

## Curriculum Vitae

1. Name/Family Name: Wasun Chantratita
2. Academic status: Professor Emeritus
3. Education: Ph.D. in Microbiology, Mahidol University (1989)
4. Job
  - a. Current Position
    - i. Head of Center for Medical Genomics, Ramathibodi Hospital, Mahidol University, Bangkok10400, Thailand
    - ii. President of South East Asian Pharmacogenomics Association
  - b. In the past
    - i. Head of Virology Laboratory, Ramathibodi hospital, Mahidol University, Bangkok 10400, Thailand
    - ii. Program director of Thai pharmacogenomics project, Ramathibodi hospital, Mahidol University partnering with - Thailand Center of Excellence for Life Sciences (TCELS)
5. Specialties
  - a. Molecular diagnosis of pathogenic viruses
  - b. Pathogen identification by next generation sequencing
  - c. Pharmacogenomics
  - d. Genomics Medicine
6. Experiences
  - a. A member of the Global Genomic Medicine Collaboration (G2MC) Steering Committee.
  - b. Co-chairs of the G2MC Pharmacogenomics Working Group
7. Grants
  - a. Pharmacogenomics project supported by grant from Thailand Center of Excellence for Life Sciences (2004-present)
  - b. Center for Medical Genomics supported by grant from Thailand Center of Excellence for Life Sciences (2014-present)
  - c. Re-sequencing project of 1,000 Southeast Asian individuals using 100 Phamacogene-NGS panel supported by grant from TRF-IRN
8. Award

National innovation awards 2011: Laboratory diagnostic assay for HIV-adverse drug reaction all in one” from National Innovation Agency (NIA)
9. Bio sketch

Prof Wasun Chantratitia has been working at Faculty of Medicine, Ramathibodi Hospital, Mahidol University, Bangkok, Thailand as a head of Center for Medical Genomics partnering with the Center of Excellence for Life Sciences (TCELS) under the Ministry of Science and Technology since June 5, 2014 receiving more than \$30 million US from Research grants and Genomic Medicine services with 120 international publications. This center is the expansion of pharmacogenomics project under the support of TCELS during 12 years period since 2004. The center will bring

genomic medicine technology into clinical practice. The center's focus on personal genomics for sickness and wellness targeting people of all ages. From before birth until death proving many innovative genomic medicine services in genomic carrier screening, PGS/ PGD, NIPT/ NIPD, new born screening, pharmacogenomics, rare/undiagnosed diseases, cell free tumor DNA/ cancer targeted therapies, human microbiome, and pathogen discovery according to Thailand new S-curve industry based on Thailand 4.0 Policy aiming for becoming medical hub for people to live longer and live better.

