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## CURRICULUM VITAE

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**NAME:** Debasish Kumar Dey

**eRA COMMONS USER NAME** (credential, e.g., agency login): DEBASISHDEY

**EMAIL ID:** [deepdey1993@gmail.com](mailto:deepdey1993@gmail.com)

**GOOGLE SCHOLAR:** <https://scholar.google.co.in/citations?user=1twWRlIAAAAJ&hl=en>

**ORCID ID:** <https://orcid.org/0000-0001-5429-0216>

**POSITION TITLE:** Postdoctoral Researcher

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### EDUCATION:

INSTITUTION AND LOCATION	DEGREE	STARTING -COMPLETION DATE	FIELD OF STUDY
Utkal University, India	B.Sc., B.Ed.	August 2010 – May 2014	Zoology and Education
Barkatullah University, India	M.Sc.	June 2014 – May 2016	Biotechnology
Daegu University, South Korea	Ph. D.	September 2017 – August 2021	Colorectal Cancer
New York University, USA	Postdoctoral	September 2021 – February 2022	Telomere Biology
Stephenson Cancer Center, OUHSC, USA	Postdoctoral	February 2022 – Present	Endometrial cancer

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### RESEARCH EXPERIENCES:

- ✓ **Postdoctoral Fellow** February 2022 – Present  
University of Oklahoma Health Sciences Center  
Oklahoma, USA  
Supervised by Dr. Vishal Chandra  
*I identified minimally toxic, and effective therapeutic options to improve the front-line therapy for Endometrial cancer cell lines, validated the treatment strategy on animal models and in human clinical sittings.*
- ✓ **Postdoctoral Fellow** September 2021 – February 2022  
York University  
New York, USA  
Supervised by Prof. Susan Smith  
*I evaluated the mechanism behind persistent telomere cohesion protecting human aged cells from premature senescence.*
- ✓ **Doctor of Philosophy** September 2017 – August 2021  
Daegu University  
Daegu, South Korea  
*I identified a 9-mer dimer peptide CopA3 which effectively modulated the cell fate via inhibiting p53-MDM2 interaction to ameliorate gut inflammation and abrogated colorectal tumorigenesis.*  
Supervising by Prof. Sun Chul Kang at the Laboratory of Genetic Engineering.
- ✓ **Junior Research fellow** July 2016 – June 2017  
Indian Institute of Science  
Bangalore, India  
*I investigated the molecular mechanism involved in human cellular senescence using human shRNA library.*
- ✓ **Master's Researcher** January 2016 – June 2016  
Indian Institute of Science  
Bangalore, India  
*I investigated the insulin secretagogues activity of Andrographolide on Human Pancreatic MIA PaCa-2 Cell Line.*  
Supervised by Prof. Deepak Kumar Saini, at Saini's Lab, Department of Molecular Reproduction, Development, and Genetics.

✓ **Summer Research Fellow**

CSIR-North East Institute of Science and Technology

I have isolated and identified *Trichoderma* sp. from different ecological habitats and elucidated its effect towards *Fusarium* control.

Supervised by Prof. Brijmohan Singh Bhau, Principal Scientist, Medicinal Aromatic, and Economic Plants Division.

June 2015 – August 2015

Assam, India

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## RESEARCH PUBLICATIONS:

**Dey, Debasish Kumar**; Gahlot, Himanshi; Chang, Sukkum Ngullie; Kang, Sun Chul. CopA3 treatment suppressed multidrug resistivity in HCT-116 cell line by p53-induced degradation of hypoxia-inducible factor 1 $\alpha$ . *Life Sciences*. 2023b, Volume 329, 121933.

Rai, Rajani, **Dey, Debasish Kumar**; Doris, Benbrook; Chandra, Vishal. Niclosamide causes lysosome-dependent cell death in endometrial cancer cells and tumors. *Biomedicine & Pharmacotherapy*. 2023, Volume 161, 114422. *First Equal Author*.

