

KEY AREAS IN RESEARCH

- Patents
- Research Funding
- Research Events
- Consultancy
- Projects
- Innovations



CORE RESEARCH AND INNOVATION GROUP

Boosting Research, Innovation, Skill Development and Entrepreneurship in AISECT Group Universities

CHANCELLOR



SHRI SANTOSH CHOUBEY
 Chancellor
 CVRU Bsp, Khandwa,
 RNTU Bpl, AU Haz

PRO - CHANCELLORS



Prof. SIDDHARTH CHATURVEDI
 RNTU, Bhopal (MP)



Prof. NITIN VATS
 CVRU Bilaspur (CG)



Prof. ARVIND CHATURVEDI
 CVRU, Vaishali (Bihar)



Prof. ABHISHEK PANDIT
 AU Hazaribag (Jharkhand)



Prof. AMITABH SAXENA
 CVRU Khandwa (MP)

AGU – Universities of New India

Seeds of AISECT Group of Universities (AGU) were sowed in early eighties when AISECT Network was emerging as the leader for skill development and distance learning. Over the years AGU have grown in to five premier universities known for their commitment for affordable quality education, research, skill and entrepreneurship. Their initiatives in research, innovation and entrepreneurship have been acclaimed at international and national levels with many prestigious awards. :-

- **Dr. C.V.Raman University** Bilaspur Chattisgarh (CVRU Bsp)
- **Rabindranath Tagore University** Bhopal MP (RNTU Bpl)
- **Dr. C.V.Raman University Vaishali** Bihar (CVRU Vaishali)
- **AISECT University** Hazaribagh Jharkhand (AU Hz)
- **Dr. C.V.Raman University** Khandwa Madhya Pradesh (CVRU Kndw)

Awards



CVRU – Bilaspur

- EWM Ranking - 1st in CG
- Global Award - Best Curriculum Design
- The Week Award - Top Ten
- Best Skill University Award

RNTU- Bhopal

- NIRF Ranking
- World Edn Awards
- No. 1 Business School
- NILET Award

AU Hazaribagh

- ASSOCHAM Education Award
- Best in Skill Delivery
- World Education Award

CVRU Khandwa

- Excellence Award (MPPUC)
- Navodit Vishwavidyalay Samman
- Utkrishth Shiksha Samman

CVRU Vaishali

- Smart City Award
- Top 10 University Award
- Best Agriculture Education

The Team AGU



Dr. Pallavi Rao Chaturvedi
 Executive Vice President
 AISECT



Mr. Gaurav Shukla
 Registrar
 CVRU Bilaspur, CG



Dr. Vijay Singh
 Registrar
 RNTU Bhopal, MP



Dr. Sitesh Kumar Sinha
 Registrar
 CVRU Vaishali, Bihar

AGU- The Cutting Edge

- | | |
|--|---|
| <ul style="list-style-type: none"> • NIRF Ranking • NAAC Accreditation • Atal Incubation Center by Neeti Aayog GoI • PMKK within campus • 8 + world class Industry Centers • 9+ Advanced Research Centers in each campus • Publishing two Research Journals Anusandhan and Shodhaytan | <ul style="list-style-type: none"> • 45+ Active Start ups • 115+ patents of social concerns • Rs. One Cr. Internal Annual research fund • Huge International Center for Arts Culture and literature • International Association IAWEES - Water Energy Envir & Society (20 countries) |
|--|---|

Some Important Industry Centers in AGU

- | | |
|--|--|
| <ul style="list-style-type: none"> • MICROSOFT • BOSCH • INTEL • SCHNEIDER | <ul style="list-style-type: none"> • TATA MOTORS • DAIKIN • LUCCAS NULLE • MICRO FOCUS |
|--|--|



AGU Research and Consultancy Coordinators

- | | |
|---------------------|--|
| • Dr. CVRU Bilaspur | - Dr. Manish Upadhyay, Dr. Anupam Tiwari |
| • RNTU Bhopal | - Dr. Dinesh Soni |
| • CVRU Vaishali | - Dr. Dharmendra Singh |
| • AU Hazaribagh | - Dr. Arvind Kumar, Mr. Ritesh Kumar |
| • CVRU Khandwa | - Dr. Aarti Sharma, Dr. Bhavna Bajpai |

CHANCELLOR



PROF VIJAYKANT VERMA
 Chancellor
 CVRU Vaishali (Bihar)

VICE - CHANCELLORS



Prof. RP DUBEY
 CVRU Bilaspur (CG)



Prof. BP PETHIYA
 RNTU, Bhopal (MP)



Prof. Vimal Kumar Sharma
 CVRU, Vaishali (Bihar)



