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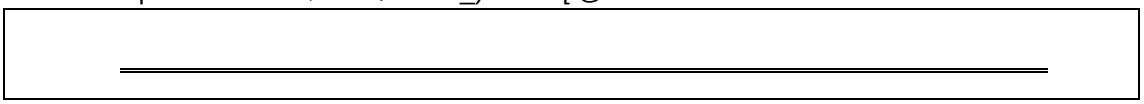

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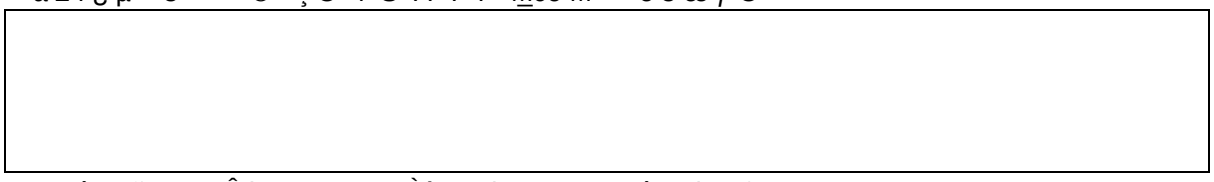

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(3) | ƒ*… _ c>* å b V Û#Õ +Ë † ° Û%$ ‹ ? } º6ë>* ƒ ›$× _ f j K r M>& $ q í ¹3û) 2 >& v8 >| Ç&ì Ø>' l g œ!Õ È q c 93õ ²0[° ƒ ‡6ë c +Ë Ç ß ” Ü î ² î † » u>* +Ë4 l b Š †1 (Ù M • œ>* r S c 0£"g # @ ô š K S œ _ º ") [6×#æ13 •≫& @ >'

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M>Ì>Ì 5	&ÅF· ä/ñ	G"G FæFçFï%Ê'2	GcG/G2GXGxGŠ
Professor	Tsunehiro AKI	Genomic breeding of oleaginous microorganisms for provision of new health foods, pharmaceuticals, chemic and sustainable bioenergy.	Lipid engineering, Microbial biotechnology, Biorefinery
		¨]Fú#Õ#. q ö"@2AG"#Õ#ØFéG :)z,æFûFôFÔFöH æ "@#Õ œ B µ SFþ0Ž ÂG § æ1p D šG9GGG?GŠGWF 0Ž ÒG"/œFÖF¹G Fï#Õ#. q ö ³!›"@Fþ "7³G‰ S4 ô G # B4Ý(òFþ o Â µ S0Ž ÒH FåG Fû 3°. 6ä$ÎG"% æFçFï Á	
M>Ì>Ì 5	,¨]F·2<	#Ý%Ê'2G /œFÖF¹	#Õ#. q ö"@2AH #Õ œ BH § æ1
Professor	Kenji ARAKAWA	We aim to characterize the mechanism for the biosynth of bioactive compounds and their regulatory system in Streptomyces species. Isolation of new metabolites an characterization of biosynthetic enzymes are also studie in our laboratory.	>î? ? ? ? ? ? "? >Ì? ? ? ? ? ?!? ? >î? ? ? ?%? ? ? ? ? ? ? H >ÿ? ? ? metabolism
		• RG^G=GTGxG0Fþ •%±G‰ • <#ÝFþ4G Ê2(;G"0Ž Ò FçFÔ •/¡6ä$ÎG"/œFÔH 4G Ê2(;G" w#Ý"@2A#Õ#ØFû FéG GlGxG•G^G2G8GTG=G\G{GFGŠ	
		• RG^G=GTGxG0Fþ5 “7Ÿ' + ŠG"H GzG0GoGMGyG% 2(; G pFçH 5 “GXG\(• ÊFû š nFéG G^G2G8GmG[GwÒ	GxG•G^G2G8GTG=G\G{GFG…
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MF· 5 Professor	#ãF·7o M Ryuichi HIROTA	#Õ"@Fþ ²8r –(òF÷FÒG GxG•Fþ#Õ"@ #"H æ1pFû6õF '2F¹ zFûG^G=GTGxG0G" P1ßFû (ÊGzGgGyF÷GxG•Fþ GHGnG"0Ž ÂFçH GxG•2(;Fþ w q#ÝH GxG• æ1pFþ D G^G2G8GIGŠGcGTG1GŠ •/¡6ä$ÎH G^G2G8GeG{GIG(FéG F¹ Studies on the phosphorus cycling in the environment a the phosphorus metabolism of bacteria. We analyze the molecular mechanisms of the phosphorus metabolic sys of bacteria and apply their functions for developing innovative biotechnology that contributes to phosphorus recycling, biosafety strategy, and bioprocessing.	GxG• æ1pH G^G=GTGxG0H G^(G{GFGŠ Phosphorus metabolism, Bacteria Biotechnology
MF· 5 Professor	È F· G ž Masaki MIZUNUMA	"(ý+ %? >#Õ"@G‰4Ý •G"#ÝFÔFöH >ï? >Þ>×GEG>G Fþ ²1úG" ÂG FÛFûFéG F¹"IFûH >ï? >Þ>×FÜ6õ ZFéG (Q èH FÚG G (ý+ ZFþ (Ê µ SG"0Ž ÂFéG F¹G FïH ¨(ý+ #Õ"@G‰)z.xG"#ÝFÔFö*• ìG‰ Q è µ SFû6õFéG %Ê'2 We focus on mechanisms of Ca2+-dependent signaling using the unicellular eukaryote, Saccharomyces cerevis as a model system. In particular, we are currently investigating aspects of calcium-dependent signal transduction in yeast, including cell-cycle, life span, and ? ? ? ? ? ? ? ? ? >ÚF·? ? >Ì? ? ? ? >Ì? ? ?!? ?%>Ì? ? >Ì Caenorhabditis elegans.	4Ý •H)z.xH Q è Yeast, C. elegans, Lifespan