10. Research funding and laboratory diagnostic services revenue during 2021 are approximately Baht 112 million baht

11. Publications : 161

1. Seng R, Phunpang R, Saiprom N, Dulsuk A, Chewapreecha C, Thaipadungpanit J, Batty EM, Chantratita W, West TE, Chantratita N. Phenotypic and genetic alterations of *Burkholderia pseudomallei* in patients during relapse and persistent infections. *Front Microbiol.* 2023 Feb 6;14:1103297.
2. Shi C, Feng Y, Sun R, Chen J, Zhao Y, Wang Z, Xie S, Zhou J, Yang L, Cao X, Feng J, Zhang C, Wei B, Wang X, Chang Y, Zhao J, Wang Z, Zheng J, Liu J, Chantratita W, Xiong L, Zhang D, Chen C, Ma J. Development and clinical applications of an enclosed automated targeted NGS library preparation system. *Clin Chim Acta.* 2023 Feb 1;540:117224.
3. Sasivimolrattana T, Chantratita W, Sensorn I, Chaiwongkot A, Oranratanaphan S, Bhattarakosol P, Bhattarakosol P. Cervical Microbiome in Women Infected with HPV16 and High-Risk HPVs. *Int J Environ Res Public Health.* 2022 Nov 9;19(22):14716.
4. Phuphuakrat A, Pasomsub E, Chantratita W, Mahasirimongkol S, Disthabanchong S, Sungkanuparph S, Kiertiburanakul S. Risk Factors of Renal Tubular Dysfunction in Thai People Living with HIV Receiving Tenofovir Disoproxil Fumarate. *J Int Assoc Provid AIDS Care.* 2022 Jan-Dec;21:23259582221134751.
5. Trachoo O, Yingchoncharoen T, Ngernsritrakul T, Iemwimangsa N, Panthan B, Klumsathian S, Srisukh S, Mukdadilok A, Phusanti S, Charoenyingwattana A, Chareonsirisuthigul T, Chantratita W, Tangcharoen T. Genomic findings of hypertrophic and dilated cardiomyopathy characterized in a Thai clinical genetics service. *PLoS One.* 2022 Sep 27;17(9):e0267770.
6. Sasivimolrattana T, Chantratita W, Sensorn I, Chaiwongkot A, Oranratanaphan S, Bhattarakosol P. Human Virome in Cervix Controlled by the Domination of Human Papillomavirus. *Viruses.* 2022 Sep 17;14(9):2066.
7. Saifon W, Sensorn I, Trachu N, Oranratnachai S, Charoenyingwattana A, Runcharoen C, Monnamo N, Sukkasem W, Inchareon P, Suwatanapongched T, Chansriwong P, Ativitavas T, Panvichian R, Chantratita W, Reungwetwattana T. Gastrointestinal microbiota profile and clinical correlations in advanced EGFR-WT and EGFR-mutant non-small cell lung cancer. *BMC Cancer.* 2022 Sep 8;22(1):963.
8. Udomsinprasert W, Jittikoon J, Chaikledkaew U, Saengsiwaritt W, Chanhom N, Suvichapanich S, Wattanapokayakit S, Mahasirimongkol S, Chantratita W. Mitochondrial DNA content as a diagnostic marker for antituberculosis drug-induced liver injury. *Int J Infect Dis.* 2022 Sep;122:1034-1040.
9. Chanhom N, Jittikoon J, Wattanapokayakit S, Mahasirimongkol S, Charoenyingwattana A, Udomsinprasert W, Chaikledkaew U, Suvichapanich S, Mushiroda T, Kiertiburanakul S, Rojanawiwat A, Wangsomboonsiri W, Manosuthi W, Kantipong P, Apisarnthanarak A, Sangsirinakul W, Wongprasit P, Chaiwarith R, Tantisirawat W, Sungkanuparph S, Chantratita W. The Association of HLA-B\*35 and GSTT1 Genotypes and Hepatotoxicity in Thai People Living with HIV. *J Pers Med.* 2022 Jun 8;12(6):940.

