

ANNUAL REPORT 2024

**RESEARCH & INNOVATION
DIVISION**

**CENTRAL RESEARCH
LABORATORY**

USM-COCHRANE NETWORK

KPI & MYRA

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Forewords

Deputy Dean
Research & Innovation
School of Medical Sciences

01

Prof. Dr. Asreneer Ab. Razak

Assalamualaikum WBT & Salam Sejahtera

A very warm welcome to all esteemed guests, researchers, and members of the Universiti Sains Malaysia (USM) community.

It is with great pleasure that I welcome you to the launch of this year's **Research Bulletin Yearly Report (2024)**, where we celebrate the remarkable achievements and unwavering dedication of our research community. The theme for this year, **"Impactful and Quality Research Ecosystem for Excellent Output,"** reflects our commitment to fostering a research culture that is both dynamic and results-driven, positioning USM at the forefront of global academic excellence.

USM has always been a beacon of innovation and a hub for transformative research. Our researchers continuously strive to push boundaries, creating ground-breaking work that not only contributes to the advancement of knowledge but also provides solutions to societal challenges. A strong and high-quality research ecosystem is the backbone of this progress, and today, we take the opportunity to recognize the incredible efforts that drive USM's research to new heights.



Forewords

Deputy Dean
Research & Innovation
School of Medical Sciences

02

In our journey towards greater research impact, increasing visibility is crucial. The work we do must not only be of high quality but must also reach a wider audience. By enhancing our international collaborations, improving publication strategies, and engaging in multidisciplinary research, we ensure that our findings are recognized and utilized globally. Through strategic partnerships, impactful publications, and increased media engagement, we are poised to amplify our contributions to science, technology, and innovation at national and a global scale.

As we unveil this year's **Research Bulletin**, let us take pride in the achievements documented within these pages. These research outputs serve as a testament to our resilience, our pursuit of excellence, and our unwavering commitment to knowledge generation. Let us also look ahead with a shared vision-to build a research ecosystem that is sustainable, inclusive, and impactful.

I extend my heartfelt gratitude to all researchers, PPSP staff members, and Division of Research an Innovation Office whose hard work and dedication make PPSP USM a leading research institution. To our partners and stakeholders, thank you for your continuous support in driving impactful research that will benefits the nation.

May this year's Research Bulletin inspire further innovation, collaboration, and excellence. Let us continue to elevate USM's research visibility and contribute to shaping a better future for all.

With that, I wish you all a fruitful and engaging reading.

Thank you, and **Selamat Maju Jaya!**

Our School of Medical Sciences



The School of Medical Sciences – Pusat Pengajian Sains Perubatan (PPSP), University Sains Malaysia (USM) at the initial stage of its establishment (June 1979) was located at the USM Penang Campus. PPSP has been fully operational at USM Health Campus, Kubang Kerian, Kelantan since June 1990 which meets the pre-clinical and clinical study requirements of the Medical Science (MD) program. The USM Health Campus in Kubang Kerian was developed on a 220-acre land that includes PPSP and USM's teaching hospital (USM Hospital; HUSM) which was established in October 1983, which in turn catalyzed the establishment of the School of Dental Sciences (PPSG) and the School of Health Sciences (PPSK).

In the period of existence that has exceeded 40 years, PPSP has concentrated efforts and devotion in various fields related to academics, research and networking at the local and international levels, in line with its pure and sustainable mission and vision.



Vision & Mission

School of Medical Sciences



VISION

Medicine for sustainable tomorrow.

MOTTO

Compassionate professional.

MISSION

To provide a globally-recognised and locally-effective medical education and health care that adheres to the highest standard and to lead translational research for a sustainable ecosystem.

Research & Innovation Division

*Accelerate Research
Excellence*

Research & Innovation Division



Welcome to the Research and Innovation Office—a dynamic hub dedicated to advancing scientific discovery and fostering innovation within our Medical School. As the cornerstone of research excellence, this office serves as a catalyst for collaborative exploration, empowering faculty, students, and healthcare professionals to push the boundaries of medical knowledge.

Whether you are embarking on pioneering studies, seeking guidance for innovative projects, or looking to connect with fellow researchers, the Research and Innovation Office is here to inspire, enable, and elevate your contributions to the field of medicine.

Research Committee Meetings & Members (2024-2025)

4 meetings have been held through 2024 (No. 131-134).



Prof. Dr. Asreenae Ab. Razak
Chairperson



Prof. Dr. Rosline Hassan
Committee Member



Prof. Dr. Azidah Kadir
Committee Member



**Prof. Dr. Liza Sharmini
Ahmad Tajudin**
Committee Member



Prof. Dr. Chan Yean Yean
Committee Member



**Prof. Dr. Kamarul
Imran Musa**
Committee Member



**Prof. Dr. Mahaneem
Mohamed**
Committee Member



**Prof. Dr. Rosediani
Muhamad**
Committee Member



Prof. Dr. Norhafiza Mat Lazim
Committee Member



**Assoc. Prof. Dr. Wan Mohd
Zahiruddin Wan Mohammad**
Committee Member



**Assoc. Prof. Dr. Muzaimi
Mustapha**
Committee Member



**Assoc. Prof. Dr. Kirnpal Kaur
Banga Singh**
Committee Member



**Assoc. Prof. Dr. Wan Faiziah
Wan Abdul Rahman**
Committee Member



Assoc. Prof. Dr. Kueh Yee Cheng
Committee Member



**Assoc. Prof. Dr. Tuan
Hairulnizam Tuan
Kamauzaman**
Committee Member



**Assoc. Prof. Dr. Rohimah
Mohamud**
Committee Member



Dr. Zefarina Zulkafli
Committee Member



Dr. Nazihah Mohd Yunus
Committee Member



Mr. Che Ismail Che Lah
Secretary



**Mdm. Abdah Karimah
Che Md. Nor**
Assistant Secretary



Mr. Zulkefli Sanip
Assistant Secretary

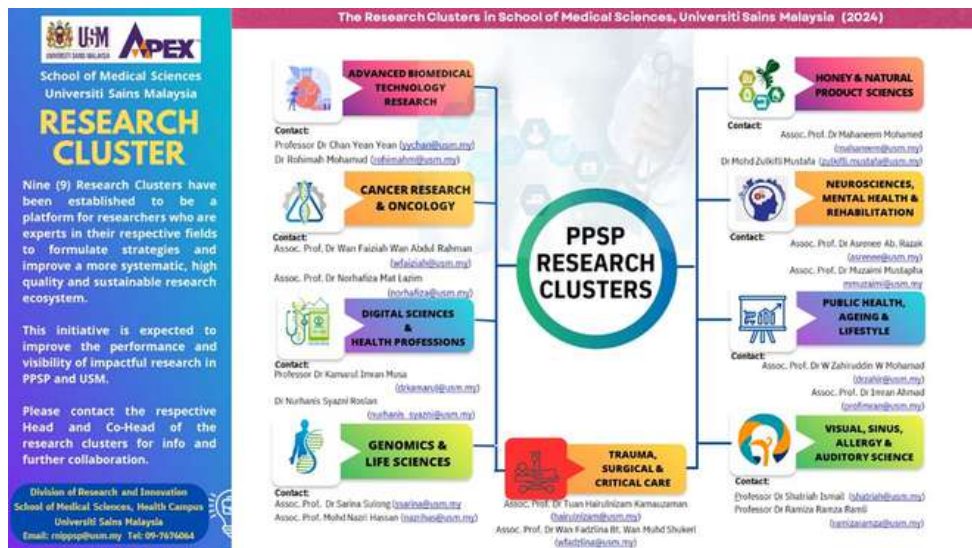


**Mdm. Wan Roslizawane
Wan Yusof**
Secretariat



Ms. Nurkhalisya Widad
Secretariat

Research Clusters



ADVANCED BIOMEDICAL TECHNOLOGY RESEARCH

Head of Cluster: Prof. Dr Chan Yean Yean

Co-Head of Cluster: Assoc. Prof. Dr. Rohimah Mohamad

Sub-Clusters

1. Infectious Diseases
2. Immune Response Analysis
3. Molecular & Proteomic Analytical Detection
4. Biosensors and Nanotechnology
5. Bioassay Diagnostics Technology Platform
6. Advanced Digital Technologies in Biomedical Diagnostics

Research Clusters

CANCER RESEARCH & ONCOLOGY

2

Head of Cluster: Assoc. Prof. Dr. Wan Faiziah Wan Abdul Rahman

Co-Head of Cluster: Prof. Dr. Norhafiza Mat Lazim

Sub-Clusters

1. Cancer prevention, detection and biomarker discovery
2. Cancer genetics and precision medicine
3. Clinical and translational cancer research
4. Cancer therapeutics
5. Artificial intelligence and machine learning development in cancer care

