



Dr. Vivek Bhakta Mathema, PhD

Residence : Ratchaprarop Pratunam Apartment, Bangkok
Ratchaprarop Soi 14, Bangkok, 10400, Thailand
E-mail : vivek_mathema@hotmail.com

Profile

Marital status : Single

Language : English, Basic Thai

Current status : Postdoctoral fellow at Siriraj Metabolomics and Phenomics Center (SiMPC), MU
In collaboration with Mahidol Oxford Research Unit (MORU)

Skills: Chronic Kidney Disease (CKD), Metabolomics, Molecular Malaria, Bioinformatics (Python/R language for large Genomic Data, Gene Ontology), VB/C language, Oncology/Molecular cancer biology, Machine Learning/Deep Learning, Microsatellites Markers, Computational System Biology, General data science, Molecular innate immunology, *in vitro* Animal Cell Culture, PPLO Culture and inflammation-associated Studies, Biosafety, Immunology and Microbiology. Specialized in manuscript preparation and Journal Publications.

Postdoctoral Experiences

First Postdoctoral study : CKD research, Dep. of Molecular Tropical Medicine & Genetics, Mahidol University

Second postdoctoral study : Molecular markers for Malaria, Department of Molecular Tropical Medicine

Doctoral studies : PhD in Bioclinical Science, Chulabhorn International College of Medicine (CICM),
Thammasat University, Thailand [2017]

Masters of Science : MSc in Biotechnology (Distinction), CDBT, Tribhuvan University [2014]

Research Activity : Department of Immunology, Jeju National University, South Korea

Bachelor of Science : Bachelors in Biotechnology (Distinction), Kathmandu University, Nepal

IELTS Score : 7.0/9.0 | **MU-GRAD TEST** : 83.5/100

Contact reference : **Dr. Sakda Khoomrung** (sakda.kho@mahidol.edu) | **Prof. Mallika Imwong** (mallika.imw@mahidol.ac.th)
SIMPC, Mahidol University | HOD, Tropical medicine & Genetics, MU

Prof. Arjen M. Dondorp (arjen@tropmedres.ac) | **Prof. Kesara Na-bangchang** (kesaratmu@yahoo.com)
HOD, Mahidol Oxford Research Unit, OU/MU | Director, Drug discovery & Development Center, TU

Selected Awards

- Best Ph.D Thesis award winner for the year 2017-2018 from Chulabhorn International College of Medicine (CICM), Thailand
- Best poster award in international conference on Illustrious Issues in Pharmacology 2017. Conference organizer: Burapha University, May 18-20th, 2017

Web academic influence index:

ORCID ID : orcid.org/0000-0003-3916-9949

Publication-based H-INDEX : 11 (Source: Google Scholar) with 535+ Citations

Publication-based E-INDEX : 17 (Source: Google Scholar)

Research gate profile : https://www.researchgate.net/profile/Vivek_Mathema



ORCHID QR-Code

Work experience

- (Presently) Chronic Kidney disease research in Siriraj Metabolomics and Phenomics Center (SiMPC) , Mahidol University
- Molecular marker for Malaria in Siriraj Metabolomics and Phenomics Center (SiMPC) , Mahidol University
- In vitro cell culture associated PhD research work at CICM, Thammasat University
- Molecular Innate Immunity/PPLO-associated researcher at Jeju National University, South Korea
- Teaching Assistant (T.A) under Department of Biotechnology, Kathmandu University (KU)
- Invited reviewer in Int. Journals (including Bioinformatics) and experienced in manuscript preparation/technical writing
- Advance user of EndNote, Microsoft office package, Adobe Photoshop, Python/C data science

International scientific research paper publications

*(Metabolomics & Deep Learning) Sen P, Lamichhane S, **Vivek Bhakta Mathema**, McGlinchey A, Dickens AM, Khoomrung S, Orešič MJ. *Deep learning meets metabolomics: A methodological perspective*. Briefings In Bioinformatics 2021 [Information: SCI INDEXED, IF 11.62, PMID: 32940335]

*(CKD Metabolomics & Deep Learning, in review) **Vivek Bhakta Mathema**, Duangkumpha K, Wanichthanarak K, Jariyasopit N, Dhakal E1,2, Sathirapongsasuti N, Kitiyakara C, Sirivatanauksorn Y, Khoomrung S. *CRISP: A deep learning architecture for GC×GC-TOFMS contour ROI identification, simulation, and analysis of imaging metabolomics*. Briefings In Bioinformatics 2021 [Information: SCI INDEXED, IF 11.62]