(M 5 Visiting Professor	2e •F· ú Takeshi AKAO	ë4Ç4Ý •G"FÿFèG FøFçFï5 4 #Ý4Ý •Fþ Â#ÝG@G\Gm(FþG@G\Gn _ G" <#ÝFçFö,æ 4Fþ(- &1‘ 9 •/¡Fþ6ä$ÎH ë 4Ç4Ý •Fþ w#Ý µ+ Fþ4G $×0[IFþ0Ž ÂH "á$×*ñ' • /¡Fþ6ä$ÎFúFùG"% æFçFöFÔG F¹ Applied genomics of sake yeast and the related industri strains: Utilization of the genome information for exploration of unique DNA markers in each lineage, genetical study on characteristic features of valuable sa yeast strains and development of efficient breeding method.	ë 4Ç4Ý• H Â#ÝG@GGGGH5 4 "I öFþ4G Û Sake yeast, Applied genomics, Genetics of brewing characteristic
(M 5 Visiting Professor	&>1ÂF· T Ê Atsuko ISOGAI	ë4ÇG !•4ÅFþ96 ¼ B (Fû6õFéG %Ê'2G"/œFóFöFÔG F "I öFû $ ZFéG B (G" ÂG FÛFûFçH FíFþ#Õ B µ SFþ0Ž FÚG G D š •/¡Fþ& 'gG"% æFçFöFÔG F¹ Studies on the aroma compounds in sake and shochu, aiming at identification of components responsible for th characteristics, elucidation of their formation mechanism and development of control techniques.	ë4ÇH !•4ÅH 96 ¼ B (Sake, Shochu, Aroma compound
(M 5 Visiting Professor	¾ WF· ô/ñ Kazuhiro IWASHITA	ë4Ç0 4 Fÿ N q(•G";Ü,æFø4Ý •FÜ8p$ F÷$Î4ÝFç>ØFåG B'¼G") Fö#ÕG G G FéF¹;Ü,æG 4Ý •FþG@G\GnFÜ Â(G ¶F»Fþ4G ÊFûFôFÔFö%Ê'2FÜ4 G#F÷FÝG FçFïFÜ FÿFãG G Fþ ¨ ¨]Fú4G Ê µ+ FÜ CFá'ìFþG FÖFû6õ4 F G FéF¹FãG Fþ0 7§Fú6õ4 G"GoGMGjG{GmG=GG>ØG G">í>õ'¼ QFóFö0ŽFÝ ÂFÛFéFãFøG"% æFçFöFÔG F Sake making involves the fermentation of steamed rice koji-king and yeast in sequence, followed by further maturatio. The genomes of koji-king and yeast have bee revealed, and research on individual genes has been advancing. However, sake brewing involves the comple interaction of these various genetic functions. Our goal i to unravel these complex interactions using information ? ? ? ? >Ì? ? ? ? ? ? ? ? ? ? ? >Ø>Ì? ? ? ? ? ? ? ? >Ø several information technology such as AI technologies.	G@G\GmG=GG>ØGoGMGjG{Gı Mtabolomix, genomix, Artivitial interigence
(M 5 Visiting Professor	Ã#ãF· m Å Tomotake MORITA	$Î4ÝFûG G G^G2G8GgGŠGG(ò ¦Fþ#Õ#ØFø Â#ÝFû6õ "@FþGGG=GxGŠGYG•G>G µ+ 0Ž Ò>Ø4G Ê) nFØF 5, G"/œFóFöFÔG F¹ To develop new bio-based materials, we are promoting screening, characterization, and genetic modification of industrial microbes.	G^G2G8GgGŠGG(ò ¦H #Ø ¤#Õ Â#Ý ¤#Õ"@ Û Bio-based materials, Industrial microbes, Applied microbiology