DIGITAL SCIENCES AND HEALTH PROFESSIONS RESEARCH

3

Head of Cluster: Prof. Dr. Kamarul Imran Musa

Co-Head of Cluster: Dr. Nurhanis Syazni Roslan

Sub-Clusters

1. Curriculum Design and Development
2. Assessment and Test Development
3. Teaching and Learning
4. Faculty Development
5. Ethics, Professionalism & Quality Assurance
6. Well-Being in Medical & Health Professions Education
7. Technology in Medical & Health Professions Education
8. Medical Machine Learning
9. Health Information System
10. Big Data Analytics
11. Security and Ethics in Digital Sciences

GENOMICS AND LIFE SCIENCES RESEARCH

4

Head of Cluster: Assoc. Prof. Dr. Sarina Sulong

Co-Head of Cluster: Assoc. Prof. Dr. Mohd Nazri Hassan

Sub-Clusters

1. Human Cytogenetics and Molecular Genetics
2. Pharmacokinetics, Pharmacogenetics & Drug analysis
3. Translational physiology
4. Biochemistry & cell biology
5. Evolutionary technology in stem cell and tissue engineering

Research Clusters

HONEY & NATURAL PRODUCT SCIENCES RESEARCH

5

Head of Cluster: Prof. Dr. Mahaneem Mohammad

Co-Head of Cluster: Dr. Mohd Zulkifli Mustafa

Sub-Clusters

1. Honey Research
2. Bee pollen & Propolis research
3. Apitheraphy
4. Virgin coconut oil & Olive oil
5. Natural & Herbal Medicine Research

NEUROSCIENCES, MENTAL HEALTH AND REHABILITATION RESEARCH

6

Head of Cluster: Prof. Dr. Asrene Ab. Razak

Co-Head of Cluster: Assoc. Prof. Dr. Muzaimi Mustapha

Sub-Clusters

1. Clinical psychiatry/psychology,
2. Cognitive, Degenerative and ageing
3. Developmental and Educational Psychology
4. Molecular, Computational & System Neurosciences
5. Social and Health Psychology
6. Rehabilitation Science

PUBLIC HEALTH, AGEING AND LIFESTYLE RESEARCH

7

Head of Cluster: Assoc. Prof. Dr. Wan Zahiruddin Wan Mohammad

Co-Head of Cluster: Assoc. Prof. Dr. Imran Ahmad

Sub-Clusters

1. Public Health Medicine
2. Family Health (Maternal-Child-Adolescent-Women-Men)
3. Health Management
4. Occupational Health
5. Environment Health
6. Aging
7. Lifestyle

Research Clusters

TRAUMA, SURGICAL & CRITICAL CARE RESEARCH

8

Head of Cluster: Assoc. Prof. Dr. Tuan Hairulnizam Kamauzaman

Co-Head of Cluster: Assoc. Prof. Dr. Wan Fadzlina Wan Muhd Shukeri

Sub-Clusters

1. Pre-hospital and disaster medicine
2. Older adults fall
3. Violence
4. Sepsis
5. Unintentional and intentional injury prevention
6. Geriatric critical care
7. Imaging in trauma

VISUAL, SINUS, ALLERGY AND AUDITORY SCIENCES RESEARCH

9

Head of Cluster: Prof. Dr. Shatriah Ismail

Co-Head of Cluster: Prof. Dr. Ramiza Ramza Ramli

Sub-Clusters

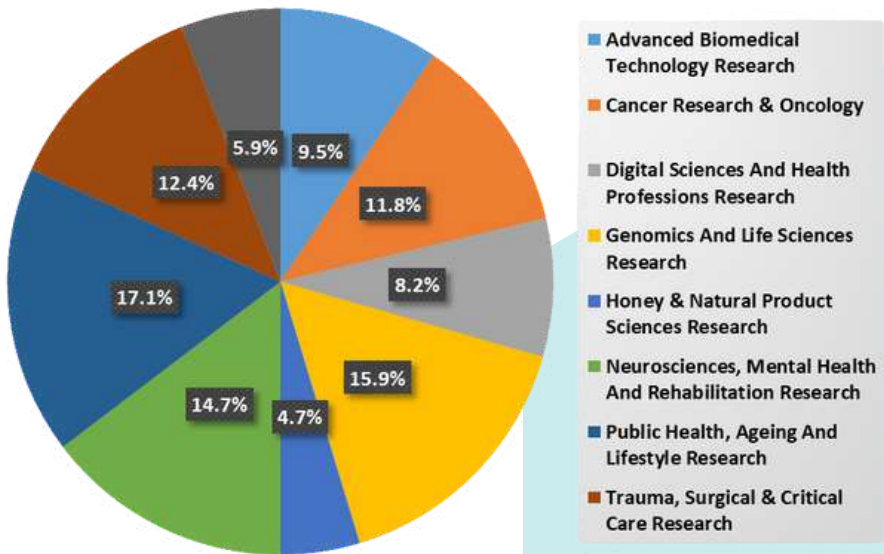
Ophthalmology

1. Ocular Wound Healing
2. Ocular Imaging & Genetics
3. Refractive & Ocular Surface Diseases
4. Ophthalmic Epidemiology
5. Ocular Pathology & Vascular
6. Children Visual Research
7. Neuro-ophthalmic & Electrophysiology
8. Retinal Research
9. Glaucoma Research

ORL-HNS, Audiology and Vestibular.

1. Allergy & Smell Rhinology and Skull Base Surgery
2. Airway, Voice, and Dysphagia
3. Ear & Hearing
4. Head & Neck Sciences
5. ORL Innovations
6. Paediatric ORL disorders
7. Obstructive Sleep Apnea
8. Vestibular

Research Clusters



Information gathered on main interested cluster by PPSP lecturers

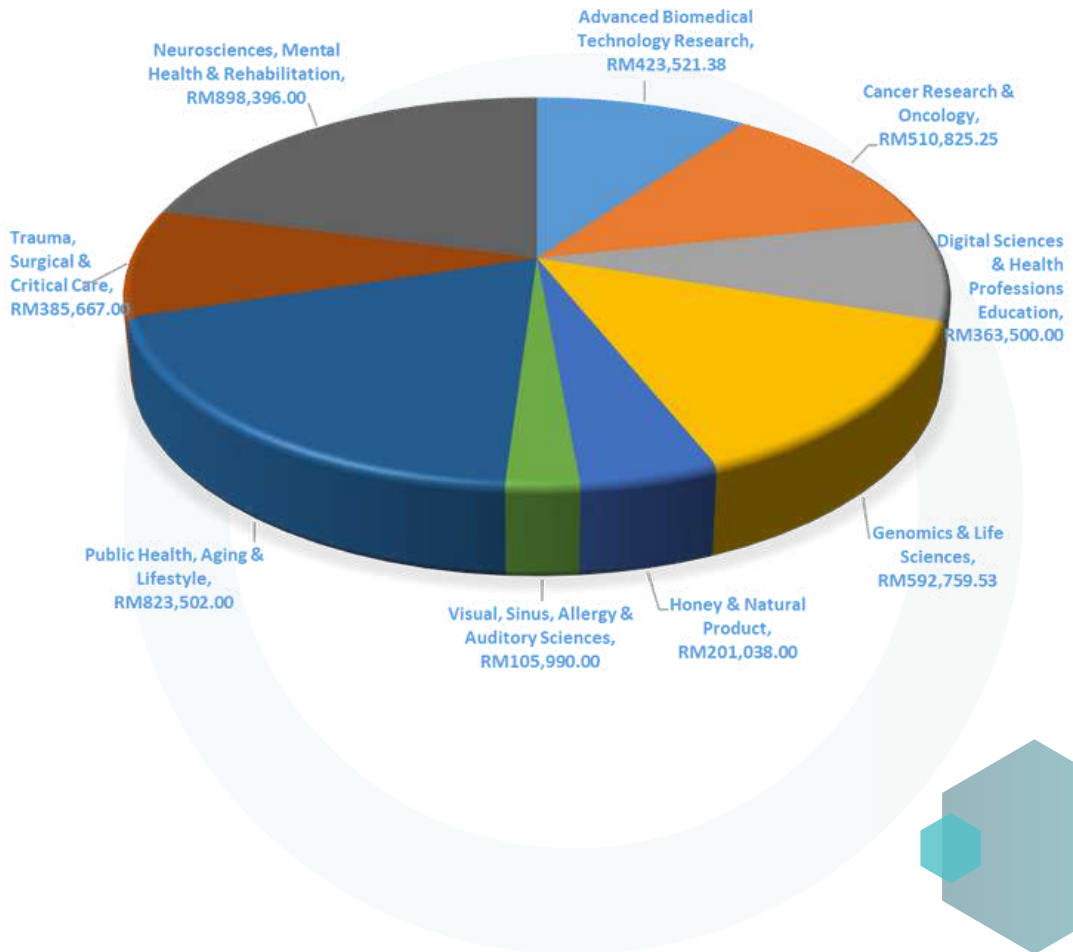
Research Grants Application & Approval

TYPE	INTER NATIONAL	NATIONAL	INDUSTRY	UNIVERSITY	TOTAL APPLICATION	TOTAL APPROVED	TOTAL (RM)
FRGS		11			35	11	1,476,301.00
TRGS		2				2	245,200.00
EXTERNAL	5	8	19		41	32	1,431,600.16
SHORT TERM				21	18	21	744,821.00
RU				1		1	100,000.00
RU (TEAM)				2		2	145,540.00
BRIDGING				6	35	6	141,737.00
ACADEMIC				2	20	2	20,000.00
TOTAL	5	21	19	32	149	77	4,305,199.16