*(Metabolomics & Deep Learning, in review) Krittima Anekthanakul, ...**Vivek Bhakta Mathema**, Khoomrung S. *Prediction of Lupus Membranous Nephritis using Reduced Picolinic Acid to Tryptophan Ratio as a Urinary Biomarker*. iScience 2021 [Information: SCI INDEXED, IF 5.03]

*(Bioinformatics software paper) **Vivek Bhakta Mathema**, Dondorp AM, Imwong M. OSTRFPD: *Multifunctional Tool for Genome-Wide Short Tandem Repeat Analysis for DNA, Transcripts, and Amino Acid Sequences with Integrated Primer Designer*. Evolutionary Bioinformatics 2019. doi: 10.1177/1176934319843130 [Information: SCI INDEXED, IF 2.203, PMID: 31040636]

Duanguppama J, **Vivek Bhakta Mathema**, Tripura R, Day NPJ, Maxay M, Nguon C, von Seidlein L, Dhorda M, Peto T, Nosten F, White NJ, Dondorp AM, Imwong M. *Polymorphisms in Pvkclch12 and gene amplification of Pvplasmepsin4 in Plasmodium vivax from Thailand, Lao PDR and Cambodia*. Malaria Journal 2019; doi: 10.1186/s12936-019-2749-3 [Information: SCI INDEXED, IF 3.109, PMID: 30940150]

Vivek Bhakta Mathema, Chaijaroenkul W, Karbwang J, Na-Bangchang K. *Cytotoxic activity and molecular targets of atractyloidin in cholangiocarcinoma cells*. Journal of Pharmacy and Pharmacology Oct.2018; doi: 10.1111/jphp.13024 [Information: SCI INDEXED, IF 2.402, PMID: 30324612]

Vivek Bhakta Mathema, Na-Bangchang K. *A brief review on biomarkers and proteomic approach for malaria research*. Asian Pacific Journal of Tropical Medicine. 2015;8:253-262 [Information: SCIE INDEXED, IF 1.772, PMID: 25975495]

Vivek Bhakta Mathema, Chaijaroenkul W, Karbwang J, Na-Bangchang K. *Growth inhibitory effect of β -eudesmol on cholangiocarcinoma cells and its potential suppressive effect on heme oxygenase-1 production, STAT1/3 activation, and NF- κ B downregulation*. Clinical Experimental Pharmacology Physiology. 2017; doi: 10.1111/1440-1681.12818 [Information: SCI INDEXED, IF 2.372, PMID: 28732110]

Vivek Bhakta Mathema, Na-Bangchang K. *Regulatory roles of brain-specific angiogenesis inhibitor 1(BAI1) protein in inflammation, tumorigenesis and phagocytosis: A brief review*. Critical Reviews Oncology Hematology. 2017 111:81-86 [Information : SCI INDEXED, IF: 5.07, PMID: 28259299]

Vivek Bhakta Mathema, Na-Bangchang K. *Current insights on cholangiocarcinoma research: a brief review*. Asian Pacific Journal for Cancer Prevention. 2015 16:1307-1313 [Information: SCIE INDEXED, IF 2.51, PMID: 25743790]

Vivek Bhakta Mathema, Young-Sang Koh, Balkrishna Chand Thakuri, Mika Sillanpää. *Parthenolide, a sesquiterpene lactone, expresses multiple anti-cancer and anti-inflammatory activities*. Inflammation 2012; 35:560–565 [Information: SCI INDEXED, IF: 2.939, PMID: 21603970]

Vivek Bhakta Mathema, Balkrishna Chand Thakuri, Mika Sillanpää. *Bacterial mer operon-mediated detoxification of mercurial compounds: a short review*. Archives of Microbiology 2011;193:837-844 [Information: SCI INDEXED, IF: 2.125, PMID: 21912976]

Vivek Bhakta Mathema, Zahid Manzoor, Jung-Eun Koo et al. *Inhibition of cell death of bone marrow-derived macrophages infected with Ehrlichia muris*. Ticks and Tick-borne Diseases 2013.doi: 10.1016/j.ttbdis.2012.11.011 [Information: SCIE INDEXED, IF: 2.37, PMID:23352172]