10. Ludowyke N, Phumiphanjarphak W, Apiwattanakul N, Manopwisedjaroen S, Pakakasama S, Sensorn I, Pasomsub E, Chantratita W, Hongeng S, Aiewsakun P, Thitithanyanont A. Target Enrichment Metagenomics Reveals Human Pegivirus-1 in Pediatric Hematopoietic Stem Cell Transplantation Recipients. *Viruses*. 2022 Apr 12;14(4):796.
11. Srichatrapimuk S, Chookajorn T, Kochakarn T, Kirdlarp S, Pasomsub E, Chantratita W, Iamsirithaworn S, Kunakorn M, Thitithanyanont A, Sungkanuparph S, Phuphuakrat A. SARS-CoV-2 RT-PCR positivity of individuals subsequent to completing quarantine upon entry into a country during a transmission-free period. *Travel Med Infect Dis*. 2022 Mar-Apr;46:102271.
12. Siamoglou S, Koromina M, Hishinuma E, Yamazaki S, Tsermpini EE, Kordou Z, Fukunaga K, Chantratita W, Zhou Y, Lauschke VM, Mushiroda T, Hiratsuka M, Patrinos GP. Identification and functional validation of novel pharmacogenomic variants using a next-generation sequencing-based approach for clinical pharmacogenomics. *Pharmacol Res*. 2022 Jan 13;176:106087. doi: 10.1016/j.phrs.2022.106087. Epub ahead of print.
13. Piriyapongsa J, Sukritha C, Kaewprommal P, Intarat C, Triparn K, Phornsiricharoenphant K, Chaosrikul C, Shaw PJ, Chantratita W, Mahasirimongkol S, Tongsima S. PharmVIP: A Web-Based Tool for Pharmacogenomic Variant Analysis and Interpretation. *J Pers Med*. 2021 Nov 19;11(11):1230. doi: 10.3390/jpm11111230.
14. Udomsinprasert W, Sakuntasri W, Jittikoon J, Chaikledkaew U, Honsawek S, Chantratita W, Wattanapokayakit S, Mahasirimongkol S. Global DNA hypomethylation of Alu and LINE-1 transposable elements as an epigenetic biomarker of anti-tuberculosis drug-induced liver injury. *Emerg Microbes Infect*. 2021 Dec;10(1):1862-1872. doi: 10.1080/22221751.2021.1976079. PMID: 34467830; PMCID: PMC8451674.
15. Pipitprapat W, Pattanaprateep O, Iemwimangsa N, Sensorn I, Panthan B, Jiaranai P, Chantratita W, Sorapipatcharoen K, Poomthavorn P, Mahachoklertwattana P, Sura T, Tunteeratum A, Srichan K, Sriphrapradang C. Cost-minimization analysis of sequential genetic testing versus targeted next-generation sequencing gene panels in patients with pheochromocytoma and paraganglioma. *Ann Med*. 2021 Dec;53(1):1243-1255. doi: 10.1080/07853890.2021.1956687. PMID: 34309460; PMCID: PMC8317928.
16. Yimthin T, Cliff JM, Phunpang R, Ekcharyawat P, Kaewarpai T, Lee JS, Eckold C, Andrada M, Thiansukhon E, Tanwisaid K, Chuananont S, Morakot C, Sangsa N, Silakun W, Chayangsu S, Buasi N, Day N, Lertmengkolchai G, Chantratita W, Eoin West T, Chantratita N. Blood transcriptomics to characterize key biological pathways and identify biomarkers for predicting mortality in melioidosis. *Emerg Microbes Infect*. 2021 Dec;10(1):8-18. doi: 10.1080/22221751.2020.1858176. PMID: 33256556; PMCID: PMC7832033.
17. Vacharithit V, Aiewsakun P, Manopwisedjaroen S, Srisaowakarn C, Laopanupong T, Ludowyke N, Phuphuakrat A, Setthaudom C, Ekronarongchai S, Srichatrapimuk S, Wongsirisin P, Sangrajrang S, Imsuwansri T, Kirdlarp S, Nualkaew S, Sensorn I, Sawaengdee W, Wichukchinda N, Sungkanuparph S, Chantratita W, Kunakorn M, Rojanamatin J, Hongeng S, Thitithanyanont A. CoronaVac induces lower neutralising activity against variants of concern than natural infection. *Lancet Infect Dis*. 2021 Oct;21(10):1352-1354. doi: 10.1016/S1473-3099(21)00568-5. Epub 2021 Aug 26. PMID: 34454652; PMCID: PMC8389976.
18. Charalampidi A, Kordou Z, Tsermpini EE, Bosganas P, Chantratita W, Fukunaga K, Mushiroda T, Patrinos GP, Koromina M. Pharmacogenomics variants are associated with BMI differences between individuals with bipolar and other psychiatric disorders. *Pharmacogenomics*. 2021 Aug;22(12):749-760. doi: 10.2217/pgs-2021-0012. Epub 2021 Aug 19. PMID: 34410167.
19. Atsawawanunt K, Kochakarn T, Kongklieng A, Panwjitkul P, Tragoolpua R, Jaradilokkul K, Kaewmalang P, Loesbanluechai D, Kotanan N, Joonlasak K, Batty EM, Mungaomklang A, Pawun V, Chantratita W, Chookajorn T. COVID-19 Transmission among Healthcare Workers at a Quarantine Facility in Thailand:

- Genomic and Outbreak Investigations. *Am J Trop Med Hyg.* 2021 Jun 25;105(2):421–4. doi: 10.4269/ajtmh.21-0344. Epub ahead of print. PMID: 34170846; PMCID: PMC8437180.
20. Kordou Z, Skokou M, Tsermpini EE, Chantratita W, Fukunaga K, Mushiroda T, Patrinos GP, Koromina M. Discrepancies and similarities in the genome-informed guidance for psychiatric disorders amongst different regulatory bodies and research consortia using next generation sequencing-based clinical pharmacogenomics data. *Pharmacol Res.* 2021 May;167:105538. doi: 10.1016/j.phrs.2021.105538. Epub 2021 Mar 9. PMID: 33705851.
  21. Sirichoat A, Sankuntaw N, Engchanil C, Buppasiri P, Faksri K, Namwat W, Chantratita W, Lulitanond V. Comparison of different hypervariable regions of 16S rRNA for taxonomic profiling of vaginal microbiota using next-generation sequencing. *Arch Microbiol.* 2021 Apr;203(3):1159-1166. doi: 10.1007/s00203-020-02114-4. Epub 2020 Nov 22. PMID: 33221964.
  22. Wang CW, Tassaneeyakul W, Chen CB, Chen WT, Teng YC, Huang CY, Sukasem C, Lu CW, Lee YS, Choon SE, Nakkam N, Hui RC, Huang YH, Chang YC, Lin YY, Chang CJ, Chiu TM, Chantratita W, Konyoung P, Lee CN, Klaewsongkram J, Rerkpattanapipat T, Amornpinyo W, Saksit N, Rerknimitr P, Huang YH, Lin SH, Hsu CK, Chan CC, Lin YJ, Hung SI, Chung WH; Taiwan/Asian Severe Cutaneous Adverse Reaction Consortium. Whole genome sequencing identifies genetic variants associated with cotrimoxazole hypersensitivity in Asians. *J Allergy Clin Immunol.* 2021 Apr;147(4):1402-1412. doi: 10.1016/j.jaci.2020.08.003. Epub 2020 Aug 10. PMID: 32791162.
  23. Mungaomklang A, Atsawawaranunt K, Kochakarn T, Batty EM, Kaewmalang P, Kongklieng A, Panwijitkul P, Joonlasak K, Kotanan N, Loesbanluechai D, Pawun V, Chantratita W, Chookajorn T. Pitfalls of exceptions for COVID-19 travel quarantine: lessons from a dignitary visit to Thailand. *J Travel Med.* 2021 Feb 23;28(2):taab010. doi: 10.1093/jtm/taab010. PMID: 33506268; PMCID: PMC7901055.
  24. Fen SHY, Tandhavanant S, Phunpang R, Ekcharyawat P, Saiprom N, Chewapreecha C, Seng R, Thiansukhon E, Morakot C, Sangsa N, Chayangsu S, Chuananont S, Tanwisaid K, Silakun W, Buasi N, Chaisuksant S, Hompleum T, Chetchotisakd P, Day NPJ, Chantratita W, Lertmemongkolchai G, West TE, Chantratita N. Antibiotic susceptibility of clinical *Burkholderia pseudomallei* isolates in northeast Thailand during 2015-2018 and the genomic characterization of  $\beta$ -lactam-resistant isolates. *Antimicrob Agents Chemother.* 2021 Feb 16;65(5):e02230-20. doi: 10.1128/AAC.02230-20. Epub ahead of print. PMID: 33593842; PMCID: PMC8092913.
  25. Runcharoen C, Fukunaga K, Sensorn I, Iemwimangsa N, Klumsathian S, Tong H, Vo NS, Le L, Hlaing TM, Thant M, Zain SM, Mohamed Z, Pung YF, Capule F, Nevado J Jr, Silao CL, Al-Mahayri ZN, Ali BR, Yuliwulandari R, Prayuni K, Zahroh H, Noor DAM, Xangsayarath P, Xayavong D, Kounnavong S, Sayasone S, Kordou Z, Liopetas I, Tsikrika A, Tsermpini EE, Koromina M, Mitropoulou C, Patrinos GP, Kesornsit A, Charoenyingwattana A, Wattanapokayakit S, Mahasirimongkol S, Mushiroda T, Chantratita W. Prevalence of pharmacogenomic variants in 100 pharmacogenes among Southeast Asian populations under the collaboration of the Southeast Asian Pharmacogenomics Research Network (SEAPharm). *Hum Genome Var.* 2021 Feb 4;8(1):7. doi: 10.1038/s41439-021-00135-z. PMID: 33542200; PMCID: PMC7862625.
  26. Joonlasak K, Batty EM, Kochakarn T, Panthan B, Kümpornsinn K, Jiaranai P, Wangwiwatsin A, Huang A, Kotanan N, Jaru-Ampornpan P, Manasatienkij W, Watthanachockchai T, Rakmanee K, Jones AR, Fernandez S, Sensorn I, Sungkanuparph S, Pasomsub E, Klungthong C, Chookajorn T, Chantratita W. Genomic surveillance of SARS-CoV-2 in Thailand reveals mixed imported populations, a local lineage expansion and a virus with truncated ORF7a. *Virus Res.* 2021 Jan 15;292:198233. doi: 10.1016/j.virusres.2020.198233. Epub 2020 Nov 21. PMID: 33227343; PMCID: PMC7679658.
  27. Al-Mahayri ZN, Patrinos GP, Wattanapokayakit S, Iemwimangsa N, Fukunaga K, Mushiroda T, Chantratita W, Ali BR. Variation in 100 relevant pharmacogenes among emiratis with insights from understudied populations. *Sci Rep.* 2020 Dec 4;10(1):21310. doi: 10.1038/s41598-020-78231-3. PMID: 33277594; PMCID: PMC7718919.
  28. Sorapipatcharoen K, Tim-Aroon T, Mahachoklertwattana P, Chantratita W, Iemwimangsa N, Sensorn I, Panthan B, Jiaranai P, Noojareen S, Khlairit P, Pongratanakul S, Suprasongsin C, Korwutthikulrangsri M,