Research Grants Final Report

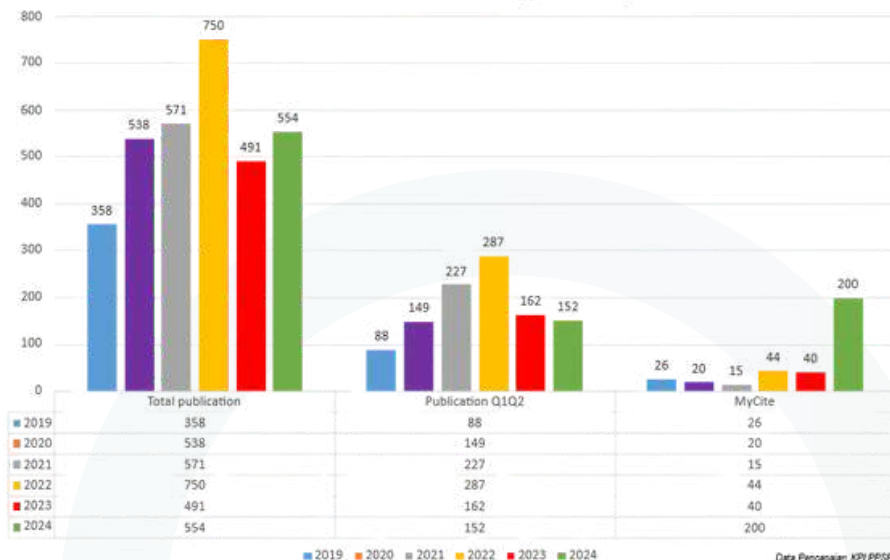


Research Grants Based on Research Clusters



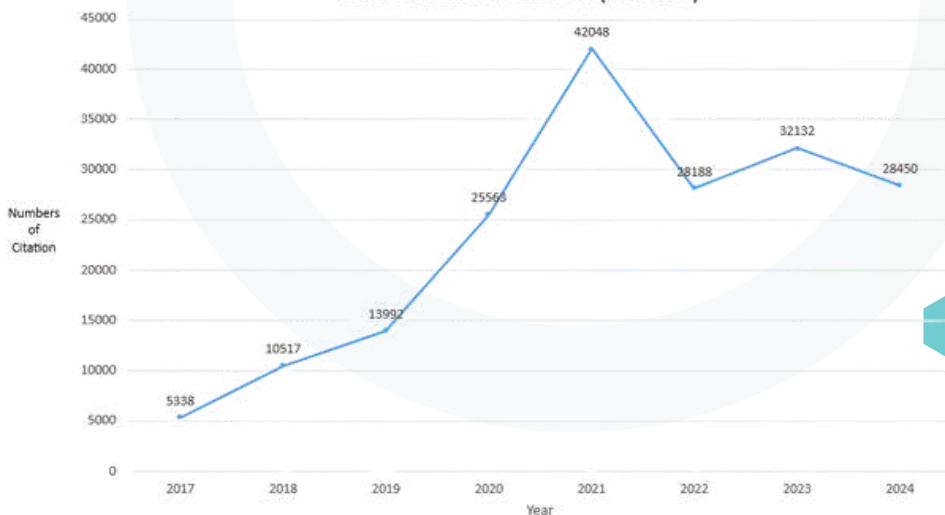
Publications 2024

Total number of Publications (2019-2024)



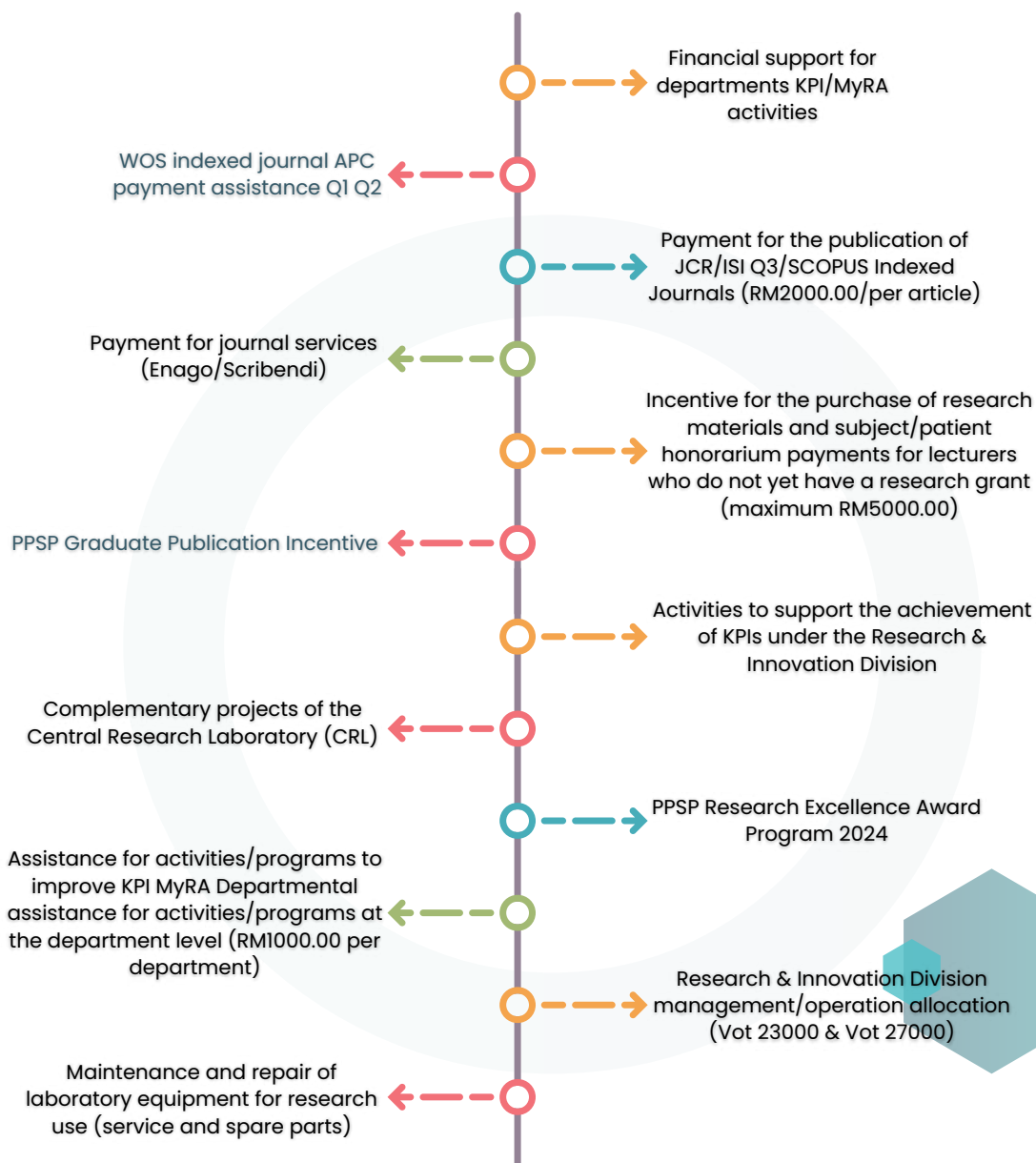
Data Pencapaian KPI PPSP, Tarikh semakan : Julai 2025

Total Citation of Publication (2017-2024)



Data Pencapaian KPI PPSP, Tarikh semakan : Julai 2025

KPI/MyRA Activities Year-round Programme

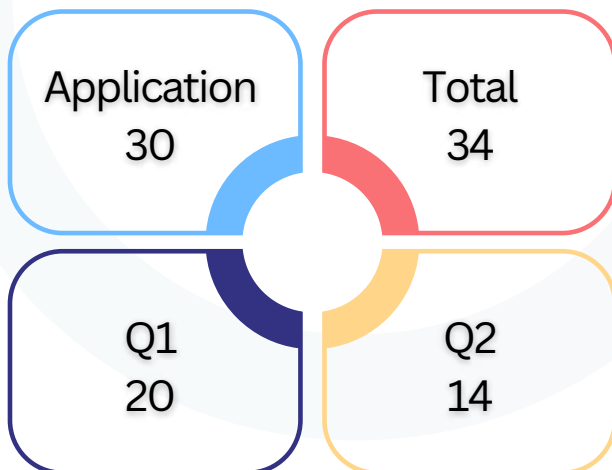


KPI/MyRA Activities Publication Incentive (Q1 & Q2)