**Dey, Debasish Kumar**; Sharma, Chanchal; Vadlamudia, Yellamandayya; Kang, Sun Chul. CopA3 peptide inhibits MDM2-p53 complex stability in colorectal cancers and activates p53 mediated cell death machinery. *Life Sciences*. 2023a, Volume 318, 121476.

Chang, Sukkum Ngullie; Haroon, Muhammad; **Dey, Debasish Kumar**; Kang, Sun Chul. Rhabdomyolysis-induced acute kidney injury and concomitant apoptosis induction via ROS-mediated ER stress is efficaciously counteracted by epigallocatechin gallate. *The Journal of Nutritional Biochemistry*. 2022, Volume 110, 109134.

Kavya, K.V.; Vargheese, Stella; Shukla, Shruti; Khan, Imran; **Dey, Debasish Kumar**; Bajpai, Vivek K.; Thangavelu, Kavitha; Vivek, Raju; Kumar, R.T.Rajendra; Han, Young-Kyu; Huh, Yun Suk; Haldorai, Yuvaraj. A cationic amino acid polymer nanocarrier synthesized in supercritical CO<sub>2</sub> for co-delivery of drug and gene to cervical cancer cells. *Colloids and Surfaces B: Biointerfaces*. 2022, Volume 216, 112584.

**Dey, Debasish Kumar**; Kang, Ji-In; Bajpai, Vivek K.; Kim, Kwanwoo; Lee, Hoomin; Sonwal, Sonam; Simal-Gandara, Jesus; Xiao, Jianbo; Ali, Sajad; Huh, Yun Suk; Han, Yong-Kyu; Shukla, Shruti. Mycotoxins in food and feed: toxicity, preventive challenges, and advanced detection techniques for associated diseases. *Critical Reviews in Food Science and Nutrition*. 2022, Volume 21, pp. 1-22.

Lee, Hoomin; **Dey, Debasish Kumar**, Kim, Kwanwoo; Kim, Sun Min; Kim, Eun Ki; Kang, Sun Chul; Bajpai, Vivek K.; Huh, Yun Suk. Hypoxia-responsive nanomedicine to overcome tumor microenvironment-mediated resistance to chemo-photodynamic therapy. *Materials Today Advances*. 2022, Volume 14, 100218. *First Equal Author*.

Faisal Aziz, Faisal; Khan, Imran; Shukla, Shruti; **Dey, Debasish Kumar**; Yan, Qiu; Chakraborty, Abhijit; Yoshitomi, Hisae; Hwang, Seung-Kyu; Sonwal, Sonam; Lee, Hoomin; Haldorai, Yuvaraj; Xiao, Jianbo; Huh, Yun Suk; Bajpai, Vivek K.; Han, Young-Kyu. Partners in crime: The Lewis Y antigen and fucosyltransferase IV in *Helicobacter pylori*-induced gastric cancer. *Pharmacology & Therapeutics*. 2022, Volume 232, 107994.

**Dey, Debasish Kumar**; Kang, Sun Chul. CopA3 peptide induces permanent cell-cycle arrest in colorectal cancer cells. *Mechanisms of Ageing and Development*. 2021, Volume 196, 111497.

**Dey, Debasish Kumar**; Chang, Sukkum Ngullie; Gu, Ji Ye; Kim, Kang Min; Lee, Jeong Jun; Kim, Tae Hee; Kang, Sun Chul. Ultraviolet-B irradiated mushroom supplementation increased the Ca<sup>++</sup> uptake and ameliorated the LPS-induced inflammatory responses in zebrafish larvae. *Journal of Food Biochemistry*. 2021, Volume 45, e13742.

Chang, Sukkum Ngullie; Kim, Se Ho; **Dey, Debasish Kumar**; Park, Seon Min; Bajpai, Vivek K.; Kang, Sun Chul; Lee, Jintae; Park, Jae Gyu. 5-O-Demethylnobiletin Alleviates CCl<sub>4</sub>-Induced Acute Liver Injury by Equilibrating ROS Mediated Apoptosis and Autophagy Induction. *International Journal of Molecular Science*. 2021, Volume 22, 1083.