Prof. PK NAIK
 AU Hazaribagh (Jharkhand)



Prof. ARUN R JOSHI
 CVRU Khandwa (MP)

The Team AGU



Dr. Munish Govind
 Registrar
 AU Hazaribagh, Jharkhand



Mr. Ravi Chaturvedi
 Registrar
 CVRU Khandwa, MP



Ms. Pushpa Asiwat
 Coordinator
 AGU



Ms. Aditi Chaturvedi
 Director
 AGU

CRIG – A UNIQUE CONCEPT

CRIG (Core Research and Innovation Group) was established in 2017 to help developing research facilities and build up an environment for research, innovation, skill development consultancy and entrepreneurship in five AISECT Group Universities. It proved to be a force multiplier and the best example of collaboration and synergy, where men and material resources of five universities came together in multi disciplinary, multi institutional mode; for not only the best and optimum use of resources but also to generate excellent esprit –de-corps and show how one plus one becomes eleven. Since then many other international and national organizations from academia and industries have been brought in the fold through MoUs for research projects and activities. Advisory panel of 25 national and international renowned experts from various fields are also part of this big network. Seed money of annual Rs. One Crore and attractive incentives are changing the research skyline in AISECT Group Universities with unprecedented number of projects, papers, books, events, consultancies and innovation during last three years.

Rs. 1 CRORE
Annual Corpus
for
Internal Funding
of Research
activities

AGU'S IDENTIFIED AREAS FOR RESEARCH

- Energy
- Agriculture and Food Processing
- Material Science & Nanomaterial
- Water
- Environment and Soil
- Biotechnology
- Tribal Arts & life style
- Mining
- IoT and Advanced Computing
- Liberal Art, Literature and Culture



CRIG – ADVISORY BOARD

- | | |
|--|---|
| <ul style="list-style-type: none"> ● Shri Santosh Choubey
Chancellor, RNTU, Bhopal (MP) ● Prof. Vijay Kant Verma
Chancellor, CVRU, Vaishali (Bihar) ● Prof. Bramh Prakash Pethiya
VC, RNTU, Bhopal (M.P.) ● Prof. R.P. Dubey
VC, CVRU, Bilaspur (C.G.) ● Prof. Vimal Kumar Sharma
VC, CVRU, Vaishali (Bihar) ● Prof. P.K. Naik
VC, AU, Hazaribagh (Jharkhand) ● Prof. Arun R. Joshi
VC, CVRU Khd (M.P.) ● Prof. Mohamed Quessar
IRA, Tunisia ● Mr. Richard Hopkins
ORCA, Australia | <ul style="list-style-type: none"> ● Prof. S Sapra UCF, USA ● Prof. FJ Manjon UPV, Spain ● Prof. Weicheng W U, ECUT, China ● Prof. Joel Kibiiy, Moi University, Kenya ● Prof. R.K. Pandey, (Science) ● Prof. Salim Abbas Bhai Chaniwala (Energy) ● Prof. Tarun Pandya (Management) ● Dr. M. Sundarrajan (Science) ● Prof. Murali Mantrala (Management) ● Prof. Sandhya Chaturvedi (Sociology) ● Dr. RN Yadav (Environment) ● Prof CK Ghosh (Engineering) ● Maj Gen Chaturvedi (Technology) ● Dr. SR Awasthi (Renewable Energy) ● Dr. Dinesh Kumar Soni (Engineering) ● Dr. Anil Kurchania (Agriculture) |
|--|---|

Strength

- **5 Universities**
- **25K+ Students**
- **1.5K+ Faculty**
- **300+ Labs**

Activities Supported by CRIG

- Externally and Internally funded projects
- Publication of Research Papers
- Patents • Consultancy • Book Writing/Translation
- Attending National/International Conference
- Organizing conferences/workshops/seminars
- Developing e-content for online teaching • Innovation





Centers of Research Excellence in AGU

Energy Center and Energy Park
Bhopal, Bilaspur

Agriculture Research Complex
Bhopal, Bilaspur, Vaishali, Hazaribagh

Advanced Material Research Lab
RNTU Bhopal

Dr. CV Raman Center for Science Communication
Bilaspur, Bhopal Vaishali, Hazaribagh, Khandwa

Tagore International Center for Arts and Literature
Bilaspur, Bhopal Vaishali, Hazaribagh, Khandwa

Center for Environmental Research
Bhopal, Bilaspur, Vaishali, Khandwa

Center for Biotechnology Research
CVRU Bilaspur

Center for Tribal Arts, Culture and Life Style
CVRU Bilaspur

Center for IoT and Advanced Computing
RNTU Bhopal

Center for GIS and Remote Sensing
CVRU Bilaspur

Center for Rural Technology
CVRU Bilaspur

Advanced Research Support Facilities at AGU

- CA Design, Simulation and Testing Labs with Latest software
- Fabrication, moulding and assembling lab with automated latest eqpt
- 3D Printing, Robotics, Cloud Computing and AI lab
- CNC Machines PCB designer and other advanced automated machines
- 50 plus PG and Doctoral Research Labs
- Atal Incubation Center at RNTU Bhopal
- Large number of MoUs with Research Organizations.