MARCH DISTRIBUTION 2020	RM 180,000.00
APRIL DISTRIBUTION 2021	RM 150,000.00
AUGUST DISTRIBUTION 2021	RM 250,000.00
FEBRUARY DISTRIBUTION 2022	RM 300,000.00
JULY DISTRIBUTION 2022	RM 350,000.00
NOVEMBER DISTRIBUTION 2022	RM 150,000.00
MARCH DISTRIBUTION 2023	RM 800,000.00
TOTAL	RM 2,180,000.00

TOTAL PAYMENT : RM 346,915.24 (YEAR 2024)

Q1 & Q2 Publication



AVERAGE PAYMENT (RM) : RM 4,957.68/ ARTICLE

KPI/MyRA Activities

Graduate Publication Incentive

YEAR	ALLOCATION ACCEPTED (RM)	TOTAL OF RECIPIENTS	DISTRIBUTION (RM)	TOTAL PUBLICATION
2020	50,000.00	68	106,000.00	86
2021		94	62,000.00	116
2022	250,000.00	129	186,000.00	192
2023	250,000.00	106	110,750.00	144
2024		107	98,250.00	132
TOTAL	650,000.00	504	663,000.00	670

**"No research without action,
no action without research"**
Kurt Lewin

Research Monthly Research Presentation (MRP)



The **Monthly Research Presentation** is a dynamic program designed to foster collaboration, knowledge sharing, and innovation among our researchers. This initiative serves as a platform for researchers to present their latest findings, discuss emerging trends, and exchange ideas with colleagues from diverse disciplines. The goal of the program is to encourage learning, spark new collaborations, and keep research moving forward. Each presentation offers an opportunity for insightful feedback and discussion, ultimately driving progress in both individual and collective research efforts.

January

DIGITAL SCIENCES & HEALTH PROFESSIONS CLUSTER

Moderator: Prof. Dr. Kamarul Imran Musa

Speaker 1: Dr. Afiz Izzudin A Rahim

Thumbs Up or Down? Patient Voices on Facebook Fuel AI-Driven Hospital Care in Malaysia.

Speaker 2: Assoc. Prof. Dr. Tuan Hairulnizam Tuan Kamauzaman

Smart Medical Oxygen Tank Monitoring Device.

February

HONEY & NATURAL PRODUCT SCIENCES CLUSTER

Moderator: Assoc. Prof. Dr. Mahaneem Mohamed

Speaker 1: Assoc. Prof. Dr. Mohd Asnizam Asari

Neuroprotective Effects and Mechanism of Tualang Honey Silver Nanoparticle on Kainic Acid-Induced Neurodegeneration in Rat Hippocampus.

Speaker 2: Dr. Norzila Ismail/Ms. Taif Kareem Khalaf

Unlocking the Therapeutic Potential: Investigating Pereskia Bleo for Augmenting NK Cell Activity Against MDA MB 231 Breast Cancer Cells.

March

CANCER RESEARCH & ONCOLOGY CLUSTER

Moderator: Assoc. Prof. Dr. Wan Faiziah Wan Abdul Rahman

Speaker 1: Prof. Dr. Andee Dzulkarnaen Zakaria

Colorectal Cancer Research: Landscape in USM.

Speaker 2: Dr. Tengku Ahmad Damitri Al-Astani Tengku Din

Frontiers in Breast Cancer Research USM: Promising Paths.

Speaker 3: Assoc. Prof. Dr. Md Salzihan Md Salleh

NGS in Cancer Research: USM Perspective.

April

TRAUMA, SURGICAL & CRITICAL CARE

Moderator: Assoc. Prof. Dr. Tuan Hairulnizam Tuan Kamauzaman

Speaker 1: Prof. Dato' Dr. Nik Hisamuddin Nik Ab. Rahman

The Application of GIS in Injury Research.

Speaker 2: Dr. Muhammad Faeid Othman

Comparing Low Volume Versus Conventional Volume of Polyethylene Glycol for Bowel Preparation During Colonoscopy: A Randomised Controlled Trial.

May

PUBLIC HEALTH, AGEING & LIFESTYLE

Moderator: Assoc. Prof. Dr. Imran Ahmad

Speaker 1: Assoc. Prof. Dr. Zaharah Sulaiman

Breastfeeding Advocacy and Support: Strengthening The Clinical and Community Engagement Research.

Speaker 2: Dr. Nur Akma Mat Junoh@Yunus

Obesity Management in Malaysia: Are The Services Meeting Community Needs?

June

ADVANCED BIOMEDICAL TECHNOLOGY

Moderator: Prof. Dr. Chan Yean Yean

Speaker 1: Prof. Dr. Zakuan Zainy Deris

*Elucidating the Genetic Variants of Type VI Secretion System 5 (T6SS-5) in Clinical and Environment Strains of *B. pseudomallei* and Their Potential Correlation with the Clinical Course of the Human Disease.*

Speaker 2: Assoc. Prof. Dr. Azian Harun

Medical Mycology Research: Opportunities and Challenges.

July

VISUAL, SINUS, ALLERGY & AUDITORY SCIENCE

Moderator: Prof. Dr. Shatriah Ismail

Speaker 1: Assoc. Prof. Dr. Norhafiza Mat Lazim

The Pivotal Roles of Oncogenic Viruses in Head and Neck Malignancy: From Bench to Bedside!

Speaker 2: Dr. Shahidatul Adha Mohamad

VEGF Levels in Tears and Serum of Age-Related Macular Degenerations Patients.

August

GENOMICS & LIFE SCIENCES

Moderator: Assoc. Prof. Dr. Mohd Nazri Hassan

Speaker 1: Dr. Wan Norlina Wan Azman

Alteration of Plasma Alanine, Glutamate and Glycine Level: A Potentiate Manic Episode of Bipolar Disorder.

Speaker 2: Prof. Dr. Zilfalil Alwi

The Future of Genomic in Healthcare: My Journey from Bedside to Benchside to Boardroom.

September

NEUROSCIENCES, MENTAL HEALTH & REHABILITATION

Moderator: Assoc. Prof. Dr. Muzaimi Mustapha

Speaker 1: Dr. Mohd Nor Azim Ab Patar

Ex Vivo Rat Model of Contusion Spinal Cord Injury.

Speaker 2: Dr. Sharifah Zubaidiah Syed Jaapar

A Phenomenological Study of Sexual and Gender Minority among Malay Women.

GRAND MRP

Moderator: Assoc. Prof. Dr. Muhamad Saiful Bahri Yusoff

Speaker 1: Assoc. Prof. Dr. Muhamad Saiful Bahri Yusoff

Overview of Measuring and Comparing Achievements of Learning Outcomes in Higher Education in ASEAN (CALOHEA).

Speaker 2: Prof. Dr. Kamarul Aryffin Baharuddin

Recognition Mechanism (RM) 1 – Building Competency Framework.

Speaker 3: Assoc. Prof. Dr. Zul Izhar Mohd Ismail

Recognition Mechanism (RM) 2 – Student Workload Measurement.

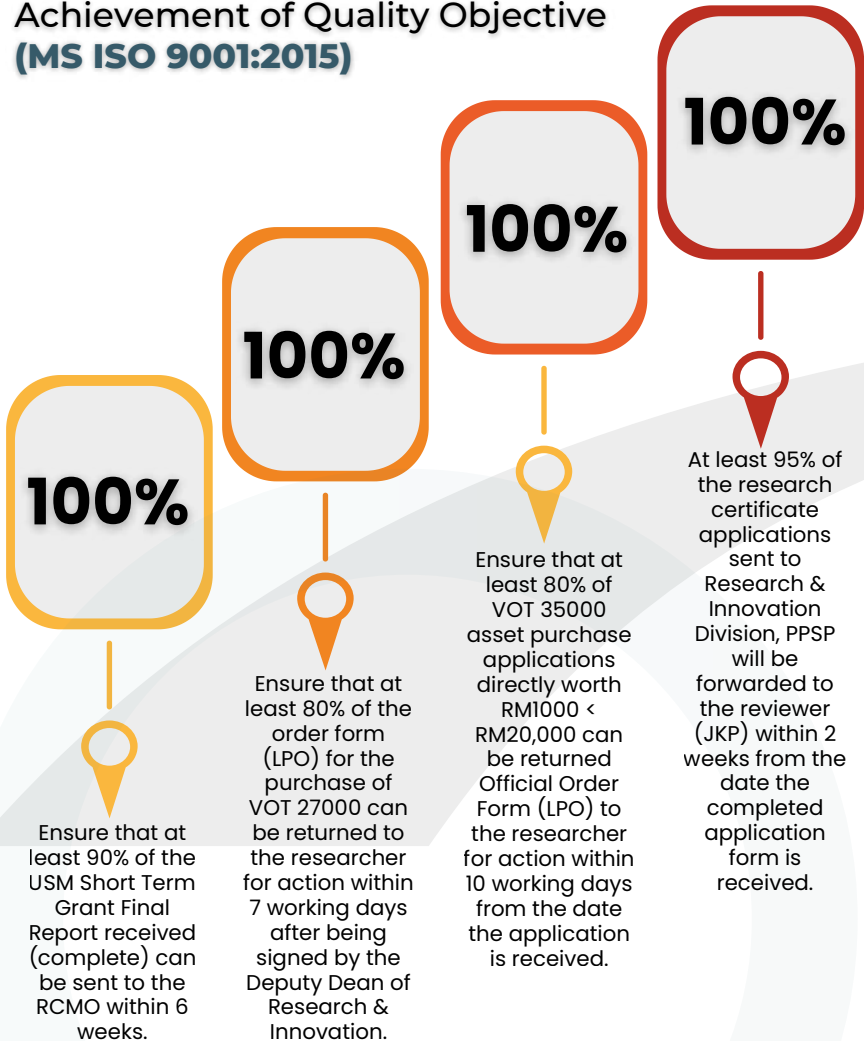
Speaker 4: Dr. Nurhanis Syazni Roslan

Recognition Mechanism (RM) 3 – Implementing Authentic Assessment.