Lee, Hoomin; Oh, Cheolwoo; Kim, Suji; **Dey, Debasish Kumar**; Kim, Hyung Kyo; Bajpai, Vivek K.; Han, Young-Kyu; Huh, Yun Suk. Metasequoia glyptostroboides potentiates anticancer effect against cervical cancer via intrinsic apoptosis pathway. *Scientific Report*. 2021, Volume 11, 894.

**Dey, Debasish Kumar**; Changa, Sukkum Ngullie; Kang, Sun Chul. The inflammation response and risk associated with aflatoxin B1 contamination was minimized by insect peptide CopA3 treatment and act towards the beneficial health outcomes. *Environmental Pollution*. 2021, Volume 268, 115713.

Chang, Sukkum Ngullie; **Dey, Debasish Kumar**; Oh, Seong Taek; Kong, Won Ho; Cho, Kiu-Hyung; al-Olayan, Ebtessam M; Hwang, Byung Su; Kang, Sun Chul; Park, Jae Gyu. Phorbol 12-Myristate 13-Acetate Induced Toxicity Study and the Role of Tangeretin in Abrogating HIF-1 $\alpha$ -NF- $\kappa$ B Crosstalk *In vitro* and *In vivo*. *International Journal of Molecular Science*. 2021, Volume 21, 9261.

Bajpai, Vivek K.; Sonwal, Sonam; Hwang, Seung-Kyu; Shukla, Shruti; Khan, Imran; **Dey, Debasish Kumar**; Chen, Lei; Simal-Gandara, Jesus; Xiao, Jianbo; Huh, Yun Suk; Han, Young-Kyu. Sugirol, a diterpenoid: therapeutic actions and molecular pathways involved. *Pharmacological Research*. 2021, Volume 163, 105313.

Vadlamudra, Yellamandayya; **Dey, Debasish Kumar**, Kang, Sun Chul. Emerging Multi-Cancer Regulatory Role of ESRP1: Orchestrates the Alternative Splicing to Control EMT. *Current cancer drug targets*. 2020, Volume 20, pp. 654-665.

**Dey, Debasish Kumar**; Changa, Sukkum Ngullie; Vadlamudra, Yellamandayya; Park, Jae Gyu; Kang, Sun Chul. Synergistic therapy with Tangeretin and 5-Fluorouracil accelerates the ROS/JNK mediated apoptotic pathway in human colorectal cancer cell. *Food and Chemical Toxicology*. 2020, Volume 143, 111529.

**Dey, Debasish Kumar**; Park, Joonmo; Kang, Sun Chul. Genotypic, phenotypic, and pathogenic characterization of the soil isolated *Acinetobacter courvalinii*. *Microbial Pathogenesis*. 2020, Volume 149, 104287.

**Dey, Debasish Kumar**; Kang, Sun Chul. Aflatoxin B1 induces reactive oxygen species-dependent caspase-mediated apoptosis in normal human cells, inhibits *Allium cepa* root cell division, and triggers inflammatory response in zebrafish larvae. *Science of The Total Environment*. 2020, Volume 737, 139704.

**Dey, Debasish Kumar**; Kang, Sun Chul. *Weissella confusa* DD\_A7 pre-treatment to zebrafish larvae ameliorates the inflammation response against *Escherichia coli* O157:H7. *Microbiological Research*. 2020, Volume 237, 126489.

Khan, Imran; **Dey, Debasish Kumar**; Lee, Jai-Heon; Kang, Sun Chul. Bamboo leave extract ameliorated 12-O-tetradecanoylphorbol-13-acetate (TPA) induced ear inflammation by reducing MAP kinase levels and NF- $\kappa$ B activation in mice model. *Natural Product Research*. 2021, Volume 35, pp. 5299-5303.

