Company Brochure

AI DRIVES BIOINFORMATICS

With a help of AI, become an upgraded professional Bioinformatics company





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COMPANY OVERVIEW

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Bioinformatics meets Artificial Intelligence(AI)

Insilicogen, Inc. contributes more than 60% on interpreting and saving bio-big-data yielded in South Korea. Continuous communication within a large amount of data moved our steps toward AI, which grounds data modeling, machine learning, and deep learning.

The advanced technology of *in silico* made AI possible to find the cause and the solution of diseases, seek seeds of new function, and develop personalized food. The future of Bio, led by AI, would be an unreachable virtual reality to most of the groups who don't have sufficient experiences and understandings on utilizing collected, computed bio- big-data.

For almost 20 years, we, 人Co(Insilicogen's core brand value), have persistently stayed in one industry, which is Bioinformatics. By incorporating AI and Bioinformatics, we will make a never-reached, enormous change within the *in silico*. This transition and innovation help to contribute to the new value that BI is ultimately pursuing. To provide better service, we create content and design user interface as simple as possible.

Insilicogen will put efforts enhancing the overall user experience of our service for researchers who work with us.

As always, insillicogen will put people in the center of our business and leap forward to make technical advancement. Please give us your interest and support.

Insilicogen CEO, Namwoo Choi.

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About Insilicogen

Upgraded Bioinformatics service with AI

Insilicogen is a company, specializes in Bioinformatics. Our company provides a platform to share and execute various biological data analysis effectively.

Insilicogen is preparing the future with our new slogan 'Al(Artificial Intelligence) drives Bioinformatics'. Beyond collecting, saving, and analyzing data, we now have *insilico* Lab, a cutting-edge platform, which can create meaningful values in the lab.

We, 人Co, will actively learn and adopt AI, state-of-the-art technology, and quickly provide new values to our customers. Our overarching goal is to design the future of our clients with one-step-ahead suggestions.



Core Value

人Co is an Insilicogen's core brand value. It represents our aim to create our own corporate culture with the help of people, computer technology, and through considerate communication.



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Organization

Horizontal communication and creative culture guarantee diversity



DSC

Data Science Center

Bioinformatics needs a broader sense of data science beyond data analysis in its field.

DSC provides practical values in all Bioinformatics fields, including basic science, medical treatment, animal and plant breeding, microbiome, and more. Our integrated data science service provides professional consulting via direct communication with clients, big data analysis, and AI platform for extending the application.

iLab

insilico Lab

To get the optimized Bioinformatics research results, iLab considers from planning experiments to executing strategic and methodological analysis. Also, we foster an environment to educate prospective research students to prepare the coming era of big data and the transition of research methods in the lab.

iLab, as your customized Bioinformatics partner, provides everything that you need in the lab using our techniques and know-how obtained from years of experience, and consulting various solutions.

RDC

R&D Center(Excellent research institute selected from the Military Manpower Administration)

To resolve biological problems, we do semantic interpretation utilizing IT and mathematics.

Beyond combining coded biological data and algorithms, we are researching the analysis of NGS-related data in various fields, including animals, plants, and microbes that are grounded in Bioinformatics.

BS

Bioinformatics System Department

By adding years of system development experiences, an organized process, professionals, and biological knowledge, we design a world of Bioinformatics that provides simple but instinct answers to the matters.

Lead knowledge informatization by blowing life into information and put it into the system.

History

We will continue to transform for our business growth



 04 Selected as the supervision institution to participate on National Research project organized from Ministry of Environment(Construction of environmentally harmful

of technology-based on semantics, 2008 ~ 2010)