**"The outcome of any serious research
can only be to make two questions grow
where only one grew before"**

Thorstein Veblen

Achievement of Quality Objective (MS ISO 9001:2015)



School of Medical Sciences Level

At least 60% of eligible academic staff will be involved in the research as Principal Investigator (PI).

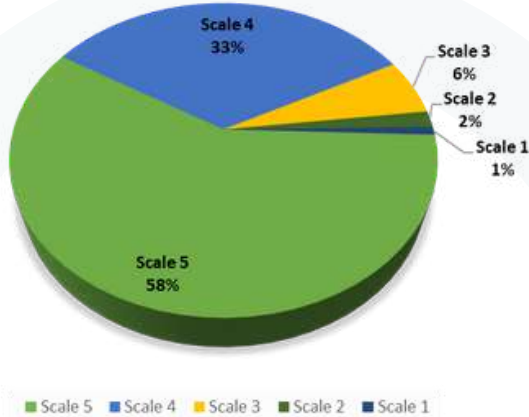
88.2%
(283/321 x 100)
(Achieved)

At least 75% of qualified lecturers have published at least one paper in an indexed journal as main author or correspondence author.

53.3%
(171/321 x 100)
(Not Achieved)
Corrective Action applied.

Customer Satisfaction 2024

Customers of the PPSP Research & Innovation Division predominantly rated the service as 4 or 5 (Good or Very Good) at 91%, indicating high levels of satisfaction. This positive feedback reflects the division's strong performance in meeting customer expectations and delivering quality services.



Future improvement:

1. More user-friendly online system features.
2. Accelerate the process of PO applications.
3. Briefing on how to claim each vote for new researchers.

Achievements Activities

WEBSITE COMPETITION



PPSP's Research and Innovation Division website (<https://rni.kk.usm.my/>) received **Four Star** recognition organized by the PPSP Quality Unit.



TIPS & TRICKS IN RESEARCH BOOK PUBLICATION

TIPS & TRICKS IN RESEARCH BOOK PUBLICATION

DATE : 31 OCTOBER 2024
TIME : 2.30 pm MAL, 8.30am CET, 12.30pm India
via MICROSOFT TEAM Apps. Meeting ID: 43 925 408 743

TIME	TITLE	SPEAKER
2.30pm - 3.00pm	How to prepare a grant proposal to book proposal	Assoc. Prof. Dr. Nurhafsa Mifta Lestari Dept. of O&A, School of Medical Sciences, KEM South Campus, Rantau Kuantan, Kuantan, Malaysia
3.00pm - 3.45pm	Turning a manuscript into a grant book, table and Author Perspectives	Dr. Husein Khamis President International President of Indian Society of Thoracic Surgeons National President of Indian Association of Vascular and Emergency Medicine Asian Pacific Thoracic Society
3.45pm - 4.00pm	Chapter Preparation and Choosing correct Publisher	Prof. Dr. Corrado Gennari, Dept. of Biomedicine, Neuroscience and Advanced Biogenetic, University of Palermo, Italy
4.00pm - 4.45pm	Q & A sessions	Dr. Husein Khamis Prof. Dr. Corrado Gennari Assoc. Prof. Dr. Nurhafsa Mifta Lestari

2 NMA CPE points for grab!

REGISTER THE QR CODE TO JOIN THE MEETING

SCAN ME

ORGANIZED BY:
RESEARCH & INNOVATION DIVISION - CANCER RESEARCH & ONCOLOGY CLUSTER
SCHOOL OF MEDICAL SCIENCES, USM HEALTH CAMPUS, KUBANG KERUANG, KELANTAN, MALAYSIA

OSCAR ACADEMIA AWARD



RESEARCH CLUSTER ACTIVITIES**WORKSHOP ON SYSTEMATIC REVIEW AND META ANALYSIS: TRAIN THE TRAINER SIRI 1 – 4**

COLLABORATION MEETING BETWEEN USM & STEM CELL 101 INTERNATIONAL SDN. BHD.

MEET & GREAT RESEARCH CLUSTER - NEUROSCIENCES, MENTAL HEALTH & REHABILITATION

KEM GAYA HIDUP SIHAT LESTARI – I-SIHAT@PPSP



Central Research Laboratory

*A Laboratory
for All*

Central Research Laboratory



Central Research Laboratory

Welcome to the **Central Research Laboratory** – a cornerstone of scientific advancement within our Medical School. Designed to support and drive excellence in medical research, this facility serves as the nexus for ground-breaking studies, interdisciplinary collaboration, and technological innovation.

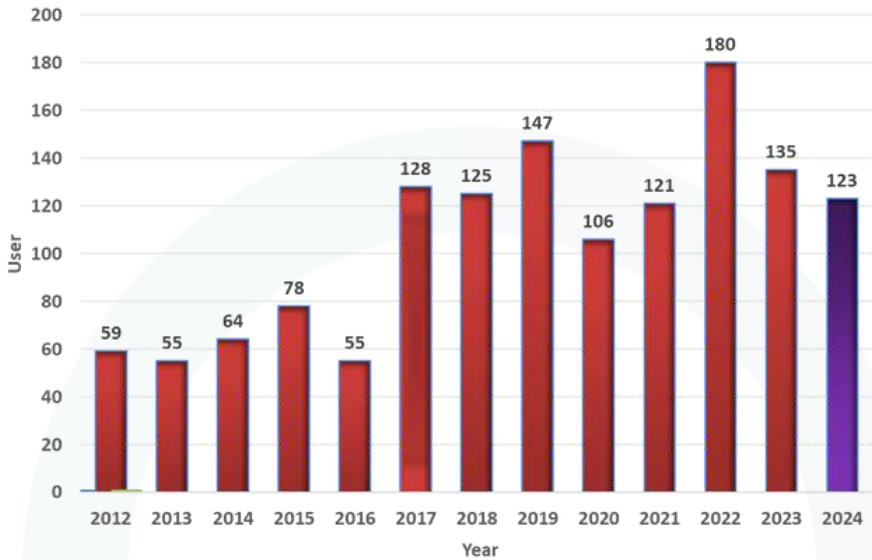
Equipped with various instrumentation and a team of dedicated staffs, the laboratory provides researchers and students with the resources they need to conduct high-impact studies. From molecular biology to imaging techniques, the Central Research Laboratory enables exploration across a diverse range of medical disciplines, fostering discoveries that transform healthcare practices and improve patient outcomes.

Central Research Laboratory is committed to nurturing the next generation of medical scientists while advancing the frontiers of knowledge. Together, we strive to empower research that addresses pressing global health challenges and sets new standards for excellence in medical science.

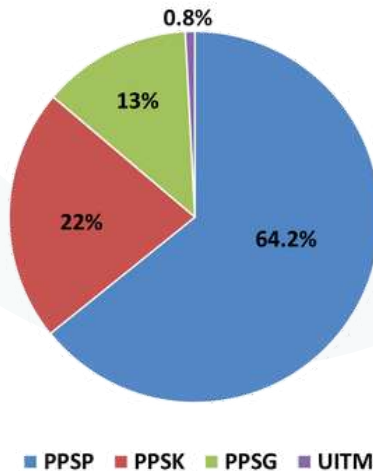


Laboratory Usage 2024

Registered Users from 2012-2024

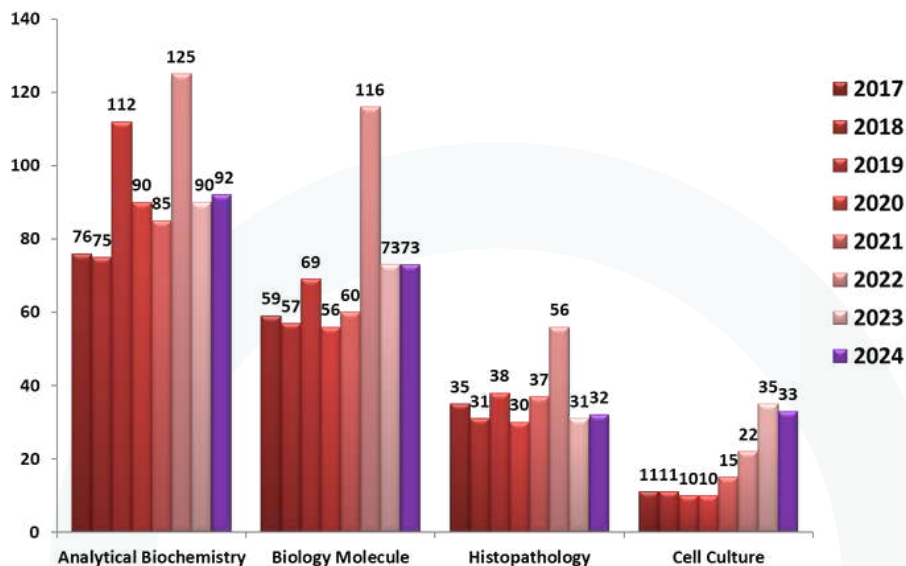


Number of Users by Department/PTJ (2024)