Jung, Hyun-Gug; Kim, Han-Hyuk; **Dey, Debasish Kumar**; Yu, Myo, Jae; Kim, Hyunjeong; Choi, Jong-hun; Jang, Jae-Yoon; Park, Jae-Yong; Kang, Sun, Chul; An, Bong, Jeu. The Anti-inflammatory and Immune-Boosting Potential of Quercetin-3-O- $\beta$ -D-glucopyranosyl-(1 $\rightarrow$ 6)- $\beta$ -D-glucopyranoside in LPS-Stimulated RAW264.7 Macrophages. *Revista Brasileira de Farmacognosia*. 2020, Volume 30, pp. 233-239.

Changa, Sukkum Ngullie; Khan, Imran; **Dey, Debasish Kumar**; Cho, Kiu-Hyung; Hwang, Buyng Su; Bae, Ki Beom; Kang, Sun Chul; Parke, Jae Gyu. Decursinol angelate ameliorates 12-O-tetradecanoyl phorbol-13-acetate (TPA) -induced NF- $\kappa$ B activation on mice ears by inhibiting exaggerated inflammatory cell infiltration, oxidative stress and pro-inflammatory cytokine production. *Food and Chemical Toxicology*. 2019, Volume 132, 110699.

Krishnan, Manigandan; **Dey, Debasish Kumar**; Sharma, Chanchal; Kang, Sun Chul. Antibacterial activity of *Weissella confusa* by disc diffusion method. *Bangladesh Journal of Pharmacology*. 2019, Volume 14, pp. 117-22. *First Equal Author*.

**Dey, Debasish Kumar**; Koo, Bon Gyo; Sharma, Chanchal; Kang, Sun Chul. Characterization of *Weissella confusa* DD\_A7 isolated from kimchi. *LWT - Food Science and Technology*. 2019, Volume 111, pp. 663-672.

**Dey, Debasish Kumar**; Khan, Imran; Kang, Sun Chul. Anti-bacterial susceptibility profiling of *Weissella confusa* DD\_A7 against the multidrug-resistant ESBL-positive *E. coli*. *Microbial pathogenesis*. 2019, Volume 128, pp. 119-130.

Kang, Sun Chul; **Dey, Debasish Kumar**. Protective effect of *Weissella confusa* DD\_A7 against the *Escherichia coli* 0157: H7-induced inflammation in zebrafish model. *Basic & Clinical Pharmacology & Toxicology*. 2018, Volume 124, pp. 11.

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MANUSCRIPT UNDER REVISION:

**Dey, Debasish Kumar**; Rai, Rajani; Choudhary, Swati; Borden, Lindsay; Chandra, Vishal. Investigating the role of immune signatures as a potential target for endometrial cancer prognosis. *Pharmacology & Therapeutics*.