substance-genome knowledge database and development

History

• 01 03 05 09 12	Completed analysis of the Korean cow's entire genomic sequence analysis on its single mutation with Yeung- nam University, Department of Animal Science, Chungbuk National University, CLC bio A / S, Solgent Signed Plant Genomics MOU with three organization (Insilicogen, Inc., CLC bio A/S, Seoul National Univ.) Participated in establishment of LIMS(Laboratory Information Management System) for Livestock Products Quality Assurance Service Win a contract on Bioinformatics analysis of cabbage SNP marker from National Horticultural Research Institute Registered Glter® trademark	 01 Patent for Ontle™(Web-based registered 11 Signed academic exchange a 6 Universities(Yeungnam, Ha Chonbuk, Sungkyunkwan, S 	d Ontology Editing) agreement with inyang, Chungbuk, angmyung)	 01 Joint registered pepper gene analysis on 'Nature Genetics' Generation Bio-Green 21, org the RDA) 03 Registered as a research and service 08 Selected as a prospective pul ing company 12 Moved to Heungdeok IT Valle 	e sequencing (The Next ganized by development blic data provid- 29
2010	2011	2012 2	013 20	0 14 20	015
	 O1 Ontle™(Web-based Ontolog international patent registe O1 Signed MOU on cultivating tive bioinformaticians(Scho Systems, Soongsil Univ.) O6 Selected as a Management tion Certification Company 12 Selected as a technology in business by Ministry of Kno Economy(2011~2016) 	gy Editing), ered prospec- bol of Life Innova- movation pwledge	 O7 Patent for KinMatch™(DNA se method) registered 10 Selected as a special research from military manpower adm for those who need alternative tary service 11 Executed ICT fusion contents system and information standard information standard information standard project based on tradition project based on tradition Big Data Business) 	arch n center inistration /e mili- utilization dardi- cional food evidences	 09 Incorporated Insilicogen's Daejeon branch 10 Organized Hanwoo Genome Symposium (sponsored by the Ministry of Agriculture, Forestry and Fisheries Technology Plan- ning and Evaluation, Gyeongsangbuk-do) 11 Increased capital to 200 million won 12 Opened 人CoFLEX

History



12 Received a certified award from Ministry of Oceans and Fisheries

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Partners

Beyond collaboration, we build partnership for mutual growth!

By building a real-time collaborative work system with global Bioinformatics companies, we enhance the product development and its service.



Overseas Partnership

AgileBio Biobam Biomax Informatics AG Elsevier GeneCodes Kyazma Nebion PetaGene QIAGEN Softberry ThermoFisher

$\text{LINC} \cdot \text{Education}$

Gachon University Kangwon National University Konkuk University Kyung Hee University Sangmyung University Seoul Women's University Sungkyunkwan University Sejong University Sookmyung Women's University Soonchunhyang University Soongsil University Yeungnam University Chonnam National University Jeonbuk National University Chungbuk University Hanyang University

Hardware \cdot SI

Daewon CTS Dell Korea Mutecsoft ThinkTek AbilitySystems Oracle ECPlaza Network Inteface Infotech Intel korea Zinion K3i IBM Korea

Bio

Weedahm Oriental Hospital Dawinbio DNA Link LabGenomics Macrogen BioCore BioPlus Ventech Science SCL Co Celemics Seasun Biomaterials ThermoFisher Scientific SA Skincare LAS Inc. HanDok Chunlab **QIAGEN** Korea

OUR BUSINESS

Analysis · AI · Software · Education · SI



Analysis Bioinformatics Analysis Service

Collaborating with domestic and overseas professionals, we provides fast, highly reliable, and customizable biological analysis services to researchers and organizations.

Al Al Service

From clients' complicated bio-big-data, we seek hidden meanings to tell a new story.

Software

Software Consulting

Provide and educate the world-wide Bioinformatics solution to domestic users and foster knowledge management environment for the customized biological information using our self-developed platform.

Education Educational Service

Companies need talented individuals who are willing to become problem solvers on bioinformatic issues and challenges. Thus we provide educations applicable to the real business world.

SI System Integration Service

Provide a software and an enterprise level of IT infrastructure consulting for professional organizations in medical, agricultural, livestock, fishery, and marine field

Decode 30 types of genetic codes, Analyze 500TB of original data (Korean beef, Abalone, Flatfish, Rockfish, red pepper, sweet potatoes, cucumbers, sea bream, mushrooms, etc.) Conducted big-data analysis, executed machine learning projects (Analysis of Korean beef marbling images, Selection of a agricultural, fishery gene marker, Analysis of small substances in pottery)

120 organizations Obtained 100,000 clients 50 organization Educated 10,000 students Build 60 systems for 30 organization (including CODA, NABIC, MAGIC, Alzheimer's big-data platform AlzNAVi, genetic search system for finding a missing child and the the fallen soldiers from the Korean War)

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Together with the highly-skilled foreign and domestic professionals, provide fast, reliable, and personalized Bioinformatics services

Insilicogen is a professional Bioinformatics company.