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ø M 5 Associate Professor	7÷ -F·1Ÿ3d Yoshiteru AOI	#" C pFû ¨Fß Ñ ~FçFöFÔG 7´ õ8ô ö ¤#Õ"@G" P1ßFûH 8 ,$×Fú (7³ õ8ô •/¡Fþ6ä$ÎH D • õ8ô5 0[¤#Õ"@Fþ µ+ 0Ž ÂFø <#ÝH D! •%± Q j D šGoG9GYGHGnFþ0Ž Â $×FøFéG F¹FíG G G"3ûFèFöH ¤#Õ"@Fþ#Õ ÂFÚG G µ+ G" ÂG FÚFûFçH ¤#Õ"@G" D šFéG /¡G" mFû °G G FåG Fû . G" p °FøFçFï • <#Ý2(;Fþ6â ÅFû ¥FáFï ,Fï Fú4('½G" S(FéG FãFøG"% æFçFöFÔG F¹ Our research goals are (i) bringing innovation to microb cultivation, by development of radically new cultivation technology; (ii) isolation of environmentally important or potentially useful but yet-to-be cultured microorganisms (iii) puzzling out the reason as to why most of the environmental microorganisms are recalcitrant for cultivation.	•%± ¤#Õ"@H 7´ õ8ô ö ¤#Õ"@H %@G‰0l4ð Unknown microbes, Unculturable microbes, Dormancy and resuscitation
ø M 5 Associate Professor	å#ãF· T Takeshi IKEDA	#" C pFû1Ï)Fû Ñ ~FéG G?G2(òH >ÿ? H FÿH #Ø $×Fû –(òF÷FÒG F¹G?G2(òG" <#ÝFçFö#Õ*ñFéG (ý,æFþGo 0Ž ÒFçH FíFþ%±0bG" öFûG?G2(ò ¦ qFøG^G2G8GTG /% œ •/¡Fþ6ä$ÎG"4 G FöFÔG F¹G FïH …#+ VFþG?G2 FûFÚFáG (ý,æFþ z mFþ0Ž ÂFû ¥FáFï%Ê'2G 4 G FöF Our research focuses on the interaction between inorga silicon (Si) materials and bacteria (and their biomolecule We are developing biointegrated devices/materials usin Si-associated biomolecules as an interface. We also investigate the contribution of Si-utilizing bacteria to the global Si cycle.	G‘G2&G[G‰J‹GIG+HG‘G2&% œGU‘G2GG‰GTG&0GyHG‘G2ò #" >î? ? ? ? ? ? ? ? ? ?&? ? ? ? ? ? ? ? ?"? ? ? ? >Û? ? ? ? ? ? ? ? ?
ø M 5 Associate Professor	V5 F· ¾ Masaru UENO	%? >#Õ"@FþGTG{GoG0)T â µ SG‰>ð>ú>í Ÿ Ÿ µ SFþ Fþ *• ìG‰ $´6õ4 ì. G Fþ Â#Ý%Ê'2 Study on molecular mechanisms of telomere maintenan and DNA repair and their applications for development anti-cancer and anti-ageing agents.	GTG{GoG0H FÜG#H *• ì Telomere, Cancer, Aging
ø M 5 Associate Professor	•.(F·(Setsu KATO	]F»Fú#" CFûFÚFáG ¤#Õ"@Fþ#Õ Ñ S$ H FíFçFö(ý+ 4#&ìG">Ý(ý+ GzGgGyF÷ ÂG FÛFûFéG FãFøF÷#Õ èG G FúG #.0ŽFø(ý+ µ+ Fþ Q IG"% æFéF¹ We analyze how microbial cells adapt and survive unde various conditions using the single cell quantitative method. We are also interested in the process of cell death to identify the weakness of cellular homeostasis. These analyses will help us to find the principles of life a to create useful host cells for bioprocess.	(ý+ Fþ – öH #ÕFø ZH >Ý(ý+ 0Ž Cellular homeostasis, Life and death, Single cell analysis
ø M 5 Associate Professor	í §F· – Kenji KITAMURA	$8ôFûG G ¤#Õ"@>Ô4Ý •>ÕFþ#Õ#. µ+ 1*(Fþ%Ê'2F¹ $8ô3z3æ /Fþ$Î#'G‰ q ö D šG ö2A"I$ öH GFGhGeG Fþ ,0d#Õ#. 8#Ý>Ô Q j7< FúÙ>Õ H(ôFøFíFþ 8#Ý µ S Â'¼G"3ûFèFöH (ý+ Fþ#" C Â'ÅG"#.0ŽFéG FøFøG FûH + ìFçFï4Ý •(ý+ Fþ6ä$ÎFû Â#ÝFéG F¹ Studies on modulation of cellular physiology in yeast by nutrients via regulation of peptide transporters. Searchir for their non-peptide substrates, and exploration of nove bioactivities of dipeptides. Development of high-functioning yeast strains.	4Ý •H 3z3æ /H G0GmG\4ßH GF GW Yeast, Transporter, Amino acid/dipeptide
ø M 5 Associate Professor	,(•F· M0d Kazunori KUME	%? >(ý+ FþGpGUGyFøFçFö4Ý •G"#ÝFÔH #Õ èFþ ö • FÒG (ý+ FþFúG FïFñG"#.0ŽFéG FøFøG FûH (ý+ FÜ Q FØF÷ ? ¿FøFúG (ý+ ÆGEGGGTGnFþ0Ž ÂG"% æFé FÿH (ý+ [wFþ gG" ôG G (ý+ öFþ D š µ SH (ý+ G" S BFéG G8GyG:G[GwFþGCG2GHFÚG G g ÂFþ D š µ FÔFöH FíFþ ²1úG" ÂG FÛFûFçH (ÊGzGgGyF÷Fþ0Ž A FéF¹ We would like to understand mechanisms of global cellu systems which are fundamental to cellular growth, development and reproduction of eukaryotic cells. Especially we are interested in cell polarity and organell size and shape. For this research, we use the genetical amenable model organism, yeasts.	(ý+ S4 H G8GyG:G[GwH (ý+ ö Cell sturucture, Organelle, Cell polarity