Vivek Bhakta Mathema, Bal Krishna Chand Thakuri, Mika Sillanpää, Reena Amatya Shrestha. *Study of mercury (II) chloride tolerant bacterial isolates from Baghmati river with estimation of plasmid size and growth variation for the high mercury (II) resistant Enterobacter spp.* Journal of Biotech Research 2011;3:72-77 [Information : SCOPUS, ELSEVIER INDEXED. ISSN: 944-3285]

Vivek Bhakta Mathema, Smita Shrestha and Rajani Malla. *Phytochemical, Antioxidant, Anticancer and Antiinflammatory Activities of Extracts of Gyanoderma Lucidum from Hilly Regions of Nepal*. Journal of Biochemistry and Molecular Medicine. Oct 2017 [Information: eJournal SCITECH Publishers, USA]

Zahid Manzoor, **Vivek Bhakta Mathema**, Doobyeong Chae, Hee-Kyoung Kang, Eun-sook Yoo, You-Jin Jeon, Young-Sang Koh. *Octaphlorethol A Inhibits CpG-Induced Inflammatory Response by Attenuating Mitogen-Activated Protein Kinase and NF- κ B Pathways*. Bioscience, Biotechnology, and Biochemistry 2013; doi:10.1271/bbb.130299 [Information: SCI INDEXED, IF: 1.5, PMID: 24018681]

Jung-Eun Koo, Hye-Jin Hong, **Vivek Bhakta Mathema**, Hee-Kyoung Kang et al. *Inhibitory effects of Carpinus tschonoskii leaves extract on CpG-stimulated pro-inflammatory cytokine production in murine bone marrow-derived macrophages and dendritic cells*. In Vitro Cellular and Developmental Biology Animal 2012; doi: 10.1007/s11626-012-9495 [Information: SCI INDEXED, IF: 0.914, PMID: 22528736]

Zahid Manzoor, **Vivek Bhakta Mathema**, Doobyeong Chae, Eun-Sook Yoo, Hee-Kyoung Kang, Jin-Won Hyun, Nam Ho Lee, Dong-Sam Kim. *Sargasum macrocarpum inhibits CpG-induced inflammatory response by attenuating NF- κ B pathway*. Food Science and Biotechnology 2014;23: 293-297 [Information: SCIE INDEXED, IF: 0.695]

Phan Van Kiem, Nguyen Thi Kim Thuy, Hoang Le Tuan Anh, Nguyen Xuan Nhiem, Chau Van Minh, Pham Hai Yen, Ninh Khac Ban, Dan Thuy Hang, Bui Huu Tai, Nguyen Van Tuyen, **Vivek Bhakta Mathema**, Young-Sang Koh, Young Ho Kim. *Chemical constituents of the rhizomes of Hedychium coronarium and their inhibitory effect on the pro-inflammatory cytokines production LPS-stimulated in bone marrow-derived dendritic cells*. Bioorganic & Medicinal Chemistry Letters 2011; doi:10.1016/j.bmcl.2011.09.129 [Information: SCI INDEXED, IF: 2.66, PMID: 21912976]

Sung-Ha Kang, Jung-Eun Koo, Hye-Jin Hong, **Vivek Bhakta Mathema** et al. *Anti-inflammatory activity of Carpinus tschonoskii leaves extract in R848-stimulated bone marrow-derived macrophages and dendritic cells*. Journal of Bacteriology and Virology 2012; 42:1-6 [Information: SCOPUS, ELSEVIER INDEXED, ISSN: 15982467s]

Tran Hong Quang, Nguyen Thanh Ngan, Minh Chau Van, Kiem Phan Van, Xuan Nhiem Nhiem, Bui Huu Tai, Nguyen Phuong Thao, Doobyeog Chae, **Vivek Bhakta Mathema**, Young-Sang Koh, Je-Hyun Lee, Seo Young Yang, Young Ho Kim. *Inhibitory effects of oleanane-type triterpenes and saponins from the stem bark of Kalopanax pictus on LPS-stimulated pro-inflammatory cytokine production in bone marrow-derived dendritic cells*. Archives of Pharmacal Research 2013; doi:10.1007/s12272-013-0031-8 [Information: SCIE INDEXED, IF: 1.59, PMID: 23444041]