We suggest methodologies to satisfy clients' needs and purpose, and communicate based on the results. Next-Generation Sequencing(NGS) becomes a universally used research method in all fields, including Genomics, Transcriptome, and Variant analysis.

Insilicogen provides customized service with 60 Bioinformatics professionals and Bioinformatics analysis pipeline and knowledge developed by foreign partners for years. Experience all-in-one service that allows from production to analysis of data difficult to interpret and specialize in the new studies.



Analysis Results of Database and Visualization

Analysis

Human

- Variant analysis (WES, Targeted)
- Gene expression profile (RNA-seq)
- Gene set enrichment analysis
- CLC Genomics Workbench BX Plus
- Ingenuity Variant Analysis
- Ingenuity Pathway Analysis

Animals & Plants

- Functional variant analysis
- Gene expression profile (RNA-seq)
- CLC Genomics Workbench
- Pathway Studio

Microbe

- Gene structure and function annotation
- Gene expression profile (RNA-seq)
- 16srRNA Taxonomy analysis
- CLC Genomics Workbench
- CLC Microbial Genomics Module
- BLAST2GO

Transcriptome

- De novo transcript assembly
- Digital Gene Expression profiling
- DEG/Pattern analysis
- GSEA analysis
- Pathway analysis
- Association study between promoter and transcript
- DEG functional analysis
- WGCNA
- Single Cell RNAseq

Genome

- Genome size estimation
- De novo genome assembly
- Repeat elements analysis
- Ab initio gene prediction
- Evidence gene modeling
- Protein gene function prediction
- Promoter prediction
- Gene family analysis
- Phylogenetic tree analysis
- Linkage map construction using GBS
 data

Variation

- Potential SNPs analysis
- Potential SSRs analysis
- Population decision marker
- Trait/breeding marker
- Hereditary/disease associated SNP marker
- Population structure analysis
- Selective sweep analysis
- Genomic selection analysis
- Effective population size analysis
- GWAS analysis
- Marker development based on ML

Epigenome

- Epigenome analysis based on array/ sequencing
- Methylation/histone mark/miRNA analysis
- Long non-coding RNA marker discovery
- DMR and pattern analysis
- GSEA and pathway analysis
- Comprehensive analysis of expression & regulation

Analysis - Representative Cases



Transcriptome

- 01 Initial response on protein medicine in human PBMC
- **02** Transcriptome profiling for human sepsis
- 03 Human brain tumor & senescence transcriptional association study
- 04 Transcriptome and Pathway analysis on the 'Korean beef'
- 05 Genetically modified mouse(GEM) RNA-sequencing
- 06 Discovery marker from *Equus ferus caballus* Transcriptome analysis
- 07 Comparative transcriptomics between two Haliotis discus subspecies
- 08 De novo transcriptome assembly of Frankliniella occidentalis
- 09 piRNA/miRNA/small RNA Expression profile of Chicken
- 10 Establishment of the EST information of Korean domestic canine
- 11 Transcriptome analysis and discovery of novel AMP on *Scolopendra subspinipes*
- **12** Discovery novel AMP and transcriptome analysis on the cockroach
- 13 De novo transcriptome and DEG/pathway analysis on *Valeriana fauriei*
- **14** Transcriptome profiling for marine fish with bacterial infection
- 15 De novo transcriptome and functional DEGs/pathway analysis on the grass
- **16** Leaf color gene expression profile on the rice
- 17 Gene expression profile of the radiation effect on Arabidopsis thaliana
- **18** *Panax ginseng* ESTs analysis
- 19 De novo transcriptome assembly and DEG analysis on the Bostrychia
- 20 Gene expression profile of *Pleurotus ostreatus* by developmental stage
- 21 Gene expression difference between asexsual and sexual reproduction of the Fusarium sp

Variation

- 01 Discovery of the genetic factor and mechanism for Papaver petal color
- 02 Comparative genomics for HIV
- 03 Identification of prediction markers for *Platycodon grandiflorus*
- 04 Discovery of early diagnostic markers of degenerative disease of a house dog
- 05 Korean breast cancer WES analysis
- 06 Discovery of breed-classification markers of Chestnut
- 07 Haliotis discus hannai(abalone) population study
- 08 Undaria pinnatifida population study
- 09 Discovery of Functional Gene and variant on 'Korean beef'
- 10 Variant analysis among Traditional chicken strains