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ø M 5 #ã åF·1 ,	*• öG"&gFé ¤#Õ"@*L7ŸFþ S(Fø µ+ 0Ž ÒF¹	

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8× #Õ è&É Û É ß ¢ Û Ò Program of Food and AgriLife Science >& >'

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M>Ì>Ì 5 Professor	V5 F·*½ Satoru UENO	8× +!2AFþ"@ ö0Û oFÚG G ·$× ö2AFþ0Ž Â Characterization of Physical properties and Clarification kinetics for edible lipids.	+!2A>Ø) ì>Ø ¨ g3?&ã Lipid, Crystallization, Polymorphic transfoemation
MF· 5 Professor	] -F· ë – Kiyoshi KAWAI	8× Fþ • dH – ÑH 8× ¤Fû6õFéG d Û$×%Ê'2 Food processing, preservation, and texture analysis.	8× • dH – ÑH 8× ¤ Food processing, Preservation, Texture analysis
MF· 5 Professor	U • ŒF·+³ ù Yoshihiro SAMBONGI	¤#Õ"@FþG6G[GyG<GŠ æ1p.®$Ñ2AFþ S4 Fø µ+ Fû6 '2 Studies on structure and function of microbial energy metabolism proteins.	G6G[GyG<GŠ æ1pH 7H#" C ¤# "@H .®$Ñ2A S4 µ+ >ñ? ? ? ? ?%>Ì? ? ? ? ? ? ? ? ? ? >ñ?$? ? ? ? ? ? ? ? ? ? H >ü? ?
MF· 5 Professor	å#ãF· À … Masayuki SHIMADA	#Õ j µ SFþ (Ê Æ (* Û$×0Ž ÒFûG G #Õ j d Û •/¡Fþ6ä $ÎFû6õFéG %Ê'2 The study for understanding molecular and endocrine mechanisms of reproductive functions and developing n reproductive technologies.	#Õ j#Õ"@ ÛH (Ê Æ (* ÛH)¾ j •/¡ Reproductive biology, Molecular endocrinology, Reproductive technology
MF· 5 Professor	å •F· Z Tadashi SHIMAMOTO	8× p ˜(ý,æFþ$S N ö6õ4 4G ÊFø. c*• ö4G ÊFþ0Ž Ò FÚG G G\G{G4G2GyGG » q 2Fþ6ä$Î Analysis of pathogenicity-related genes and drug resistance genes of foodborne pathogenic bacteria and development of norovirus inactivation method.	8× p ˜(ý,æH . c*• ö,æH G\G{G4G GyGG Foodborne pathogenic bacteria, Drug-resistant bacteria, Norovirus
MF· 5 Professor	5e ŒF· : Takuya SUZUKI	8× B (FûG G #Õ /1*(8#ÝFû6õFéG %Ê'2 Physiological functions of nutrients and food factors.	µ+ ö8× H $8ôH ú ã Functional foods, Nutrition, Huma health
MF· 5 Professor	p äF·4 >ÿ?!? ?!? ?!F·>ú>í>÷>í>ñ	G0GzGyG<GŠG‰+¬ k $?$L HFþ$Î$U µ SFþ0Ž Â Studies of pathogenesis of allergic and autoimmune disorders.	Ï ö!V$UH GCG2GVG9G2G•H $L GyGlG4GG chronic inflammation, cytokines, mouse models for human disease
MF· 5 Professor	6× F· Ž Takeshi NAGANUMA	#" C#Õ"@2(;Fþ Â#ÝFû6õFéG %Ê'2 Study on applications of environmental biological resources.	7H#" C>Ø>Ì 7H#" C#Õ"@>Ø>Ì#] ö Extreme environments, Extremophiles, Biodiversity
MF· 5 Professor	0Y üF· G,e Masahide NISHIBORI	·"@G@G\Gn _ G" <#ÝFçFï 7 ™8®FÚG G :ý8®Fþ (Ê4 (Ê(Ô)+FÚG G (Ê …#. Û$×%Ê'2FøFíFþ3° ÛG Fþ Â#Ý '2 Studies on Mammalian and Avian Molecular Evolution, Phylogenetics and Geography using Their Information o Animal Genome, and Their Application to Agricultural Sciences.	·"@4G >Ø (Ê4 ì>Ø (Ê(Ô)+ Û$× %Ê'2 Animal genetics, Molecular evolution, Molecular phylogenetic study
MF· 5 Professor	0Y §F· Å M Shinichi NISHIMURA	¤#Õ"@FÜ#Ø#ÕFéG ¹#ÕG‰ #Õ"@2AFþG?GmG9Gy Chemical biology using bioactive natural products	³!›"@ ì ÛF¸#Õ#. q ö ì œ"@F¸G?G natural products chemistry, bioactive metabolites, chemical biology
M>Ì>Ì 5 Professor	*Z ´F·*O7• Yoshio HAGURA	8× Fþ Š Û"@ öG‰7Á ¼"@ öFþ0Ž ÒFøFíG G Fþ"@ öG Fï ,0d • dG‰0£ •/¡Fþ6ä$ÎFû6õFéG %Ê'2 Analysis of mechanical and electrical properties of the food, and development of food processing and measurement techniques using those properties.	Š Û"@ ö>Ø>Ì7Á ¼"@ ö>Ø>Ì8× Mechanical properties, Electrical properties, Food processing
M>Ì>Ì 5 Professor	(ý5 F·2< Kenji HOSONO	â)F$×Fú8× q2(;Fþ& –FøGcGŠGWG‰GCGeGwG2G% 4 Fû6õFéG &k) í3° ÛFþ0i!FÛG Fþ%Ê'2 Socio-economic Agricultural Study about Sustainable Fo Resource and Supply Chain.	8× q#Õ#Ø'ö#.H 8× q w H â)F$× $Î Ž Food production management, Food market, Sustainable development

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8× #Õ è&É Û É ß ¢ Û Ò Program of Food and AgriLife Science >& >'

