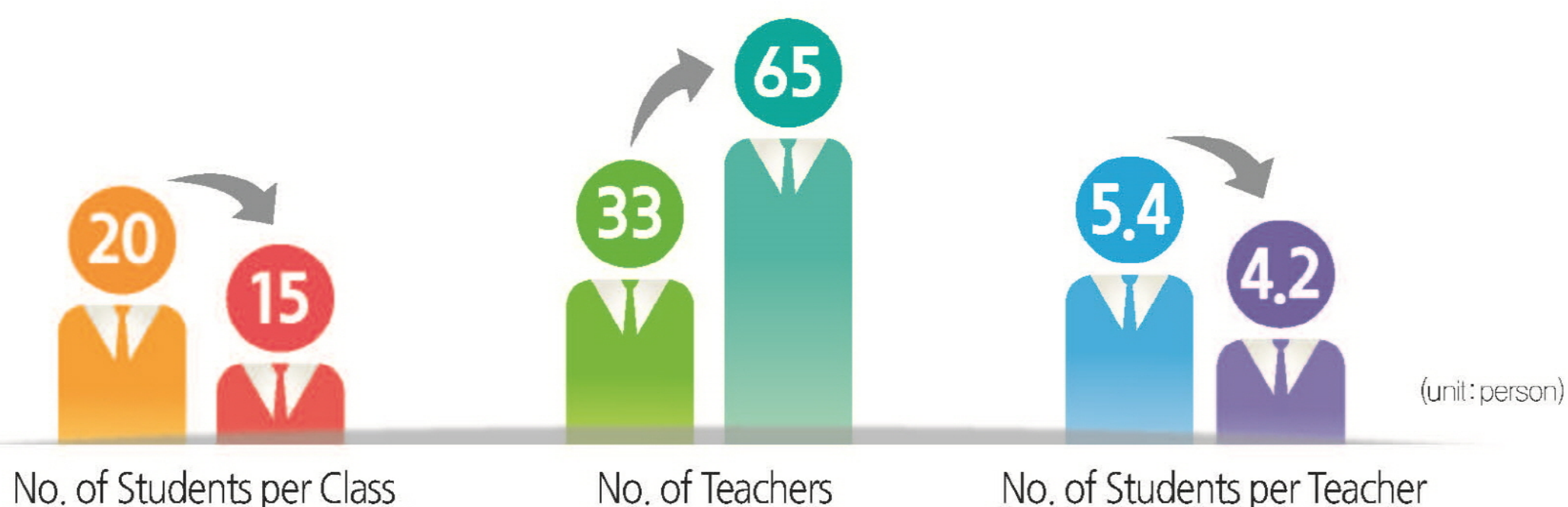
Global Leaders
with Unlimited Potential

Curriculum



Gifted School Designation and the Changes

(2013 → 2016)



※ Additions made: Study Rooms(3), Computer Labs(3), Dormitory Guestrooms(2)

※ One Research Advisor / Laboratory Supervisor in:
Math, Physics, Chemistry, Biology, Earth Science and Information Science

Advanced Equipment Facilities



- Scanning Electronic Microscope (SEM)
- Electrochemical Analyzer System
- Raman Spectroscopy
- Ion Exchange Chromatography (IC)
- Tandem Quadrupole MS Detector (LC/MS/MS)
- Fast Protein Liquid Chromatography (FPLC)
- Amino Acid Analyzer(AAA)

Scientifically Inquisitive Minds



Research-oriented Environment

- R&E programs linked with research institutes
- Field studies
- Academic school clubs
- Gifted education forum



Creativity Programs

- Self-designed creativity program
- Science festival
- Student-initiated research clubs
- Theme- and project-based classes



Foundational Efforts

- R&E research activities
- Nationwide selection of distinguished teaching staff
- AR (Action Research) development
- Teacher seminars on research procedures

Well-rounded Personalities



Character Development Programs

- Shared abilities, thoughts and experiences
- Student volunteer work
- Volunteer Day, linked with welfare facilities



Community Involvement

- Education on human rights
- Preventive education on school violence
- Nature research in Mt. Jiri
- Adventure activity at Mt. Halla



Student-initiated Hands-on activities

- Building character through sportsmanship
- Music concert
- Science fair



Plans

STEAM Researchers



Humanistic Literacy

- Expression through writing
- Reading liberal arts
- Liberal arts courses



Culture, Art and Athletic Activities

- Club activities
- Music, art and PE courses
- BITSORI school festival



Hands-on Research Activities

- Nature research
- Science exhibitions and other contests
- STEAM clubs
- Professional lectures or seminars

Global Leaders



Debate Activities

- Debate-centered courses
- Student initiated activities
- Student administered court



Foreign Language Competence

- Intensive English conversation class
- English textbooks for science specific content areas
- Invitational lectures



Global Science Programs

- International academic exchange programs
- Internship training at overseas research institutes
- Global Frontier Program



Career Counselling

- Vision school follow-up program
- Career zone
- Individualized career counselling programs



Application Guide

I Qualifications

1. Quota: Students should meet all of the following requirements

- Students should currently attend or have already graduated middle school or have the equivalent qualifications.
- Students should display potential in math and science.
- Students should submit letters of recommendation from a school principal, a homeroom teacher and a science/math teacher or a teacher from an accredited institute for gifted students.