Analysis - Representative Cases

- **11** *Coturnix japonica* variant analysis among subspecies
- 12 Caenorhabditis elegans comparative genome analysis using variants
- 13 Methylation/mRNA/miRNA chip analysis on the breast and stomach cancer
- 14 Variant analysis on Rice strains and novel gene discovery
- 15 Cabbage SNP marker selection
- **16** Variant analysis among Chili pepper strains
- 17 Discovery of the strain identification marker of Lettuce
- 18 Discovery of the origin identification marker of milk vetch root
- 19 Discovery of the species identification marker of Brucella

Genome

- 01 4 fishes genome project(*Hypomesus nipponensis*, *Theragra Chalcogramma*, *Platichthys stellatus*, and *Amphiprioninae*)
- 02 Powdery mildew mtDNA analysis
- 03 Development of liquid biopsy NGS pipelines and clinical reporting system
- **04** Seawater/Freshwater *Bivalvia* genome project
- 05 Haliotis discus hannai genome analysis
- 06 Trombiculidae, factor of Scrub typhus, genome analysis
- **07** *Coturnix* japonica genome analysis
- 08 Minke whale genome analysis
- 09 Analysis of the genomic sequence of Chili pepper, Cabbage genome analysis
- 10 *Gracilariopsis chorda*(red algae) genome analysis, *Gelidium vagum*(red algae) genome analysis, *Undaria pinnatifida* genome analysis
- **11** *Xylaria*(fungi) genome analysis
- 12 Cochliobolus miyabeanus(Brown spot disease) genome analysis
- 13 Phellinus linteus (Fungi) genome analysis
- 14 Genome analysis for Hansenula polymorpha
- **15** Comparative genomics among *Fusarium* subspecies
- 16 Oplegnathus fasciatus, Sebastes schlegelii, Pagrus major and Chelon haematocheilus genome analysis
- **17** *Scolopendra subspinipes* genome analysis

Epigenome

- 01 Epigenetic response for heat stress in Haliotis discus hannai
- 02 The multi-omics analysis on 'Korean beef'(RNA/MBD-seq)
- 03 The multi-omics analysis to discover a genetic effect of the Chinese medicine(RNA/Epic850k)
- 04 Cancer Stem Cell(CSC) Histone CHIP-seq analysis
- 05 Mouse WGBS analysis

View more analysis >

AI

In the process of transforming data into knowledge, our AI will assist you

In Bioinformatics, Artificial Intelligence has been played a crucial role for many years. Through machine learning, we discover unknown matters. Recently, persistent technological advancements of big data and deep-learning elevate the possibility.

Do you have concerns within the flood of complex data such as documents, videos, network, including multi-omics? Or do you feel lost in finding the right statistical patterns of your data?

With Insilicogen's own AI technology, unveil hidden meanings and values of data and develop it as profound knowledge. By structuring, interconnecting, machine-learning, selecting, and extracting data, we discover hidden knowledge and support integrated understanding.



Machine Learning

- Analysis of data structure and reduction of dimension
- Data refinement, transformation and preprocessing
- Extract and select characteristics
- Optimized machine learning model
- Development and assessment

Deep Learning • Extract pat work), crea

- Extract pattern map using DNN(Deep Neural Network), create a deep learning model by applying architecture
- Biological data related text sequence, images, videos, natural language processing for predictable categorization and assessing accuracy
- Semantic Modeling
- Through semantic modeling, we integrate the clients' complex data and open sources for continuous data accumulation and creation, and find insight
- Tailored Knowledge
- Visualize web-based analysis results
- Provide result data of real-time activity usable in online
- Possible to use web-mobile

AI - Representative Cases

Research Projects

[National Research Institute of Cultural Heritage] Establishment of machine learning model to predict termite damage of wooden cultural heritage

[Korea Institute for Animal Products Quality Evaluation] Beef quality estimation by image analysis(Deep Learning) and machine learning

[National Institute of Animal Science] Maker selection for degenerative disease by machine learning

[National Institute of Fisheries Science] Development of machine learning model for prediction of high temperature tolerance for abalone

[Ministry of Environment] Construction of environmentally hazardous material-genomics knowledge-based and Development of semantics-based technology

[Ministry of Environment] Excavation of indicators for heavy metal toxicology using toxicogenomics

[Food Industry Technology Support Center] Coordination analysis among health function, culture, excellence geographic location of Korean food and Korean food ingredient