¸F· \F· MF· (Academic Staff		%EF·F·'2F·F· ÆF·F· Research Fields	G;GSG}GSGW Keywords
M>Ì>Ì 5 Professor	ü ÆF· ˆ ¾ Hiroyuki HORIUCHI	:ý8®Fþ ¿(ý+ %Ê'2FøG@G\Gn)…7Ÿ •/¡G"#ÝFÔFï3° Û (5 Fþ ö&OFÛG Â#Ý%Ê'2G Fþ Ž6ä Basic and applied study using avian stem cells and gen editing technology in the agriculture field.	:ý8®H ¿(ý+ H G@G\Gn)…7Ÿ Avian, Stem cells, Genome editin
M>Ì>Ì 5 Professor	%® pF·0d … Noriyuki YANAKA	#Õ q*f ÐSÎ$UFþ (ÊGoG9GYGHGnFþ0Ž ÂFø w Fú8 ÊFþ H(ô Molecular mechanisms of lifestyle-related diseases and nutritional science.	#Õ q*f Ð$SH 8× I ÊH (Ê $8ô Û Lifestyle-related diseases, Food factor, Molecular nutrition
(M 5 Visiting Professor	ß#ãF· W#Õ Masaki OKUDA	4Ç8® N qFþ"l ö lG <#ÝFû6õFéG %Ê'26ä$Î Research for production and utilization of high quality ric for sake making.	4Ç8®H 4Ç(•H N q(•Fþ4Ç4 4: ö Alcoholic beverage, Sake rice, Properties of rice used for sake
(M 5 Visiting Professor	G ŒF· ô µ H'H=HVHQHKF·>ù>í>ÿ>	5 4 ¤#Õ"@Fþ*ñ' H 4Ý(ò µ+ Fþ0Ž ÂFø <#Ý Development of microorganisms for the brewing, and enzymatic research for its aplications.	4Ý(òH 5 4 H ¤#Õ"@ Enzyme, Brewing, Microorganism
ø M 5 Associate Professor	± §F· f Hisashi OMURA	_ ì Û"@2AG" y ÓFøFçFï#Õ"@6ë%& « 8#ÝFû6õFéG %Ê'2 Studies on chemical interactions between plants and insects.	ì Û#Õ Â ÛH GIGmG8G?GmG9G Chemical ecology, Semiochemica Pheromone
ø M 5 Associate Professor	è pF· H Yasushi OKINAKA	È#Ø#Õ"@FøFíFþ$S N /FøFþ%& « 8#ÝFû6õFéG %Ê'2 Studies on the interactions between aquatic organisms a their pathogens.	$S N /H :68®H ¤ GoG9GYGHGn Pathogen, Fish, Infection mechanism
ø M 5 Associate Professor	G9GnGwG•GEGŠF·GMGXGQG Thanutchaporn KUMRUNGSEE	9µ A'½H FÚG G +;FþLS £75 ÝG" wFéG 8× I ÊFû6 FéG %Ê'2 Food factors with muscle and brain disease prevention.	8× I Ê>Ø>Ì9µ A'½>Ø>Ì+; Food factors, Muscle, Brain
ø M 5 Associate Professor	\ •F· , Ç Hisato KUNIYOSHI	È j ·"@Fþ š ÂG‰#Õ jFû6õFéG #Õ ì Û$×%Ê'2 Biochemical studies on metamorphosis and reproductio aquatic animals.	GMG•G_G=2AH #Õ"@ q ö"@2A Ò Proteins, Bioactive substances, Instrumental analyses
ø M 5 Associate Professor	` (F· š , Haruhiko KOIZUMI	. G" µG Fï8× B (Fþ) ìFûFÚFáG "@#.$× ò ·Fþ 0Ž Â Clarification of the physical behavior of crystallization in food components, including pharmaceuticals.	7Á 3 •H) B6×H #Õ /9× (Ê Electric field, Crystal growth, Biopolymer
ø M 5 Associate Professor	#ã pF·,] É Wakana TANAKA	Ü"@Fþ g Â g BG" D šFéG (ÊGoG9GYGHGnFþ0Ž ÂF Fþ Â#Ý Elucidation of molecular mechanisms that regulate plant development and their application for crop improvement	Ü"@$Î#Õ4G Û>Ø>ÌGoGxGGG Plant developmental genetics, Meristem, Rice
ø M 5 Associate Professor	6× èF· R - Yosuke CHOMEI	8× q#Õ#ØFÚG G … æ&k Fþ â)F$×$Î ŽFû2(FéG 1V2(#ÝFû6õFéG %Ê'2 Studies on resources using for sustainable developmer food production and communities.	3°) H ˜2 *…H … æ&k Farm management,Consumer ,Community
ø M 5 Associate Professor	p £F·4) " Tatsuya NAKAYAMA	8× p ˜(ý,æFþ$S N öFÚG G . c*• ö,æFþ Ñ SG‰75$?Fû FéG %Ê'2 Studies on the pathogenicity of foodborne bacteria and spread and prevention of antibiotic-resistant bacteria.	8× p ˜(ý,æH $S N öH . c*• ö,æ Foodbrone bacteria, Pathogenicit Antibiotic-resistant bacteria
ø M 5 Associate Professor	+ê ^F·*" M Kouichi FUNATO	GxGbGQGWFþ · ÂFø µ+ Fû6õFéG (Ê4G Û$×%Ê'2 Molecular genetic studies of lipid dynamics and function	+!2A>Ø>Ì4Ý •>Ø>Ì (Ê4G Û Lipid, Yeast, Molecular genetics
1nF· Œ Lecturer	¹ £F·%? Makoto HIRAYAMA	• R#Õ"@#ä ¶#Õ#. q ö"@2AFþ µ+ 0Ž ÒFøFíFþ w <#Ý Studies on function and application of bioactive compou from marine organisms.	GzG=GOG•H (¾6PH G4G2GyG Lectin, Glycan, Anti-virus agent
1nF· Œ Lecturer	.( ]F· ‘ • Yukichi FUJIKAWA	Ü"@FûFÚFáG GGGVGzGG Â'Å ö4Ý(òFþ$Î#'Fø µ+ Fû6 ì Û$×%Ê'2 Biochemical studies on gene expression and function of stress-responsible enzymes in higher plants.	4Ý(òH 4G Ê$Î#'H #Õ ì Û Enzyme, Gene expression, Biochemistry

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“F· M Assistant	#Õ1ÂF· f ^ Masashi IKUTANI	Ï ö!VUL HFûFÚFáG G0GzGyG<GŠ6õ4 $?(ý+ Fþ z 0Ž Â Roles of allergy-related immune cells in chronic inflammatory diseases.	G0GzGyG<GŠ ö!V$UH GCG2GV GV$L H ·'"@GpGUGy Allergic inflammation, Cytokine, Animal models for human dideas
“F· M Assistant	à ÌF· ß Jun TOMINAGA	Ü"@Fþ œ œ BG‰"@2A#Õ#Ø µ SFþ0Ž ÂFø 8"@#Õ#Ø Studies on mechanisms of photosynthesis and biomass production in land plants, development of techniques fo sensing plant response to environment, and its applicati for crop production.	Ü"@Fþ#Õ#Ý. ÛH 8"@ ÛH œ œ B Plant Physiology, Crop Science, Photosynthesis
“F· M Assistant	.(-F· p ´4{ >ÿ? ? ? ? ? F·>ò? >ö>õ>ô	7H#” C#Õ"@#ä ¶5 “GMG•G_G=2AFþ S4 Fø µ+ Fû6õ 0Ž Ò Studies on structure and function of metalloprotein from extremophiles.	6 / ì ÛF¸ S4 #Õ"@ ÛF¸ 7H#” C #Õ"@ Coordination chemistry, Structura biology, Extremophiles
“F· M Assistant	Ç îF·,F/° >ù? ? F·>ù>í? >ÿ? ? >í>÷	:ý8®Fþ w(-4#&ìG" D šFéG GoG9GYGHGnFþ0Ž ÂH >ÌG :ý8® 8 •/¡Fþ6ä$ÎFø Â#Ý Studies on regulation mechanisms of fertilization proces birds, Development of techniques for producing genome edited birds and their application.	:ý8®Fþ#Õ jH G@G\Gn)…7Ÿ Avian reproduction, Genome editing
“F· M Assistant	£ •F·&ˆ “ ? ? ? ? ? ? ? ? ? F·? >í>ù>ú	8× G ¤#Õ"@Fþ $?1*(8#ÝFþ H(ôFø Â#ÝFû6õFéG %Ê2× Studies on immune functions of foods and microorganis and its application for development of functional foods.	$? Û>Ø>ÌG2GnG\GFG5GYG Food immunology, immunogenics health