## ORAL/POSTER PRESENTATION AT SCIENTIFIC MEETS:

- **Poster Presentation** on “**Implantation of intrauterine SHetA2 polymer rod reduces the effect of Estradiol-induced endometrial hyperplasia in rat model system**” at Central IDEA States Regional Meeting 2023, organized by Kansas INBRE, Kansas City, MO, USA on June 7<sup>th</sup> – June 9<sup>th</sup> 2023.
- **Poster Presentation** on “**Niclosamide induces lysosome-dependent cell death in endometrial cancer cells**” at END2CANCER conference organized by The University of Oklahoma Health Science Center, Oklahoma, USA on December 1<sup>st</sup> – 2<sup>nd</sup> 2022.
- **Oral Presentation** on “**CopA3 treatment induces cell cycle arrest at G1 phase and promotes senescence in colorectal cancer cells**” at International Symposium and Annual Meetings of KSABC organized by The Korean Society for Applied Biological Chemistry, Jeju, South Korea on August 23<sup>rd</sup> – 24<sup>th</sup>, 2021.
- **Poster Presentation** on “**The anti-inflammatory property of CopA3 helped to minimize the risk associated with aflatoxin B1 contamination in mice model**” at International E-Conference ‘Expanding Horizons in Physio-Biochemical and Molecular Approaches for Improving Livestock Health and Production’, E-conference on October 19<sup>th</sup> – 20<sup>th</sup>, 2020.
- **Oral Presentation** on “**Tangeretin and 5-Fluorouracil co-treatment triggered apoptotic pathway to inhibit the growth of colorectal cancer cells**” at International Symposium and Annual Meetings of the KSABC organized by The Korean Society for Applied Biological Chemistry, E-conference on August 20<sup>th</sup> – 21<sup>st</sup>, 2020.
- **Poster Presentation** on “**Mushroom ergocalciferol supplementation increases calcium uptake response in human osteosarcoma MG-63 cells**” at International Symposium and Annual Meetings of the KSABC organized by The Korean Society for Applied Biological Chemistry, E-conference on August 20<sup>th</sup> – 21<sup>st</sup>, 2020.
- **Oral Presentation** on “**Immunomodulatory activity of *Weissella confusa* DD\_A7 against zebrafish larvae**” at International Symposium and Annual Meetings of the KSABC organized by The Korean Society for Applied Biological Chemistry, Busan, South Korea on June 20<sup>th</sup> – 22<sup>nd</sup>, 2019.
- **Poster Presentation** on “**Beneficial effects of *Weissella confusa* DD\_A7 strains for healthy fish management**” at Symposium and Annual Meetings of the KSEA” organized by Korean Society of Environmental Agriculture, Yeosu, South Korea on July 5<sup>th</sup> – 6<sup>th</sup>, 2018.
- **Oral Presentation** on “**Alcohol can take a serious toll on your health**” at Search and Research Youth conclave organized by Search and Research Development Society, Bhopal (M.P.) India on April 11<sup>th</sup> – 12<sup>th</sup>, 2015.
- **Oral Presentation** on “**Hair dye - A boon or a Bane**” at Science & Research Oriented Program organized by Department of Applied chemistry, UIT, Barkatullah University, Bhopal, India in association with Indian Science Congress Association (ISCA) Bhopal Chapter on December 19<sup>th</sup> – 20<sup>th</sup>, 2014.

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## ACCOMPLISHMENTS:

- Received presidential award from Daegu University in the recognition of outstanding research achievement and continuous contribution to the success of Daegu University on 20<sup>th</sup> August 2021.
- Received the best presentation award in the International E-Conference “Expanding Horizons in Physio-Biochemical and Molecular Approaches for Improving Livestock Health and Production”, E-conference, held on 19<sup>th</sup> – 20<sup>th</sup> October 2020.
- Received full scholarship from Daegu University, South Korea for Ph.D.
- Received the best presentation award in “Science & Research Orientation program on Science & technology for human Development” In association with ISCA, Bhopal chapter, on the topic ‘Hair dye-a boon or bane’, 19<sup>th</sup> – 20<sup>th</sup> December 2014.

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## TECHNICAL SKILLS:

- **Animal Work Experience:**

Experienced working with animal (Mice, Rat, Nematode and Zebrafish) experiments to develop different disease models like sepsis, gastric mucosal injury and xenograft model against colon, Endometrial, and skin carcinoma. I also have experience to develop ovarian orthotopic models and patient derived xenograft models along with drug administration through oral, subcutaneous, intraperitoneal routes. I also have experience to do oophorectomy and dissected animals to isolate the target organs and histopathological examinations (H&E, and Immunohistochemistry).

- **Protein Chemistry Work:**

Isolated whole cell protein. Fractionated subcellular protein (cytosolic, nuclear and mitochondrial protein) from mammalian cells and characterized by SDS-PAGE and 2-D gel electrophoresis. Differential protein expression was studied by Coomassie Brilliant Blue staining and Silver Nitrate staining. Antibody based protein detection using western blot analysis. Protein-protein interaction using Co-immunoprecipitation and ELISA. Protein-peptide interaction was evaluated using dot blot and bead-binding techniques.