[Korea Food Research Institute] Traditional food semantics database construction and analysis program

[Korea Food Research Institute] Construction of semantics database and korean food specialized ontology

[Pusan National University] Construction of anti-aging molecular network of aging Database

[Korea Food Research Institute] Development of InsilicoFood pilot system through the integrated analysis of food information

[Kwang Dong] Development of iF DB based dry complex system DB and h-pilot system

Patent and Program Registration

[Patent Registration 10-2018-0156903] Biomarker composition for prediction or diagnosis of canine patellar lunation [Patent Application 10-2019-0023081] Biomarker composition for diagnosing lung cancer comprising peptide nucleic acid

[Patent Application 10-2019-0025109] High sensitive genetic variation detection and reporting system based on barcode sequence

[Patent Application 10-2019-0155754] Biomarker composition for prediction or diagnosis of canine degenerative Diseases

[Patent Registration 10-1107582] Web-based ontology editing operation system

[Program Registration 2011-01-121-005389] Smart-TGM heavy metals toxicity-index excavating tools

[Program Registration 2011-01-129-001569] WeightViz by weight visualization tool

[Program Registration C-2014-030421] Personal genomics-based obesity risk computing program

[PCT Application pct110125] Web-based ontology editing operation system

[Patent Application 10-2014-0163505] Customized personal traits dietary ingredients for information character-chemical agent network system and providing methods

[Patent Application 10-2014-0170397] Personal genomics-based obesity risk analysis system and method

[Patent Application 10-2015-0156844] Customized food information recommendation system considering personal genotype and phenotype information

Research Journals

01 Semantic Data Integration for Toxicogenomic Laboratory Experiment Management Systems. Toxicology and Environmental Health Sciences, 2011

02 Semantic Data Integration to Biological Relationship among Chemicals, Diseases, and Differen tial Expressed Genes. Biochip Journal, 2011

Software

Reduce your time with scientific results!

We provide internationally well recognized Bioinformatics software. Through online education center and various education consulting, we foster a pleasant environment for researchers to analyze biological information.

Transcriptome Analysis

CLC Genomics Workbench OmicSoft Suite OmicSoft Land Explorer OncoLand / DiseaseLand Ingenuity® Pathway Analysis OmicsBox Transcriptomics Genevestigator®

Plant · Animal Genome Analysis

CLC Genomics Workbench OmicsBox Genome/Functional Analysis FGENESH Pedant-Pro™ Sequence Analysis Suite IncoGWAS

Human Genetic Variation Analysis

CLC Genomics Workbench Bx Plus OmicSoft Suite Ingenuity® Variant Analysis™ HGMD® Professional QCI™ Interpret Sequencher IncoNGS

Microbial Genome Analysis

CLC Genomics Workbench CLC Microbial Genomics Module CLC Genome Finishing Module OmicsBox Metagenomics



Education

Our education programs drive the growth of Bioinformatics

For the latest Bioinformatics education demanded from a domestic research institute, we provide onsite human resource training and the best bioinformatic solution to develop their skills required for biological research and development.

Insilicogen has experts in various fields, such as data processing, genomics & transcriptomics analysis, and programming. With the help of experts, we come up with a suitable curriculum for our target education group and have the best educational results.

- 人CoSEMINAR
- 人CoWORKSHOP
- 人CoINTERNSHIP

- Basic educational program for Bioinformatics
 Education on utilizing Bioinformatics solution and its theory
- Personalized education for enhancement of Bioinformatic analysis
- Provide example centered education for the work
- Program for educating prospective bioinformaticians
- Provide opportunities to understand a basic concept of research development and life in the company via practices
- 人CoACADEMY
- Provide various educational contents using Bioinformatics solutions and support Bioinformatics analysis
- New-Generation BI Educational Workshop
- Genomic Data Analysis Education
- Collaborate with KOBIC

Online education center

- Proceed an education on overall Bioinformatics
- Collaborate with KoreaBio
- Proceed genomic data analysis education needed from the industry

Lead knowledge informatization by blowing life into information and put it into the system

Insilicogen's years of experience in System Integration(SI) business on Bioinformatics helps us to build a database and an analytical system for researchers to yield useful data and analyze gigantic biological data with ease.

Including genes and DNA samples, we tackle from a basic genetic resource, lab information to Omics data and bulk data analysis. Insilicogen will always be in a place where we can assist users.