Phan Van Kiem, Hoang Le Tuan Anh, Nguyen Xuan Nhiem, Chau Van Min, Nguyen Thi Kim Thuy, Pham Hai Yen, Dan Thuy Hang, Bui Huu Tai, **Vivek Bhakta Mathema**, Young-Sang Koh, Young Ho Kim. *Labdane-type diterpenoids from the rhizomes of Hedychium coronarium inhibit lipopolysaccharide-stimulated production of pro-inflammatory cytokines in bone marrow-derived dendritic cells*. Chemical & pharmaceutical bulletin 2012. 60(2) 246-250 [Information: SCI INDEXED, IF: 1.59, PMID: 22293485]

International conferences attended

Oral presentation:

Vivek Bhakta Mathema, Kesara Na-Bangchang. *Growth inhibitory activity of β -eudesmol on cholangiocarcinoma cells is associated with suppression of heme oxygenase-1 production and STAT3 phosphorylation.*The 1st CICM International Conference organizer CICM, Thammasat University, 28-29 August 2017

Poster presentation: [Best poster presentation award]

Vivek Bhakta Mathema and Kesara Na-Bangchang. *Atractylodin from Atractylodes lancea induces apoptosis and inhibits growth of human cholangiocarcinoma Cells.* Conference on Illustrious Issues in Pharmacology 2017. Conference organizer: Burapha University, May 18-20th, 2017

Poster presentation:

Vivek Bhakta Mathema and Kesara Na-Bangchang. *Cytotoxic Activity and suppression of JAK/STAT and NF-KB pathway by Bioactive Compound from Atractylodes lancea Thunb .DC* .The second international conference on Herbal and Traditional Medicine) HTM2017.(Conference :Jan 25-27 Asia Hotel, Bangkok, Thailand

Poster presentation:

Vivek Bhakta Mathema and Kesara Na-Bangchang. *Cytotoxic activity of bioactive compound from Atractylodes lancea) Thunb (.DC .against cholangiocarcinoma cell lines* .Conference :The 13th Asian-Pacific Federation of Pharmacologist meeting "New Paradigms in Pharmacology for Global Health ."The Berkeley Hotel Pratunam, Bangkok, Thailand

Poster presentation:

Thananchanoke Rattanathada, **Vivek Bhakta Mathema**, Kanawut Kotawong, Siriprapa Warathumpitak, Kesara Na-BangChang. *Cytotoxic Activity of Ethanolic Extract of Atractylodes lancea (Thunb.) DC. Against Cholangiocarcinoma Cell Line.* The 37th Congress on Pharmacology of Thailand 2015. [Conference: Ubonratchanthani, Thailand 28-30 May 2015]

Poster presentation:

Vivek Bhakta Mathema and Young-Sang Koh. *Toll-like receptor signaling contributes to host immune responses against obligatory intracellular bacteria.* CSHC 2011. [Conference: INFECTION & IMMUNITY. Cold Spring Harbor Conference (CSHC), Cold Spring Harbor Laboratory Asia. Suzhou, China]

Poster presentation:

Vivek Bhakta Mathema and Young-Sang Koh. *Toll-like receptor signaling contributes to host defense against Ehrlichial infection.* International meeting of the Federation of Korean Microbiological Societies 2010. [Conference: Microbiology. International Society of Microbiology, Seoul, South Korea]

Poster presentation:

Vivek Bhakta Mathema and Young-Sang Koh. *TLR signaling contributes to host defense against Ehrlichia.* International meeting of the Federation of Korean Microbiological Societies 2011. [Conference: Microbiology. International Society of Microbiology, Seoul, South Korea]

Active participation

Vivek Bhakta Mathema. *International Course on Responsible Research.* WHO-TDR Clinical Coordination and Training Center. August 2014 [Conference & Workshop: Thailand]

Vivek Bhakta Mathema. *International Course on Research Ethics.* WHO-TDR Clinical Coordination and Training Center August 2014 [Conference & Workshop: Thailand]

Training and Workshop

Bioinformatics Training workshop ("Collective Omics Data" training by SIDRA Medicine Groups, Qatar conducting workshop at MORU). Active participation in workshop from 3rd-7th December, 2018 for learning the use of OMICS in data analysis, knowledge discovery and manuscript preparation.

Training Workshop (Morphometrics of Vector and Parasites)

Active participation and learning in workshop entitled "Online Morphometrics of Vectors and Parasites" from 24th-28th June using XIOM (online tools for Parasite/vector studies) explained by founder of XIOM, Prof. Jean-Pierre Dujardin. (Certificates attached).