Chairs in AGU

Dr. CV Raman Chair - For Science & Technology
Bilaspur, Bhopal and Vaishali

Vanmali Srijan Peeth - For Literature & Culture
Bilaspur, Bhopal Hazaribagh, Vaishali and Khandwa

AGU Investigators and Innovators

Dr. Manish Upadhyay



Dr. Namita Bhardwaj



Dr. Milan Hait



Dr. Rashmi Verma



Dr. Rakesh Kumar



Dr. Preeti Shukla



Dr. MZ Khan



Dr. Anupam Tiwari

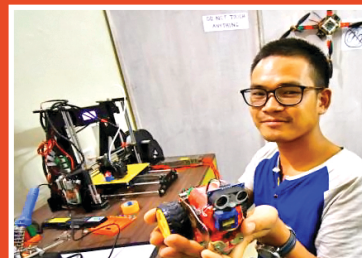


Dr. Ravi Kanode



Some Important Externally Funded Projects

- Indo Taiwan Project-**
 Synthesis and Characterization of Lanthanide to enhance Solar cell efficiency
Investigator –
 Dr. Sudeshna Ray
- DST Project –** Development of corrosion resistive technique for electronic devices
Investigator –
 Dr. Jyotsna Mishra
- Indo Romania Project –**
 Project KA-1 with PM University Romania
Investigator –
 Dr. Shalini Yadav
- Indo Spanish Project –**
 AB03 and A2 x3 compounds for extreme condition
Investigator –
 Dr. Sudeshna Ray
- DRDO Project –**
 Development of Pyrophoric Materials for smart flares
Investigator –
 Dr. Sudeshna Ray
- DST Project –** Project Eco-Next, Eco leads and Eco Routes
Investigator –
 Mr. Prabal Roy
- MNRE Project-** Green Campus Project
Investigator –
 Dr. S.R. Awasthi
- Biodiversity Project –**
 Biodiversity Register investigation
Investigator –
 Dr. Pragya Shrivastava
- CGCST –** Project on Environment
Investigator –
 Dr. Manish Upadhyay



Projects Funded by CRIG

2018-19	10 Projects	2019-20	20 Projects
<ul style="list-style-type: none"> Projects of innovation, new knowledge, social relevance and local empowerment 		<ul style="list-style-type: none"> Projects aligned to Atma Nirbhar Bharat, local strength, New knowledge and Social concern. 	

AGU Investigators and Innovators



**CVRU Bilaspur (CG)****RNTU Bhopal (MP)****CVRU Vaishali (Bihar)**

AGU is led by

Shri Santosh Choubey recipient of -

- Ashoka Fellowship
- Indian Innovation Award
- NASSCOM Emerge 50 Leader
- Meghnad Saha Award
- National E-Governance Award



AGU-The only Group with Enhanced Research Environment

- Atal Incubation Center supported by Neeti Aayog
- Tiups with Research Labs & Research Organizations
- MNRE Green Campus Award
- 9 Navratan Centers of Research Excellence
- PMKK Within University

AGU – Collaborative Project Partners

- | | | |
|---------|------------------|--------------|
| • DRDO | • CGST | • IIT Delhi |
| • DST | • NIF | • AMPRI |
| • MNRE | • IIT Mumbai | • MICROFOCUS |
| • MPCST | • MoI University | • FRUGAL LAB |

AGU Providing Turn key Consultancy in 50 Areas

- Solar System – Concept to Commissioning
- IoT and AI Base Solutions
- Crop and Food Processing
- Material and Nanomaterial Application
- And many more...!