Integrated Information System Development

[National Institute of Fisheries Science] Establishment of national fisheries biological zone integration system

[Korea Atomic Energy Research Institute] Standardization of food and quarantine radiation response data and establishment of management system

[Centers for Disease Control & Prevention] Clinical Omics Data Archive(CODA)

[National Institute of Agricultural Sciences] Agricultural biotechnology-information system(NABIC)

[National Research Institute of Cultural Heritage] Ancient genetic information system

[National Institute of Animal Science] Livestock genetic resource total management system

[National Institute of Animal Science] Animal genetic information system

[National Research Institute of Cultural Heritage] Ancient human bone traits integration information system

Omics Analysis and Management System Development

[National Research Institute of Cultural Heritage] Ancient life genetics big data DB system

[KISTI - Korean Institute of Science and Technology Information] Web-based multi-omics integration analysis interface

[KISTI - Korean Institute of Science and Technology Information] Next-generation bio research analysis technology for International cooperation research support

[KISTI - Korean Institute of Science and Technology Information] User-customized next-generation genetics data integration analysis system

SI - Representative Cases

Genetic Resource Management and DB Development

[Centers for Disease Control & Prevention] Integrated database construction of Kor-GLASS

[Ministry of Food and Drug Safety] Food poisoning bacteria integration information DB system

[Centers for Disease Control & Prevention] Virus gene DB acceleration

[Centers for Disease Control & Prevention] Food poisoning virus surveillance operation system and genetic analysis module development

[Centers for Disease Control & Prevention] Nervous system virus gene DB function improvement and extension

[Animal and Plant Quarantine Agency] Genetic variation management system

[National Institute of Fisheries Science] Marine life single nucleotide information management system

[Centers for Disease Control & Prevention] System for real-time acute diarrhea disease-causing agent DB operation

[Animal and Plant Quarantine Agency] Genetic analysis results and DB management system

[National Institute of Fisheries Science] Life resources integration DB

[National Research Institute of Cultural Heritage] Ancient human skeleton Y-SNP and ancient life genetic information DB system

[Korea Research Institute of Bioscience & Biotechnology] Genetically modified mouse data collecting computing system

Bio-bank System

[VHS Medical Center] Establishment of BioBank and genetic information management system

Record Management System Development

[Shinan-gun, Jeollanamdo] Production traceability management system for Shinan Bay salt prestige

[Namwon Environmentally-Friendly Black Pork Cluster Enterprise Organization] Environmentally-friendly Gowon black pork record management tracking system

[Hankyong National University] Evergreen Hongcheon Korean-beef RFID record information management system

[Korea Institute for Animal Products Quality Evaluation] Smart beef record system advancement

[Chonnam National University] Green Korean-beef population management system

[Hankyong National University] Jangsu country population management system

Analysis and Development of a Large Volume of DB

[KISTI - Korean Institute of Science and Technology Information] Integrated analysis system for biodegradable network big data

[Agency for Defense Development] Unknown agent integrated verification system

[KISTI - Korean Institute of Science and Technology Information] Alzheimer data network navigation program and integrated analysis platform

[KISTI - Korean Institute of Science and Technology Information] Astronomical space data analysis cloud user interface

[KISTI - Korean Institute of Science and Technology Information] Protein interaction and computer simulation integration management system

[KISTI - Korean Institute of Science and Technology Information] Interface for managing virtual cluster

[KISTI - Korean Institute of Science and Technology Information] Resource management portal system for brain imaging information extraction application analysis

SI - Representative Cases

[National Marine Biodiversity Institute of Korea] National marine fishery resources genetics information management system

Genetic Inspection System Development

[Ministry of the Interior and Safety] Compulsory mobilization victim DNA identity validation DB

[Ministry of Unification] Genetic information of separated families DB

[KISTI - Korean Institute of Science and Technology Information] Web-based multi-omics integrated analysis interface

[Korea Institute for Animal Products Quality Evaluation] Beef-record laboratory information management system

[Criminal Investigation Command] Genetic information identification system of fallen soldiers from the Korean War(6.25)

[National Forensic Service] Genetic information search system for finding missing children

Sample Management and Genetic Barcode

[National Institute of Biological Resources] Wildlife integrated genetic information system

[National Institute of Fisheries Sciences] Marine life sample-securing DB and management system

[Chungnam National University] Marine life resource donation registry agency Integration management system