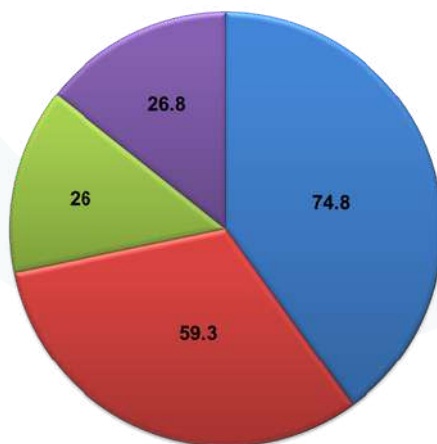


Laboratory Usage 2024

Number of Registered Users by Section (2017-2024)

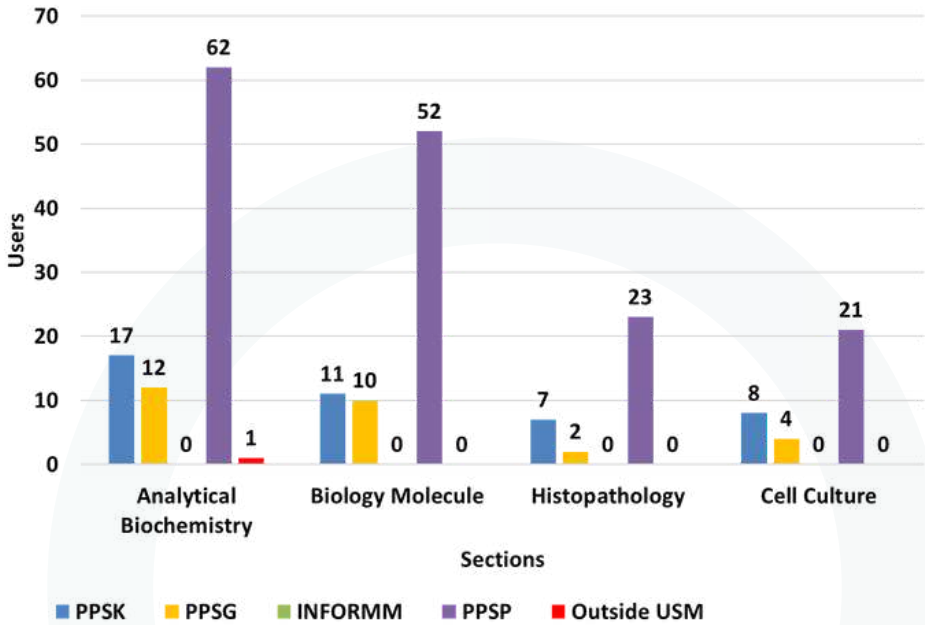


Percentage of Registered Users by Section in 2024



Laboratory Usage 2024

Number of Registered Users by Department/PTJ and Section

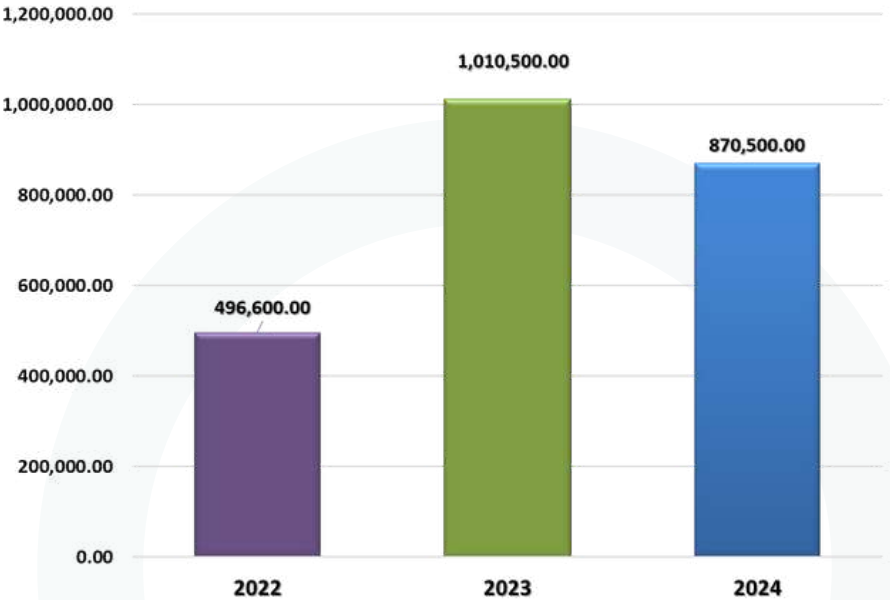


**"Concentrate all your thoughts upon the work in hand.
The sun's rays do not burn until brought to a focus"**

Alexander Graham Bell

Financial Allocation & Equipment Procurement

Approved Allocation (RM) for New Equipment by Year



Equipment Purchases under RP4 RMK-12 for the Year 2024



Microvolume Spectrophotometer
RM 69,999.00

Biological Safety Cabinet Class II
RM 48,170.00



Water Purification System
RM 54,500.00



CO2 Incubator
RM 59,990.00

Financial Allocation & Equipment Procurement

RMK12 RP4 2025 Equipment with Accelerated Purchase in 2024



Microplate Reader



Fluorescence Microscope



*Gel Electrophoresis Set
(DNA & Protein)*



*Fluorescence
Inverted Microscope*



*Biological Safety Cabinet
Class II*

*Refrigerated
Centrifuge*



*Gel Documentation
System*



Autoclave



*Automated Cell
Counter*



Oxygen Detector

Financial Allocation & Equipment Procurement

Approved Maintenance Allocation for the Year 2024

RM 73,200.00 **Approved**

RM29,548.20 **Used**

RM 43,651.00 **Balance**
Proceed to 2025

**"Start where you are.
Use what you have.
Do what you can"**

Arthur Ashe

Objective Quality & Customer Feedback

Objective Quality

Ensure that at least 90% of research applications are approved within 3 working days.



Customer Feedback

All reported complaints were reviewed during the CRL management meeting, and appropriate actions were taken.



Workspace

Increase storage space in the freezer and refrigerator through regular housekeeping.



Operation Hour

Special request to work outside office hours.



Equipment

Addition of new equipment such as a slide scanner and preparation of equipment usage procedures.

Audit 2024

ISO MS 9001: 2015



Chemical Exposure Monitoring (CEM) - performed by Biosynergy Sdn. Bhd. on August 2024

Resulting in the implementation of Health Monitoring for CRL Staff



Xylene

Sample ID	PARAMETER	Time (h:mm)	Sampling Duration (min)	Average Blank Sample (mg)	Sample Collected (mg)	Concentration of Sample (mg/m ³)	Time Weighted Average (mg/m ³)	USECHH PEL (mg/m ³)	Comments (Comparison to PEL)
P1-X	Xylene (NIOSH 1503)	3:15PM	4:15PM	ND (<0.001)	0.002	0.242	0.24	MEL: 1302	Below MEL
P2-X		3:15PM	4:15PM		0.002	0.250	0.25		Below MEL
P3-X		3:15PM	4:15PM		0.003	0.225	0.19		Below MEL

Methanol

Sample ID	PARAMETER	Time (h:mm)	Sampling Duration (min)	Average Blank Sample (mg)	Sample Collected (mg)	Concentration of Sample (mg/m ³)	Time Weighted Average (mg/m ³)	USECHH PEL (mg/m ³)	Comments (Comparison to PEL)
P1-Me	Methanol (NIOSH 2000)	3:15PM	4:15PM	ND (<0.001)	0.016	9.335	9.14	MEL: 786	Below MEL
P2-Me		3:15PM	4:15PM		ND (<0.001)	ND (<0.04)	ND (<0.04)		Below MEL
P3-Me		3:15PM	4:15PM		ND (<0.001)	ND (<0.04)	ND (<0.04)		Below MEL

Formaldehyde

Sample ID	PARAMETER	Time (h:mm)	Sampling Duration (min)	Average Blank Sample (µg)	Sample Collected (µg)	Concentration of Sample (mg/m ³)	Time Weighted Average (mg/m ³)	USECHH PEL (mg/m ³)	Comments (Comparison to PEL)
P4	Formaldehyde (NIOSH 2000)	1:35PM	4:15PM	ND (<0.07)	4.6	6.965	0.37	Ceiling Limit: 0.37	Met Ceiling Limit
P5		3:35PM	4:15PM		2.2	0.174	0.17		Above 10% of Ceiling Limit
P6		3:35PM	4:15PM		2.8	0.223	0.22		Above 10% of Ceiling Limit

Educational Visit & Benchmarking Activities

The visit successfully met its intended goals. Recommendations and proposed follow-up actions were deliberated during the CRL management meeting for execution.