AGU- Way ahead in implementing NEP- 2020

- Research - Part of Curriculum in UG & PG
- Internal Funding for Research Projects
- Entrepreneurship in Curriculum with support for start ups
- Vocational Education with industries Support
- Skill courses compulsory in all Programs
- Multi disciplinary Curriculum
- Regional Language books by AGU authors
- Choice based credit courses with continuous valuation
- Structured effort for holistics development
- Strong social connect - adopted 20 villages

AGU – The Pioneer for Cultural Resurgence

AGU has set up 5 new centers for Cultural Resurgence in Higher Education with following Coordinators

1. भाषा शिक्षण केंद्र	Dr. Ruchi Mishra Tiwari
2. प्रवासी भारतीय साहित्य एवं संस्कृति शोध केंद्र	Dr. Mausami Parihar, Mr. Sanjay Rathore
3. अनुवाद केंद्र	Mr. Arunesh Shukla
4. अंतर्राष्ट्रीय साहित्य एवं कला केंद्र	Mr. Vinay Upadhyay, Mr. Vikrant Bhatt
5. लोक भाषा एवं संस्कृति केंद्र	Ms. Vishakha Rajurkar Raj

AGU Innovative Initiatives

- **Community Radio** – Social & Educational Connect
- **Samarth Bharat Abhiyan** – Promoting MSME & Local to Global
- **Tagore International Center for Arts Culture**
- **Literature**
- **Entrepreneurship** in curriculum
- **Support of Start ups**
- **Green Campus,** Cashless, effective waste disposal and Smart Services



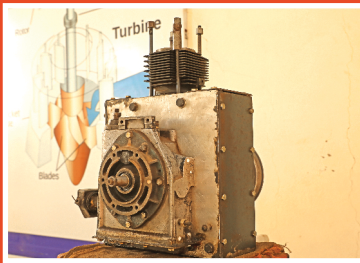
AU-Hazaribagh (Jharkhand)



CVRU Khandwa (MP)



Publication by AGU Faculty



115+

Patents

Application oriented
IPR aligned with
concept of New
India and Atma
Nirbhar Bharat



National Award for
inventing Goggle for Blind

Some Important Patents Related to Social Concern, Atma Nirbhar Bharat, MSME Promotion with Concept of New India

- Multipurpose Solar Dryer for Rural Application
- AI based Blind Deaf Communication
- Hybrid Power Generation
- Fault proof Novel Dual Tracking Solar System
- A novel highly efficient Slider Grant mechanism
- Waste water treatment system
- Education Management System
- A novel blue color emitting phosphors for defence application
- IPF voltage convertor
- Smart Solar Street Pole

**Technology Transfer, Product Development and Commercial
Engagement Facilities and Support through AIC RNTU**

AGU Investigators and Innovators

Dr. Sangeeta Jauhari



Dr. Pragya Shrivastava



Dr. T Ravi Kiran



Mr. Prabal Roy



Dr. Ankit Agrawal



Dr. Rakeh Kumar



Mr. Rahul Kumar Singh



Some Landmark Innovations

- **Radio Raman** – For Rural Literacy, awareness and meaningful entertainment
- **Kisan Gosthi and Mela** – In 20 villages adopted by AGU towards doubling the earning
- **Free Skill to Divyang** – Skill for livelihood to Divyang
- **Pustak Yatra** – Covering over 100 villages to encourage education and reading habits
- **IoT Based Systems for University and Agriculture** – Making the University campus Smart and application in agriculture
- **Free legal consultancy** – To rural and disadvantaged section of society
- **Free Medical and Training Camp**– For rural women and senior citizens
- **Samarth Bharat 2020-2022**– Initiative to strength MSME and local to global

Consultancy

Specialized	Over
50 Areas	150 Experts

Some Major Clients for Ongoing Consultancy by AGU



Major Areas of consultancy at AGU

- Agriculture – Crop Management
- Civil Engineering – Design, Material,
- Material Science, Nanomaterials
- Design, Testing Fabrication
- IoT, Computing and AI
- Commerce/Accounting
- Biodiversity and Waste MGT
- Online Education and Audio Visuals
- Management Assignments
- Paramedical – Facility Setting up
- Yoga & Nurs - Specialised Areas
- Legal and Forensic Science
- Electronics and Electrical
- And many more...



AGU Investigators and Innovators

Dharmendra Kumar

Dr. Arvind Kumar

Dr. Brajesh Singh

Dr. Neelanjana Choudhary

Dr. Rajeev Ranjan

Dr. Ritesh Kumar

Dr. Santosh Kumar




Research Papers by AGU Authors

Over
6000
Research Papers
by AGU
Authors in
Approved Journals

In house Publication of Research Journals of International Class

AGU is the only group in central India which is publishing two top quality Research Journals uninterrupted since 2012

• **ANUSANDHAN** - A biannual Research Journal in English for Engineering, Science and Management

• **SHODHAYATAN** - A biannual Multilingual Research Journal for Commerce, Arts, Law, Education and Humanities

Both the journals are indexed by Copernicus

Books by AGU Faculty

• Text Books	-	250 +
• Books Funded by External Agencies	-	50 +
• Book Chapters	-	200 +
• Fiction and other General Books	-	300 +
• Soft Content Developed by Faculty	-	500+

SPECIAL BOOK PROJECTS

• **'Katha Madhya Pradesh** - Most Unique initiative containing best stories of Hindi Writer of MP in last 100 years 6 volume.