[RDA-Genebank Information Center] Agricultural genetic resources barcoding system

PUBLIC RELATION

Achievements · Press Releases · Our Culture · Employees · Future Plan

Achievements

Certifications

- **01** Direct production certificate(Big-data analysis) From Ministry of Employment and Labor 2019.03.17 / 2021.03.16
- 02 Direct production certificate(Software development) From Ministry of Employment and Labor 2019.03.17 / 2021.03.16
- **03** Confirmation letter of Innovative business management in small and medium sized company(MAIN-BIZ) From Small and Medium Business Administration 2017.06.27 / 2020.06.26
- 04 Selected as the best service company From Korea Credit Guarantee Fund 2017.08.04
- 05 Certified youth-friendly small and medium sized company From Ministry of Employment and Labor 2016.04.17 ~ Present
- 06 A proof of research and development based service From Ministry of Science ICT and Future Planning 2014.03.07
- **07** Approved as a research Institute From KOITA 2007.06.18

Patent Registration

- **01** Human body type and metabolic susceptibility SNP marker and diagnostic information provision method (10-2093453) 2020.03.19
- 02 Prediction and diagnosis method of canine degenerative joint disease(10-2067076) 2020.01.10
- **03** Network system between traits and chemicals, and provision method for personalized dietary information(10-1645206) 2016.07.28
- 04 Detecting system and method for place of origins of pottery(10-2015-0123536) 2016.01.28
- **05** DNA search method(10-1287400) 2013.07.12
- 06 Web-based ontology editing operation system(10-1107582) 2012.01.12

Awards

- **01** Official commendation of contribution on marine fishery industry development from the Minister of Oceans and Fisheries 2019.12
- **02** Official commendation on promoting experimental research of fishery from Minister of Ocean and Fisheries 2018.12
- **01** Official commendation on excellence in management from the Gyeonggi Provincial Small and Medium Business Administration 2016.02

Registered Marks

 if[®](INSILICO FOOD) 2017.11.01
 GLTER[®] 2011.01.05
 LabKM[®] 2009.02.13

Program Registration

01 Registered 61 programs including KinMatch(Birth related information search system)

Applied Patent

01 A device provides gene expression information and 6 others

Knowledge-based Bioinformatics platform, 50,000 monthly users!

Insilicogen's Bioinformatics knowledge platform shares biological information, proceeds online and offline bioinformatics educational programs, and provides various contents for big-data search-based Bioinformatics analysis that leads to online purchases.

人CoDOM / 人CoBLOG

- Knowledge sharing channel of Bioinformatics field
- 2,100 professional articles(人CoDOM) / 340 blog posts(人CoBLOG)

Offline Bioinformatics Education

Internship program / Run new-generation Bioinformatics education

人CoACADEMY / MyInco

• Online educational channel / Online purchase channel



Research Articles [1-30]

- 01 Lee S-C, Kwon JH, Cha DJ, Kim D-S, Lee DH, Seo S-M, Jung M, et al. Effects of Pheromone Dose and Trap Height on Capture of a Bast Scale of Pine, Matsucoccus thunbergianae (Hemiptera: Margarodidae) and Development of a New Synthesis Method. Journal of Economic Ento mology. 2019;112 4:1752-9. doi:10.1093/jee/ toz079. Impact Factor : 1.779
- 02 Kang M-J, Shin A-Y, Shin Y, Lee S-A, Lee H-R, Kim T-D, et al. Identification of transcriptome-wide, nut weight-associated SNPs in Castanea crenata. Scientific Reports. 2019;9 1:13161. doi:10.1038/ s41598-019-49618-8. Impact Factor : 4.011
- 03 Nam B-H, Yoo D, Kim Y-O, Park JY, Shin Y, Shin G-h, et al. Whole genome sequencing reveals the impact of recent artificial selection on red sea bream reared in fish farms. Scientific Reports. 2019;9 1:6487. doi:10.1038/s41598-019-42988-z. Impact Factor: 4.011
- 04 Baek S-J, Chun MJ, Kang T-W, Seo Y-S, Kim S-B, Seong B, et al. Identification of Epigenetic Mechanisms Involved in the Anti-Asthmatic Effects of Descurainia sophia Seed Extract Based on a Multi-Omics Approach. Molecules. 2018;23 11 doi:10.3390/molecules23112879. Impact Factor : 3.060
- 05 Kim D, Jung M, Ha JI, Lee YM, Lee S-G, Shin Y, et al. Transcriptional Profiles of Secondary Me tabolite Biosynthesis Genes and Cytochromes in the Leaves of Four Papaver Species. Data. 2018;3 4 doi:10.3390/data3040055. Impact Factor : NIL