Certified Training Workshop in Biosafety Guidelines- 1st Level. October 2014. Awarding Institutions: Thammasat University & National Center of Genetic Engineering and Biotechnology (BIOTEC) [Conference & Workshop: Thailand]

Editorial membership & invited collaborative reviewer in international journals

Invited reviewer for the Journal "**Molecules**" –MDPI. Received certificate of acknowledgement for assisting peer-review process of submitted manuscript for the journal. Focus area: Inflammation and cancer biology



Invited reviewer for the Journal "**Intervirology**" –KARGER Publications Invited reviewer. Received certificate of acknowledgement for assisting peer-review process of submitted manuscript for the journal. Focus area: pathogen-associated disease and molecular techniques.



Invited reviewer for the Journal "**Interdisciplinary Sciences: Computational Life Sciences - Springer**" –Springer Invited reviewer for assisting peer-review process of submitted manuscript for the journal. Focus area: Cancer biology and oncogenes.



Invited editorial board member for the Journal "**Journal of Biochemistry & Molecular Medicine**" –SciTech Central Inc. Walnut, CA 91789, USA. Focus areas: Overall assisting peer reviewing of papers associated with immunology, oncology and parasite-associated diseases.

Online information available at: <http://www.scitcentral.com/journals.php?journal=29>

Other experience

Animal Vaccine Production Facility detailed training for Newcastle Disease (Avian disease vaccine production), Nepal Government's Central Biological Production Laboratory, Nepal.

Worked as editor and designer of Kathmandu University Biotechnology Newsletter, Dhulikhel, Nepal (2006-2007 AD).

Participation: International Symposium on Biotechnology Education, Research and Industrialization. White House College of Science & Engineering 2009 [Venue: Whitehouse College International Conference Hall, Kathmandu, Nepal]

Thesis and miscellaneous

Vivek Bhakta Mathema, Wanna, Wanna Chaijaroenkul, Tullyakorn Plengsuriyakarn, Kesara Na-Bangchang
"Cytotoxic activities and molecular targets of atractylodin and β -eudesmol in cholangiocarcinoma"

Vivek Bhakta Mathema, Rajani Malla, Smita Shrestha *"Anti-microbial, Anti-cancer and Anti-inflammatory Activities of Nepalese Medicinal Flora"* (Graduate Thesis)

Vivek Bhakta Mathema, Dhurva Prasad Gauchan *"Phytochemical Analysis of in vivo and in vitro culture of Valeriana jatamansii Jones"* (Undergraduate Thesis).

Balkrishna Chand Thakuri, **Vivek Bhakta Mathema**, Jeni Maharjan, Buddha Basnet, Rajani Malla. Microbial *Polyhydroxyalkanoates (PHAs) as a source of biodegradable Plastics*. Environment and Biotechnology 2012. Lambert Pub. Pg.257-277.

Vivek Bhakta Mathema, Deenesh Gupta, Bal Krishna Chand Thakuri and Jagat Shrestha *"Biotechnology Entrance Preparation for TU 2009-2010"* 1st Edition, Bagbazar press

Future interest

Career as a Bioinformatician/Molecular Researcher in Metabolomics, CKDs, AI in Life science, Technical Writing and Scientific/Research Publishing, Data science, Collaborative research works, involving Life science/Diseases.

Educational Hobbies & Creativity

Computer/Mobile Software development: All listed android software are freely available in Google App store/ ApkPure/Github and other online store under the creator name "**Vivek Bhakta Mathema**"

- (i) Offline Cancer Dictionary (ii) LiveWave~ Grapher (iii) PCR MasterMix Maker
(iv) LiveWave~ Grapher Pro. (v) MX Arbitrary Wave Generator (vi) Cellular Automata 2D Pro.

Basic Robotics and Electronics gadgets (Electronics Hobbyist & Self Learning):

The Arduino, ESP8266 microcontroller platform is suitable to build biosensors and data loggers that have huge implications in modern-day studies. The materials/gadgets can be subjected to display on request.

- (i) Arduino based Handheld basic Voltmeter/Oscilloscope
(ii) Arduino Due based real-time Sensor graph-module prototype (applicable for analog sensor)
(iii) Arduino-based temperature/humidity controlled relay switch with display
(iv) K210 artificial intelligence chip-based portable real-time object detection gadget/switch.
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