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MF· 5 Professor	&>4ŠF·%$ ž Naoki ISOBE	o,D ·"@ ™+bFþ $?G‰ Æ (* µ+ Immunology and endocrinology in mammary gland of ruminants.	™ c!VH ,æGhGeGOGWH +¬!› : Mastitis, Antimicrobial peptide, Innate immunity
MF· 5 •4 ¤#Õ"@	V#ãF· í /	Ü"@Fþ#" CGGGVGzGG*• öFþ ¥ VFø Ü"@#Õ*ñ •4 ¤#(#Ý •/¡Fþ6ä$Î	Ü"@ $8ô Û>Ø#" CGGGVGzGG> •4 ¤#Õ"@

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ø M 5 Associate Professor	•.(F· ³0° Aki KATO	•.48®Fþ Q8ô jG‰ – ²Fû6õFéG (Ô)+ (8®FÚG G #Õ#.#(Û$×%Ê'2 Aquaculture and conservation of algal resources.	%¼!J.4GCG•GBGp8®H 8×#Ý •.4 ¼ Ã š · Coralline algae, Edible seaweeds, Climate change
ø M 5 Associate Professor	VF·%> M Shin-ichi KAWAKAMI	&ºG"#ÝFÔFï ¤8×G‰8ç ÈG‰ 7 Á/œ ·'¼Fþ&„) /œ · Û$× Ò Research of the brain mechanisms of feeding, drinking, aggressive behavior in avians.	0Ž ·"@/œ ·H 0i Ë W4ŠH GYG}GVG Animal behavior, Hypothalamus, Chicken
ø M 5 Associate Professor	;î]F· ¬ U Yuzo KUROKAWA	™"5Fþ ú ã$×GwG2GcGCG2G=GyFû6õFéG %Ê'2 Research on healthy life cycle of dairy cows.	™"5H GwG2GcGCG2G=GyH 4 ™#Õ#Ø Dairy cow, Life cycle, Antioxidant capacity, Milk production
ø M 5 Associate Professor	g.(F·,e ‡ Hidetoshi SAITOU	]G x • æFûFÚFáG Ï#Õ ·"@Fþ ¶ /*L#Õ ÂFû6õFéG % '2 Researches on population ecology of macrobenthos in freshwater and shallow seawater zones.	#Õ Â ÛH Ï#Õ#Õ"@H ¥ ¶' Ecology, Benthos, Alien species
ø M 5 Associate Professor	6× ¸F· ‡ ¨ Toshinori NAGAOKA	Ü"@#Õ#ØFûFÚFáG u pFþ µ+ Fû6õFéG %Ê'2 Studies on soil functions in plant production.	u p>Ø>Ì8ô (· Â>Ø>Ì w µ"@ Soil, Nutrient dynamics, Organic matter
ø M 5 Associate Professor	p §F·7™ Â Yoshiaki NAKAMURA	#Õ j(ý+ Fþ ï 8 •/¡G" ö% FøFçFïG ™8®G‰:ý8®Fþ – Ñ Preservation of mammalian and avian genetic resources the basis of germ cell manipulation.	#Õ j(ý+ >Ø þ) – Ñ>Ø>Ì4G Ê 5 š Germ cells, Cryopreservation, Genetic modification
ø M 5 Associate Professor	, ƒF·7o ˆ ? ? ? ? ? ? ? ? F·>ú>õ>õ	:ý8®Fþ+` Æ#" CFû%T% FçFï $? µ+ FÚG G #Õ#Ø µ+ Enhancement of immune function and productivity to focused on intestinal environment in chickens.	ì&º>Ø>Ì+` Æ#" C>Ø>Ì#Ø 8 µ+ Chicken, iIntestinal environment, Egg production
ø M 5 Associate Professor	« •F· ‡ “ Toshiya HASHIMOTO	#' 0{ G X ÍGpGUGyFúFùG"#ÝFÔFïH • R#" C e8ŸFþ0 Â Understanding of the marine environment using the filed observation and numerical simulation model.	• R#" CH GUGŠGM #.H #Õ Â(Ô GUGy Marine environment, Data analysi Ecosystem model
ø M 5 Associate Professor	•#ãF· W … Masayuki YOSHIDA	FãFãG Fþ#Õ"@ Û$× ö% Fû6õFéG %Ê'2 Biological basis of emotion, learning, and mind in animals	·"@ °#.H _ ·H &„) &É Û Animal psychology, Emotion, Neuroscience
ø M 5 Associate Professor	,] ØF·96)Ê Kaori WAKABAYASHI	+¬!›Fø1* ôFçFï:6 Ó8® Q8ô j •/¡Fþ6ä$Î Reproduction and growth of marine invertebrates.	' ,Q#Õ#ØH Â#Õ$Î*ñH + $Î#Õ Seed production, Larval development, Embryology
“F· M Assistant	,å#ãF·%?#ä Mayumi KIKUTA	!Õ • … æFûFÚFáG 8"@Fþ#Õ#Ø ö ¥ VFû ¥FáFï B õ Û$ '2 Agronomic studies for improving crop productivity in the tropics.	8"@#Õ#Ø&É ÛH B6×0Ž ÒH B #. Crop science, Growth analysis, Cultivation management
“F· M Assistant	5e ŒF·%$ ž Naoki SUZUKI	™"5Fþ ™ c Æ(ý,æ ¤ D šG"3ûFèFï8×H ™H Fþ ó j)% G G ó ²& – Control of intramammary infection in dairy animals.	>Ì ™ c!V>Ø>Ì ¤ D š>Ø>Ì Ç"Ç ¹3 $U mastitis, infection control, foodborne zoonoses
“F· M Assistant	•F·FÒFÔG Aira SEO	ÇFø ·"@Fþ ¹#Õ6õ €FÛG *ƒFØG v ·"@G $ Fþ&Ÿ&tF ¥ VG"% æFçFïGcG1GŠGyGW%Ê'2 Field study for the improvement of companion animals a livestock animal welfare from the viewpoint of the symbi	·"@&Ÿ&t>Ø>Ì ÇFø ·"@Fþ6õG G ” ‰"§ Animal Welfare, Human-Animal Relationship, Free-roaming cat
“F· M Assistant	G_GXGQG;GsGŠGyF·GCGnG^G•F·G0•#Ø:68®Fû $#ÕFéG #å †8®Fþ(Ô)+ (8®Fø#Õ Â Aneesh PANAKKOOL THAMBAN	Phylogeny and ecology of crustaceans parasitizing mari fish.	$#Õ ö#å †8®H (Ô)+ (8®F¸ •#Ø:6 Parasitc crustaceans, phylogeny, marine fish