- 06 Oh J, Shin Y, Ha JI, Lee YM, Lee S-G, Kang B-C, et al. Transcriptome Profiling of Two Ornamental and Medicinal Papaver Herbs. International Journal of Molecular Sciences. 2018;19 10 doi:10.3390/ijms19103192. Impact Factor : 4.183
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- 08 Lee H-R, Lee S-C, Lee DH, Jung M, Kwon J-H, Huh M-J, et al. Identification of Aggregation-Sex Phero mone of the Korean Monochamus alter natus (Coleoptera: Cerambycidae) Population, the Main Vector of Pine Wood Nematode. Jour nal of Economic Entomology. 2018;111 4:1768-74. doi:10.1093/jee/toy137. Impact Factor : 1.779
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인실리코젠-한양대학교 산학협력단 기술이전 협약식

일시 : 2019년 9월 3일(화) 17시 장소 : 한양대학교 HIT 116호 소회의실





Prevent Disease of Pet by DNA Testing [Jungang News Magazine] 2019-12-02

Food Industry and Big Data [Koita Monthly Technology and Innovation] 2019-10-22

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Genetic data will be used to cure, prevent and care diseases, and ... [Monthly Jungang] 2017-11-23

With creative and positive mind, discover new values and spread new culture

We build our competitiveness via our internal knowledge management system that includes reading, sharing ideas and tasks, and having a culture day and more. Seeking and developing our culture leads us to become a number-one company in the Bioinformatics field.



Self-sustained Growth Continuous improvements through seminar, blog, publishing, and reading







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Employees



Long-experienced employees are our beginning and the end

[Updated on April 2nd, 2020]

Role	Associate Degree	Bachelor's Degree	Master's Degree	Doctoral Degree	Sum
Coffigure Davidanar	C	10	2	1	21
Software Developer	2	10	Z	T	21
Data Analyst	0	0	8	2	10
Marketer	0	2	4	0	6
Information Architect	0	0	6	0	6
Consultant	0	1	4	0	5
UI/UX Designer	1	1	0	1	3
Business Manager	0	1	1	0	2
Total	3	27	25	4	53

*Added 3 undergraduate developers who will graduate in February 2021 in the bachelor's degree section

Future Plans

Lead Future of Bioinformatics by putting AI and Big Data in the center!

Legacy of Bioinformatics Business

Based on 20 years of legacy and experiences, we will continue to provide solutions, customized system design for clients' environment, and the latest Bioinformatics education.



Design customized system for clients



Education The latest Bioinformatics education business



BI The latest Bioinformatics education busines



Software

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insilico Lab

Prefer 'customized Bioinformatics consulting' bases *in silico*(computer), leads in vivo, in vitro

Through long- accumulated biological information know-hows and knowledge, we are trying to contribute from designing experiments to coming up with optimized results.

Al Lab

Spearhead that will lead the future of Biology in the age of AI

By structuring, interconnecting, machine learning, selecting, and extracting data, we discover hidden knowledge and support integrated understanding.

iBreeding

Data-Driven Breeding Company

Provide a platform that deals with a large volume of genotype and phenotype data, and detailed breeding based on environmental information.

DiF

Data-Driven Food Company

Provide personalized food contents through network analysis that uses food related data and various personal data collected for a long time.

AiD

Data-Driven Diagnosis Company

We will create an AI based solution to provide diagnosis related recent knowledge which grounds public domain and onsite Information.

AiM

Data-Driven New Medicine Company

Based on BI and AI, already obtained, we contribute on repositioning drug and seeking new medicine lists.

THANK YOU!

Company Name Representative Business Area

Address Contact Info Established Date Business period Insilicogen, Inc. Nam-woo Choi Analysis, AI, Software, Education, SI #2901~2904, Tower-dong A, HEUNGDEOK IT VALLEY, 13, Heungdeok 1-ro, Giheung-gu, Yongin-si, Gyeonggi-do 16954 Korea Tel. 031-278-0061, Fax. 031-278-0062 August, 2005 August, 2005 ~ April, 2020(14 years and 9 months)

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