- Sriphrapradang C, Poomthavorn P. DUOX2 variants are a frequent cause of congenital primary hypothyroidism in Thai patients. *Endocr Connect*. 2020 Nov;9(11):1121-1134. doi: 10.1530/EC-20-0411. PMID: 33310921; PMCID: PMC7774760.
29. Sukasem C, Pratoomwun J, Satapornpong P, Klaewsongkram J, Rerkpattanapipat T, Rerknimitr P, Lertpichitkul P, Puangpetch A, Nakkam N, Konyoung P, Khunarkornsiri U, Disphanurat W, Srisuttiyakorn C, Pattanacheewapull O, Kanjanawart S, Kongpan T, Chumworathayi P, Saksit N, Bruminhent J, Tassaneeyakul W, Chantratita W, Pirmohamed M. Genetic Association of Co-Trimoxazole-Induced Severe Cutaneous Adverse Reactions Is Phenotype-Specific: HLA Class I Genotypes and Haplotypes. *Clin Pharmacol Ther*. 2020 Nov;108(5):1078-1089. doi: 10.1002/cpt.1915. Epub 2020 Jul 21. PMID: 32452529.
  30. Saiprom N, Sangsri T, Tandhavanant S, Sengyee S, Phunpang R, Preechanukul A, Surin U, Tuanyok A, Lertmemongkolchai G, Chantratita W, West TE, Chantratita N. Genomic loss in environmental and isogenic morphotype isolates of *Burkholderia pseudomallei* is associated with intracellular survival and plaque-forming efficiency. *PLoS Negl Trop Dis*. 2020 Sep 29;14(9):e0008590. doi: 10.1371/journal.pntd.0008590. PMID: 32991584; PMCID: PMC7546507.
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  32. Udomsinprasert W, Chanhom N, Suvichapanich S, Wattanapokayakit S, Mahasirimongkol S, Chantratita W, Jittikoon J. Leukocyte telomere length as a diagnostic biomarker for anti-tuberculosis drug-induced liver injury. *Sci Rep*. 2020 Mar 27;10(1):5628.
  33. Chamnanphon M, Gaedigk A, Puangpetch A, Pasomsub E, Chantratita W, Longley RJ, Sattabongkot J, Chariyavilaskul P, Sukasem C. Pharmacogene Variation in Thai *Plasmodium vivax* Relapse Patients Treated with a Combination of Primaquine and Chloroquine. *Pharmgenomics Pers Med*. 2020 Jan 10;13:1-12.
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