- **Molecular and Cell Biology Techniques:**

DNA/RNA isolation and purification were done using various cell lines, mammalian blood and tissue systems. Agarose and polyacrylamide gel electrophoresis was performed to evaluate the expressional difference in the biomolecules. Gene expression profiling was done by RT-PCR, gradient PCR and genotyping PCR. Single nucleotide polymorphism analysis was done to evaluate the mutation in the RNA sequence. Gene cloning and its expression was performed using DH10 $\beta$  competent cells. Comet assay as well as various staining techniques were performed to analyze DNA damage like DAPI, PI, EtBr, Acridine orange and Hoechst staining. MTT, LDH and BrdU cell proliferation assay was also performed. Estimated the level of cytokines in cell culture supernatant and animal blood samples through ELISA technique. Various Flow cytometry examinations were also performed.

- **Recombinant Protein Expression and Gene Silencing Techniques:**

Transfection (si-RNA and sh-RNA transfection techniques) and transduction (virus production using HEK 293T cells) was performed against various mammalian cells.

- **Microbiological Techniques:**

Isolated fungus and bacteria from various environmental samples, food and body fluids like, soil, fermented food (*Kimchi*), blood, sputum and pus. Cultured the pure colonies and various staining methods were performed for the microbial characterization.

- **Instrumentation:**

Scanning Electron Microscope, Multimode ELISA reader, Nanodrop, Spectrophotometer, Confocal microscope (Leica), Fluorescent microscope, Gel imaging & analysis systems, Microtome, RT-PCR, FACS (BD, Accuri) and Gas Chromatography-Mass Spectrometry (PerkinElmer) system have been handled.

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## TRAINING/ WORKSHOP EXPERIENCES:

- Workshop on “Science writing” from Indian Institute of Science Education and Research, Thiruvananthapuram, 03<sup>rd</sup> – 15<sup>th</sup> October 2016 (13 days).
- Workshop on “Genomics and Proteomics in Biomedical Research” from Innovation Centre, Institute of Biomedical Sciences, Bundelkhand University, Jhansi, 17<sup>th</sup> – 20<sup>th</sup> March 2016 (4 days).
- Workshop on “DNA sequencing: application in diagnostics and healthcare innovations” from Motilal Nehru National Institute of Technology, Allahabad, 08<sup>th</sup> – 14<sup>th</sup> December 2015 (7 days).
- Workshop on “cell and molecular biology” from CSRD, People’s University, Bhopal, 21<sup>st</sup> – 23<sup>rd</sup> September 2015 (3 days).
- Workshop on “Chromatography separation techniques- manual and instrumentation” from M.P.Council of Science and Technology, Bhopal, 15<sup>th</sup> – 17<sup>th</sup> October 2014 (3 days).

- Workshop on “Advance instrumentation methods” from M.P.Council of Science and Technology, Bhopal, 23<sup>rd</sup> – 26<sup>th</sup> September 2014 (4 days).
- Internship in teaching process on Physical Sciences and Biological Sciences for the Secondary class at DAV Public School, Chandrasekharpur, Bhubaneswar, from 26<sup>th</sup> August – 28<sup>th</sup> September 2013 (1 month).

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#### PROFESSIONAL MEMBERSHIP/ FELLOW/s ASSOCIATIONS:

✓ Associate Member of American Association of Cancer Research (AACR)	2020 – Present
✓ Australian Metastasis Research Society (OZMRS)	2020 – Present
✓ Korean Society for Applied Biological Chemistry (KSABC)	2021 – 2022
✓ Guest editor for ‘Frontiers in Cellular and Infection Microbiology’	2022

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#### Ad Hoc Reviewer in peer reviewed journals:

- Cancers
- Environmental pollution
- Ecotoxicology and Environmental Safety
- Biomedicines
- Diagnostics
- Biomolecules
- Genes
- International journal of molecular sciences
- Toxins
- Frontiers in pharmacology
- Frontiers in Nutrition
- Nutrients
- Materials
- Applied sciences
- Agronomy
- Journal of fungi
- Microorganisms
- Encyclopedia

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#### DECLARATION:

I do hereby declare that all the above statements are true to the best of my knowledge and belief.



**Debasish Kumar Dey**