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M>Ì>Ì 5 Professor	%¼#ãF· T j >í? ? ?!? ? ? ? F·>õ>ÿ>ô>õ>ðÝí	GMG•G_G=2AGxG•4ß ìG‰+:GxG•4ß ìFû6õG G ›' 4Ý((2AFþ#Õ ì Û$×%Ê'2 Biochemistry on enzymes and proteins which mediate protein phosphorylation and dephosphorylation.	_ 4)H 4Ý(òH &„) H/HEHCHJH=HHF·HPHNH=HJH(Neuron
MF· 5 Professor	%¼ NF· ã ù Yasuhiro ISHIHARA	G>GxG0(ý+ Fþ$S Â#Õ#. Û$× z mFþ0Ž Â Glial function in health and disease.	&„) . #.G‰ ˜ ö ÛH G>GxG0(ý+ H (GUGy ·'"@ Neuropharma-toxicology, Glia, Model animals
M>Ì>Ì 5 Professor	‹'0F· ô*O Kazuyoshi UKENA	8× 'G G6G[GyG<GŠ æ1p1*(Fû6õG G +; Æ"@2AFþ#Õ Fû6õFéG %Ê'2 Study on the physiological functions of neuronal substances regulating appetite and energy homeostasis	&„) Æ (* ÛH &„) GhGeGOGWH ' Neuroendocrinology, Neuropeptide, Appetite
M>Ì>Ì 5 Professor	, CF·G FÛG Yukari KUGA	u p#Õ Â(ÔFûFÚFáG Ü"@Fø ¤#Õ"@Fþ ¹#ÕFû6õFéG %Ê'2 Plant and microbe symbioses in soil ecosystem.	‚æ ?H u p ö$S H (ý+ >Ù#Õ Mycorrhiza, Soil-borne disease, Cellular-ecological functions
M>Ì>Ì 5 Professor	‚.(F· Â Ê Akiko SATOH	&„) (ý+ FûFÚFáG +wGMG•G_G=2AFþ4E 93z3æGEGG GHGyFþ‰2Ø>Ì0i(ý+ >Ø>ÌGEGuG The mechanism of the polarized vesicle trafficking in neurons.	Golgi units, Photoreceptors, Drosophila melanogaster
M>Ì>Ì 5 Professor	'‰#ãF· M j Kazuhiko TAKEDA	¼ È jFûFÚFáG ¤5 "@2AFø ¤5 q ö4ß(òFþ FøFíFþ#" C · ÂFþ%Ê'2 Environmental dynamics and analysis of trace compoun and reactive oxygen species in the atmosphere and hydrosphere.	#” C (Ò ì ÛH q ö4ß(òH ß "@ 2A Environmental Analytical Chemistry, Reactive Oxygen Species, Trace Pollutants
MF· 5 Professor	p ¤F· Õ … Takayuki NAKATSUBO	7c æ#Õ Â(ÔFûFÚFáG Ü"@G‰ ·"@G‰ ¤#Õ"@Fþ z m Roles of plants, animals and microorganisms in terrestri ecosystems.	#Õ Â(Ô#Õ Â ÛH Ü"@#Õ Â ÛH #' – ² Ecosystem ecology, Plant ecology Environmental coservation
M>Ì>Ì 5 Professor	£#ãF· ‡ / Toshihiro YAMADA	#Õ Â ÛG" ö&OFøFçFï#Õ"@G" – ²FéG %Ê'2 Conservation of organisms based on ecology.	#Õ"@ ¨] ö – ²H ¶ /*L · ÂH !Õ • Ø Biodiversity conservation, Population dynamics, Tropical forests
MF· 5 Professor	ô îF· ß Jun WASAKI	?Fþ ØG FûFÚFáG Ü"@C& ¤#Õ"@6ë%& « 8#ÝFø8ô (· Plant-microbial interactions in the vicinity of root and nutrient dynamics.	ÂjH Ü"@#Õ#. ÛH 8ô (· Â Rhizosphere, Plant physiology, Nutrient dynamics
M>Ì>Ì 5 Professor	G,G1GzGZGŠG,F·%? È*> Masumi VILLENEUVE	#ú8 Fþ!Õ Š ÛG" ö&OFøFçFï#Õ /GpGUGy+wFø#Õ /6õ4 Fþ%Ê'2H GWGwGQG>GUGxG^Gx6õ4 Fþ ö&O%Ê'2 Thermodynamic studies on interfacial behavior of bio-related substances using model cell membranes, basic science related to drug delivery.	#ú8 ì ÛH !Õ Š ÛH +w Interface Chemistry, Thermodynamics, Membranes
ø M 5 Associate Professor	¾ •F· R Ê Yoko IWAMOTO	¼ ÃFû s8jG" lG Fé ± ¼ • R6ëFþ"@2A #"4#&ìFþ0Ž Â Biogeochemical cycles between the atmosphere and oc and their impact on climate.	G6G0G{GLGyH 7¼H #Õ"@ …#+

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ø M 5 Associate Professor	u1ÂF· r#è Akio TSUCHIYA	G0GlGLG•!Õ • ØFþ ˜ »FûG G ¼ Ã š ì Climate change caused by deforestation of rainforests in Amazonia.	Û