• **'Katha Desh'** - Internationally acclaimed classic work of 18 volumes containing best story in Hindi of best writers of India

International Association for Water, Energy, Environment and Society (IAWEES)

AGU has formed an International Association for Water, Energy, Environment and Society (IAWEES) in collaboration with 20 countries. This is a unique initiative of its own kind. It organises International Conference regularly in member countries by turn and contribution significantly through research findings

IAWEES Conferences

2016 – India (RNTU Bhopal)	2018 – Tunisia (IDRA)
2020 – China (ECU Nanchang)	2021 – South Africa



Vishwarang – The Most Unique Annual International Festival of Arts, Culture and literature

• Since 2019 AGU organises this festival where over 1000 delegates from over 15 countries participate in various events

• In 2020 it was held simultaneously in 15 countries on virtual platform

International and National Research Events in AGU

- Every Year at least one International Event and two national research event in each AGU
- Around 15 countries and hundreds of delegates
- During last one year due to pandemic Covid-19 all events numbering over 100 were on line.
- Visiting Expert from Industries over 50





Atal Incubation Center in AGU- A Giant Leap

- AGU is the only private group which has been awarded Atal Incubation Center
- Center is supported by Neeti Aayog GoI and Atal Innovation Mission
- It has five nodes in five universities of AISECT Group
- It encourages entrepreneurship among AGU students and outsiders
- Supports the national vision of Atma Nirbhar Bharat through start ups

Facilities Available in AIC-RNTU

- Plug and Play facilities
- State of the art 14 labs, equipment and experts
- Labs recognized by MIT, USA
- 3 D Printing, Robotics, IoT, Advanced Computing, Fabrication CNC, Electronics and Electrical support services.
- Modeling, Simulation,
- Computer Aided Design and many more advanced technical facilities and training
- Industry experts, Financial support, technical and funding advise
- All out support for Incubation and Training Start up
- Annual All India Start up and Stand up competition in association with CII to promote culture of entrepreneurship and business among youth
- Large number of students of AGU using facilities of AIC are motivated to become job provider. Five such start ups are functional

AIC-RNTU SUCCESS STORY

Startups Incubated
45⁺

Mentor & Experts
55⁺

Corporate Partners
35⁺

Academic Partners
15⁺



AIC-RNTU-CII Tiup



Local To Global



Technology Transfer



Startup Support

Some Landmark Historical Events

- **2016** - International Conference on Water, Energy, Environment and Society-15 countries 500 Delegates
- **2017** - Core Research and Innovation Group in AGU with funding of Rs. 1 Crore for research with innovative Projects
- **2018** - AIU student Research Convention – 1000 delegates RNTU and CVRU students win top prizes for innovative research among Indian Universities
- **2019** - Pustak Yatra covering 55 cities several villages touching over 1 lakh youth
- **2020** - Vishwa Rang – the most unique Arts Culture and Literature fest organised by AGU simultaneously in 15 countries on virtual platform with over ten million viewers
- **2021** - International workshop on Water, Energy and Climate with GPS and Remote Sensing with 8 countries and over 400 delegates on virtual platform and Proceedings by Springer.

International & National Tieups



Some Media Headlines



AGU in Chinese Universities



AGU in European Universities



AGU in American Universities

AGU

**Decades of Leadership in Research,
Skill, Innovation & Consultancy**

**5 Universities
in 4 states of India.**

**Over 25K Center in the AISECT Network
for skill and distance education.**

**PMKK within University Campus for
effective skill development.**

**9 Research Center
in each University.**

**CRIG (Core Research and Innovation Group)
a strong team to supervise research innovation
and consultancy in AGU with corpus of Rs. 1 Crore.**

**RNTU
BHOPAL
MADHYA
PRADESH**

**CVRU
VAISHALI
BIHAR**

**AU
HAZARIBAGH
JHARKHAND**

**CVRU
KHANDWA
MADHYA
PRADESH**

**CVRU
BILASPUR
CHHATTISGARH**



Core Research and Innovation Group

AISECT GROUP OF UNIVERSITIES (AGU)

Research, Innovation & Consultancy

- **Academics par excellence**
- **Goal oriented research, innovation and excellence**
- **Ultimate in collaboration, consultancy and entrepreneurship Development**