Visit to CRL & INFRA Universiti Malaya (27 September 2024)



Educational Visit & Benchmarking Activities

Visit to Canvio Sdn Bhd (27 September 2024)



Competency Training

20 training sessions were conducted in 2024.

Implementation of the E-Procurement System (20 February 2024)



Asset and Computer Disposal Procedures (11 March 2024)



Liquid Nitrogen Storage Management (21 March 2024)



Competency Training

Tissue Processor (20 May 2024)

CSE@CRL Tissue Processor-Leica TP 1020
Latihan Alatan & Pembentangan Laboratory Training Manual (LTM)

Tarikh 20 ME 2024 Isnin
Masa 10 pagi - 12 tghari
Lokasi Galeri Interaktif Sains Perubatan (SPICES) PPSP

Agenda:

- Pengenalan alatan.
- Pembentangan LTM.
- Diskusi & tambahtali LTM.
- Latihan & Praktikal Operasi & penyediaan alatan.

En. Mohd Zamani Mat Zin
Jurutera Matrik Perubatan
Makmal Penyelidikan Pusat, PPSP





Microscope with Image Analyser (23 April & 9 May 2024)

CSE@CRL Olympus Microscope with Image Analyzer
Latihan Alatan & Pembentangan Laboratory Training Manual (LTM)

Agenda:

- Pengenalan & operasi.
- Pembentangan LTM.
- Diskusi & tambahtali LTM.

Fasilitator
Pn. CHE NURUL HIDAYATI
CPE SPAM,
SurveiMikrologi Makmal Perubatan
& Makmal Penyelidikan Pusat, PPSP

25 April 2024
10 pg - 12 tghari

Galeri Interaktif Sains Perubatan (SPICES) PPSP





Gel Documentation System (10 June 2024)

CSE@CRL Gel Documentation System - PyroBioSimple Fluorochrom M
Latihan Alatan & Pembentangan Laboratory Training Manual (LTM)

10 Jun 2024 (Isnin)
10 pagi - 12 tghari
Galeri Interaktif Sains Perubatan (SPICES) PPSP

Agenda:

- Pengenalan alatan.
- Pembentangan LTM.
- Diskusi & tambahtali LTM.
- Latihan & Praktikal Operasi & penyediaan alatan.

Fasilitator
Pn. Marini Sidek
Jurutera Matrik Perubatan
Makmal Penyelidikan Pusat, PPSP





Competency Training

Demonstration of the Microplate Reader (2 July 2024)



Demonstration of the Microplate Reader (10 July & 19 November 2024)



Hands-on Training-Centrifuge (30 July 2024)



Competency Training

User Training: Microvolume Spectrophotometer (21 August 2024)



Basic Procedures for Microscope Usage and Maintenance (23 September 2024)



Demonstration of the Gel Documentation System (24 September 2024)



Competency Training

Flow Cytometer Installation Training (7 & 9 October 2024)



Water Purification System Operation Training (8 October 2024)



Demonstration of the Gel Documentation System (8 October 2024)



Competency Training

Demonstration of the Microplate Reader (24 October 2024)



**"Perfection is not attainable,
but if we chase perfection
we can catch excellence"**

Vince Lombardi

Activities 2024

Team Building (1 & 2 February 2024)



Aidilfitri Contributions to Pediatric Patients at HPUSM (3 April 2024)



Aidilfitri 1446h



Activities 2024

Launch of the STAMS System by the Vice-Chancellor of USM (28 April 2024)

STAMS: SISTEM SOKONGAN PERCEPAT PROSES PENYELIDIKAN, PENGAJARAN DAN PEMBELAJARAN

USM KUALANG KRUANG, KELANTAN, 28 April 2024 – Kampus Kertasan Universiti Sains Malaysia (USM) melalui Institut Kemajuan Maklumat (IKM) Kampus Kertasan, hari ini telah melancarkan Sistem Sokongan Maklumat (STAMS) sebagai salah satu perkhidmatan maklumat seriatan dan bersepadu bagi mempercepat penyediaan di semua pusat pengkajiannya (PPU) di Kampus Kertasan.



<https://www.kk.usm.my/aktiviti/lensa-peristiwa/stams-sistem-sokongan-percepat-proses-penyelidikan-pengajaran-dan-pembelajaran.html>

Asset Disposal (7 May 2024)



Sustainability Activity - Recycle

USM CRL SUSTAINABLE DEVELOPMENT GOALS

Amalan Kelestarian Di Makmal Penyelidikan Pusat (CRL)

Aktiviti Kitar Semula Kotak & Kertas
Penyelaras: Pn. Harnani Abdul Halim
29 Julai 2024

36	RM 29	27
Kg Kotak	Pendapatan	Kg Kertas

WHEN YOU PUT THE WHOLE PICTURE TOGETHER,
RECYCLING IS THE RIGHT THING TO DO.

Pani Shahrulhaq
Lecturer CRL

Activities 2024

Excellent Service Award (1 July 2024)



CRL Genomic Section Setup: Gotong-Royong Initiative (1 August 2024)



Family Day & Team Building (23 & 24 August 2024)



Activities 2024

CRL Shirt (22 September 2024)



Annual Dinner (27 September 2024)



Website Competition



Activities 2024

Establishment of CRL Welfare Club ROS Approval Date: 9 September 2024.



Blood Donation (4 December 2024)



Staff Birthday Celebration Ceremony

Jan-Mac 2024



Oct-Dec 2024



Activities 2024

Staff Retirement Appreciation and Maternity Gift Presentation



Customer Feedback Lucky Draw



Main Laboratory Space Renovation Plan Findings from the CHRA audit remarks



Activities 2024

Proposal of the Enhancing Visual Appeal

Installation of decorative wallpaper along the CRL MPG corridor and Histopathology



The Way Forward



Income
Generation



CRL Users



New Equipmen



Training

connect.collaborate.inspire

USM Cochrane Network Site

*Where Review
Matters*

USM Cochrane Network Site



Cochrane is an international not-for-profit organization, which aims to help people make well-informed decisions about healthcare by preparing, maintaining and promoting the accessibility of systematic reviews of the effects of health care interventions.

Worldwide, the Cochrane Collaboration has over 130,000 people in more than 130 countries contributing in some way, whether as authors, editors, peer referees, etc. Almost all these people are volunteers. We operate in a much decentralized structure. We have a small Secretariat in Oxford and an Editor in Chief's office in London, but the majority of the work of the Collaboration is done by Cochrane Review Groups.

The Cochrane activities in Australasia and South East Asia are coordinated by Cochrane Australia. The coordinating centre in Malaysia is the Royal College of Surgeons in Ireland and University College Dublin Malaysia Campus. Universiti Sains Malaysia is one of the affiliate centres who work together locally and is recognized by Cochrane.

Cochrane Malaysia 10th Anniversary Celebration: A Decade of Impact

26 September 2024

Avante Hotel, Bandar Utama, Petaling Jaya

Awards:

School of Medical Sciences, Universiti Sains Malaysia
Winner All-time Highest Number of Translations (Institutional Category)
Total Translations: 3177

Assoc. Prof. Dr Shazlin Shaharudin
Cochrane Malaysia All-Time Knowledge Translation Award for individual category (runner-up).