2. Additional Students

Refer to GSA homepage

II Application Category and Quota

Division			The number to be admitted	No. of applicants to be admitted
Quota	Global STEAM Category	Local	45	90
		Nationwide	45	
Selection of Additional Students	Disadvantaged Students	Gifted Education Promotion Law, Article 12, No 2	Within 10% of the number to be admitted	Within 9

III Admission Procedures

Division	Screening Process	Date	Method
Step 1	Document Screening		Comprehensive assessment of applicants' giftedness based on submitted documents
Step 2	Assessment of Applicants' Potential and Level of Giftedness	May	Comprehensive assessment of applicants' level of giftedness such as aptitude in math and science, creativity, scholastic abilities, etc.
Step 3	Multilateral Assessment of Applicants' Giftedness	June	Comprehensive assessment of applicants' potential as a STEAM scientist

※ For further information, refer to GSA homepage

IV Submission

Application form, Self development plan, Teacher references, School records

※ Reference from a math or science teacher

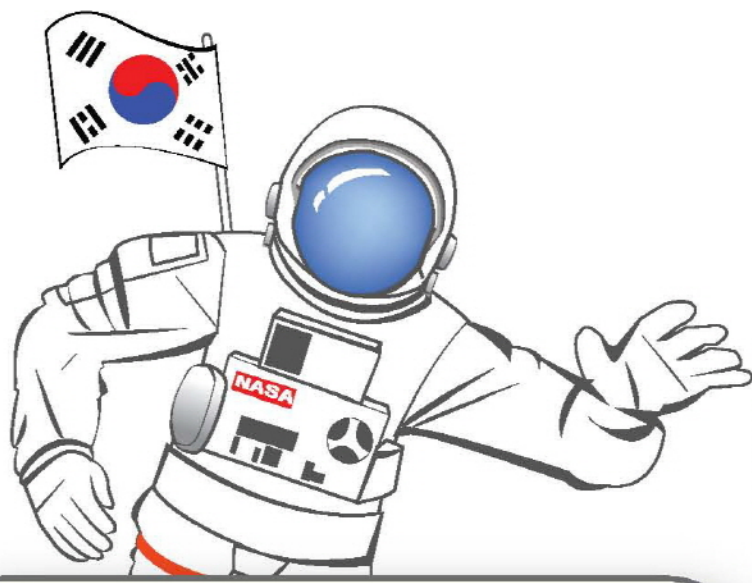


Location

※ A variety of research centers are located within 20 mins walking distance:

Amkor Technology, Korea Photonics Technology Institute, Gwangju Technopark, The National Science Museum, The Gwangju Institute of Science and Technology (GIST), Korea Institute of Industrial Technology (KITECH), ACAM, Advanced Photonics Research Institute, Gwangju Design Center (GDC), Korea Filter Testing Laboratory (KFTL), Gwangju Ministry of Drug and Food Safety





South Korea's First Astronaut
LEE So-Yeon, Class of 1995



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Simple diffusion-based super-resolution imaging based on resonance energy transfer

Sangyeon Cho, Heeyoung Lee, Prabhakar Ganesan, Tae-Young Yoon, Hyotcherl Ihee, Won Do Heo & YongKeun Park

Affiliations

Scientific Reports 3, 1208 (2013) | Published 04 February 2013

Received 09 November 2012

PDF

Discussions

Metrics

Despite the recent development of several super-resolution fluorescence microscopic techniques, there are still few techniques that can be readily employed in conventional imaging systems. We present a simple, rapid, general and cost-efficient super-resolution imaging system based on resonance energy transfer. This system provides a favorable temporal resolution in live-cell imaging. We demonstrate super-resolution live-cell dynamic imaging using general fluorophores in a standard epi-fluorescence microscope with light-emitting diode (LED) illumination. Due to the simplicity of this approach, we expect that the proposed method will prove an attractive option for super-resolution imaging.

Subject terms: Single-molecule biophysics • Wide-field fluorescence microscopy • Super-resolution microscopy • Biophotonics

Scientific Publications Started at GSA
CHO Sang-Yeon, Class of 2006

2004년 9월 1일 수요일 30판

“호기심이 과학 인생 이길

서울공대 29세 여교수
김 현 진 씨

서울대 공대 기계항공공학부에 29살의 젊은 여교수가 등장했다. 광주 과학고와 한국과학기술원(KAIST)을 졸업하고 미국 UC 버클리대 공대에서 박사학위를 받은 김현진 교수는 이번 가을학기부터 '공업수학'과 '비행동역학 및 항공제어' 과목을 가르치는 조교수로 임용됐다. 공대에 여교수가 더러 있지만 남학생이 대부분인 기계항공공학부에는 김 교수가 처음이며 20대 임용



고 말했다. 학창시절부터 김 교수는 주목 받을 수재 학생이었다. 학교부터 남

모두 따랐다. 그가 과학 외로 단순하게 되고 싶었 과학고 진학하는 것을 보며 "레"하는 궁금기심에 의해 김 교수의 미국에서도 터에 응용해 키는 연구를 라의 산업환 공기 산업은 로도 가능한 으로

The Youngest Prof. of Seoul Nat'l University
KIM, Hyun-Jin, Class of 1990



**GWANGJU
SCIENCE ACADEMY
FOR THE GIFTED**

215 Gwagi-ro, Chumdan, Buk-gu, Gwangju
Principal's office (062) 670-3201
Teachers' office (062) 670-3203
Administration office (062) 670-3252 FAX (062) 972-5391
Admission office (062) 670-3208, 3209
www.kwangju-s.hs.kr