PPSP Systematic Review and Meta-Analysis Training of Trainers Workshop Series

Started on 8 September 2024 and extending into 2025

Aim

- To enhance knowledge and understanding
- Develop practical skills
- Promote effective reporting and dissemination
- Prepare for teaching and supervision
- Foster a collaborative learning environment
- Ensure application of best practice

Part 1: Theories and Practical of Conducting SRMA

- Introduction to systematic review and meta-analysis
- Formulating Research Questions and Developing Protocols
- Comprehensive Literature Search Strategies
- Study Selection and Data Extraction
- Assessing Study Quality and Risk of Bias
- Data Synthesis and Meta-Analysis
- Reporting and Disseminating Findings
- Teaching and Supervising Systematic Reviews and Meta-Analyses

Part 2: Training as speakers for SRMA

- Preparation of content
- Training
- Delivery
- Evaluation



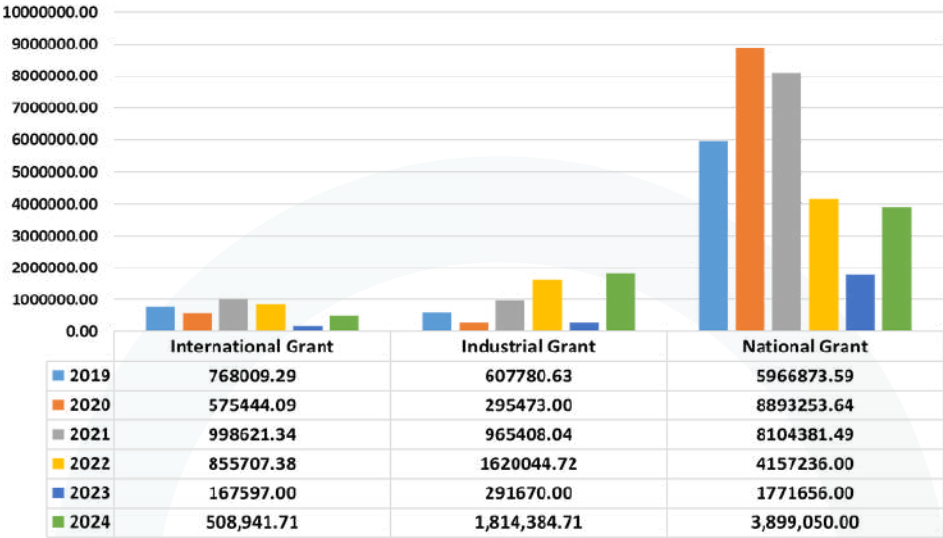
KPI & MyRA Achievement

*Achievement &
Responsibility*

Research Grants

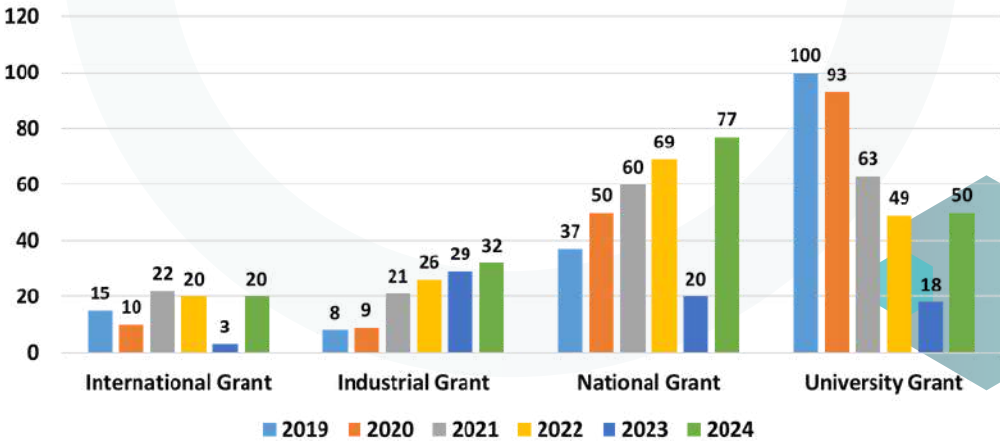
Amount, Category & Principal Investigator

Total Amount of Grants Received for Active Project (RM) 2019 – Sept 2024



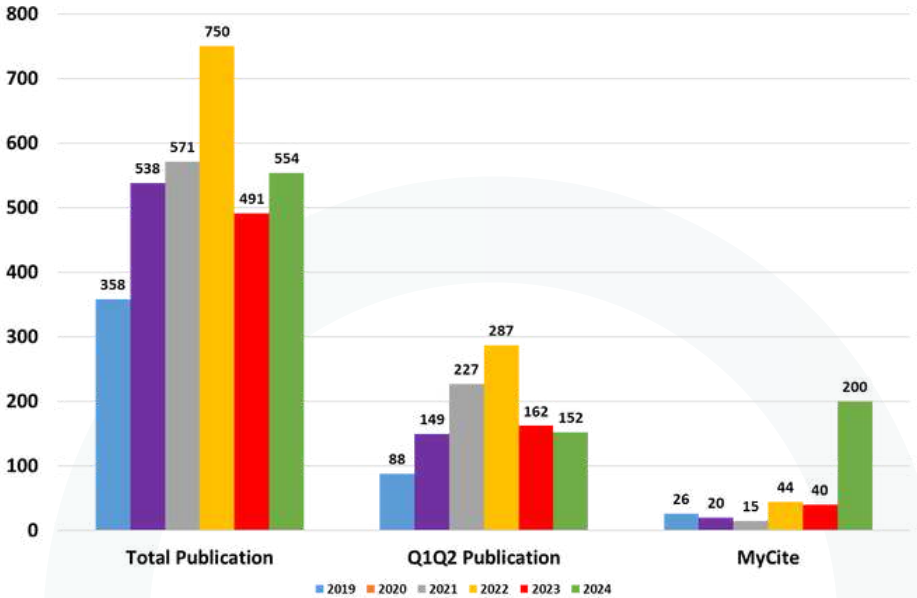
*University Grant : RM 1,031,480.50

Total Number of Academic Staff involved as Principal Investigator of Research Grants

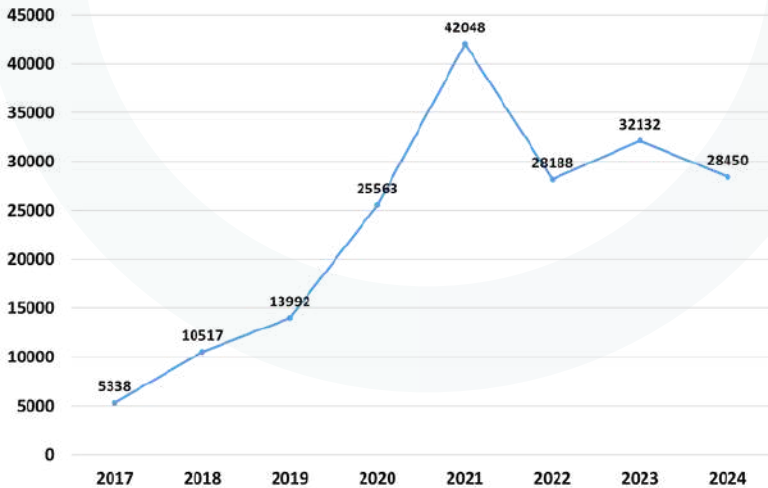


Publication & Citation

Total Number of Publications 2019-2024

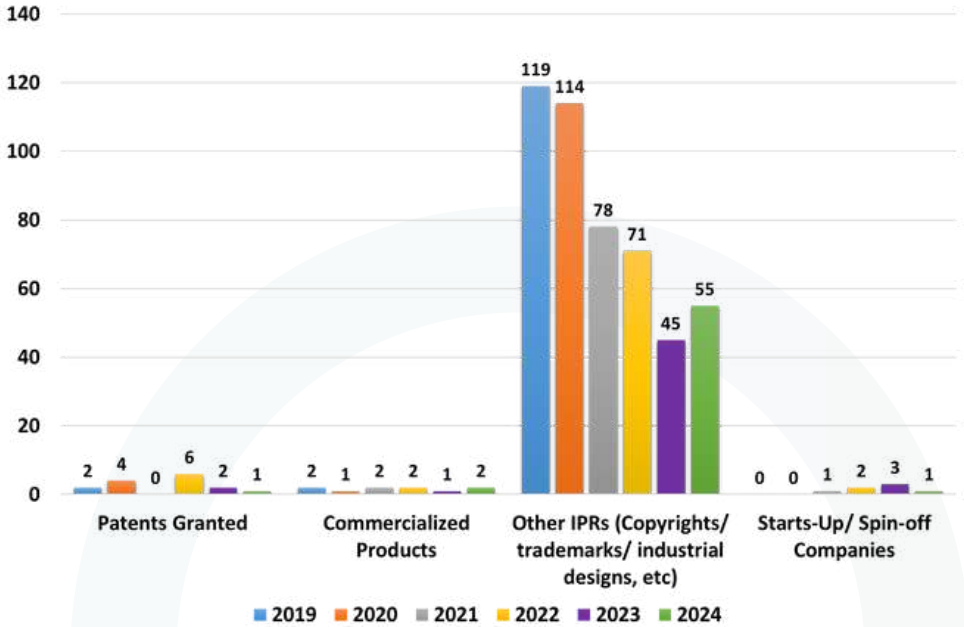


Total Citation of Publications 2019-2024



Innovations

Patent, Products, IPRs, Company



inno
vation

Special Thanks

PATRON

Prof. Dr. Abdul Razak Sulaiman
Dean of PPSP

ADVISOR

Assoc. Prof. Dr. Asreneh Abdul Razak
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A low-angle photograph of the Petronas Towers in Kuala Lumpur, Malaysia, reaching towards a cloudy sky. The image is partially obscured by a vertical teal bar and a large teal circle in the top right corner.

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ANNUAL REPORT

thank you