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M>Ì>Ì 5 Professor	Ò §F· Å “ ? ? ? ?!?%? F·>õ>ù>í>ù?	7Ë6×8®+;Fþ g Â$×G‰ µ+ $×$Î4)G" -FØG G6GbG@G\ GwGnFþ#.0Ž Understanding epigenomic mechanisms that underlie th development of primate brain.	7Ë6×8®>Ø>Ì+;>Ø>ÌG\G•GAGŠG primate, brain, non-coding RNA
M>Ì>Ì 5 Professor	,¶5 F·*Õ Hajime OGINO	+(Ý ·"@Fþ$Î#ÕG‰ Ì#ÕH ¤0l þFø p á&„) (ÔH G" -4ÄF G@G\GnG‰G6GbG@G\Gn D š µ SFþ%Ê'2 g#Õ8®FûFÚFáG G@G\Gn4 ìFø#” C4: ÂFûFôFÔFöFþ "@ Û$×%Ê'2 Genomic and epigenetic regulation of development and regeneration (sensory organs and central nervous syste in vertebrates. Molecular mechanisms of genome evolu and environmental adaptation in amphibians.	$Î#ÕH Ì#ÕH 4 ì Development, Regeneration, Evolution
M>Ì>Ì 5 Professor	,å åF·/ñ Yutaka KIKUCHI	FÜG# ¤ `#” CG[GQGVG}GŠG=Fþ%Ê'2 G=G{GlGOG•'g / S4 Fþ0Ž Ò Studies on tumor microenvironment network. Analysis of Chromatin 3D Structure.	FÜG# ¤ `#” CH G=G{GlGOG•>ÌH G\G•GAGŠGUG1G•G>>þ>ú>í Tumor microenvironment, Chromatin, long non-coding RNA
M>Ì>Ì 5 Professor	,¡ F· ™ Makoto KUSABA	GpGUGy Ü"@G"#ÝFÔFï-%*• ì D šFþ (Ê µ SFþ%Ê'2 G;G= “FûFÚFáG (Ê4G Û$×0Ž%Ê'2 G;G=G‰GAG•G<G=8®G‰GKGTGR8®H FíFþ ÚFþ9× ;Fþ – ÑFø%Ê'2 Molecular mechanism of leaf senescence, Molecular genetics in the genus Chrysanthemum, Genetic resourc of chrysanthemum and cycad.	(Ê4G ÛH -%*• ìH G;G= “ Molecular genetics, Leaf senescence, Chrysanthemum
M>Ì>Ì 5 Professor	NF· ë/ñ Takahiro CHIHARA	&„) G2°Fþ g BH B!ÍH FíFçFö)T âG" –G (Ê ö% Fþ0Ž ÂF¹#” C>Ô $8ô"g ÂH ÝFÔH GGGVGzGGFúFùH Fø ¶ G /œ ·FúFùH Fþ%& « 8#ÝFû6õFéG %Ê'2 Molecular mechanism underlying neural network format maturation and maintenance. Genetic studies to reveal molecular mechanism for the interaction between environment (nutrition, odor and various stress etc.) and individual condition (longevity and behavior etc.).	&„) G2°H ¥0lH Q è Neural network, Olfaction, Longevity
M>Ì>Ì 5 Professor	ØF· < Toshinori HAYASHI	w • g#Õ8®G"#ÝFÔFï þ Ì#ÕH $Î#ÕFþ%Ê'2F¹ þ Ì#ÕF FÚFáG (ý+ Q j µ SFþ%Ê'2 Study of organ regeneration and development using urodele amphibian. Regulatory mechanism of cell proliferation in organ regeneration.	G2GgGxG0GVG@G2GpGxH þ Iberian ribbed newt, Organ regeneration, Development
M>Ì>Ì 5 Professor	¹]F· w ñ ž Yuki HIRAKAWA	7c V Ü"@FûFÚFáG (/ã))ÊFþ$Î#ÕFø4 ì Ü"@GhGeGO GyGpG•G" ÓFçFï(ý+ GEG>GXGy 4) Development and evolution of meristems in land plants. Cell signaling mediated by plant peptide hormones.	(/ã))Ê>Ø>Ì ¿(ý+ · Â>Ø>Ì Ü"@G GOGWGiGyGpG•>Ø>ÌGJGYGBC Meristem, Stem cell dynamics, Plant peptide hormones, Marchantia
ø M 5 Associate Professor	-]F· J ? ? ? ? ? ? ? F·>õ>ó>í? >	g#Õ8®Fþ' (ìFø#” C4: ÂFû6õG G G@G\Gn4 ì Û$×%Ê'2 Genome evolution underlying speciation and environme adaptation of amphibians.	g#Õ8®H 4: Â4 ìH G@G\GmG=C Amphibians, Adaptive evolution, Genomics
ø M 5 Associate Professor	Ü ŒF·<_ “ Tatsuya UEKI	•#Ø!“+(Ý ·"@FûFÚFáG 5 “G2G8G•Fþ ð)°G‰4O – µ S G G #Õ#. Û$× z mFþ%Ê'2 Mechanism of metal ion accumulation and reduction by marine invertebrate animals and their physiological	#Õ#.H 5 “G2G8G•H 4ß ì4O – Physiology, Metal ion, Redox
ø M 5 Associate Professor	ß §F·*>(ê Ê Misako OKUMURA	œ ¤%±GoG9GYGHGnFþ0Ž Â>Ú>Ì/²#' º • (öFþ (Ê ö% Â Molecular mechanism of phototransduction. Molecular mechanism of phenotypic plasticity.	)z.x>Ø>Ì œ w />Ø>Ì/²#' º • (ö Nematode, Photoreceptor, Phenotypic plasticity
ø M 5 Associate Professor	1 §F· G ž Masaki SHIMAMURA	GAG? Ü"@Fþ(Ô)+H (8®H g Â IG #Õ ÂFû6õFéG %Ê'2 7c V Ü"@Fþ(ý+ (/ã µ SFþ ¨] öFø4 ìFû6õFéG %Ê'2 >ü? ?%? ? ? ? ? ?%>Ø>Ì? ? ?$? ? ? ? ?%H ? ? ? ? ? ? bryophytes. Diversity and evolution of cell division syste of land plants.	GAG? Ü"@H Ü"@ (8® ÛH g Â U Bryophytes, Plant taxonomy, Morphology
ø M 5 Associate Professor	5e ŒF· L Atsushi SUZUKI	g#Õ8®G"GpGUGyFøFçFï+(Ý ·"@Fþ 6 ‡$Î#ÕH ¿(ý+ H âFø (ìH FÚG G))Ê Ì#ÕFþ%Ê'2 Molecular mechanisms of vertebrate early development maintenance/differentiation of stem cells, and tissue regeneration.	6 ‡$Î#ÕH ¿(ý+ H Ì#Õ Early development, Stem cell, Regeneration

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¸F· \F· MF· (Academic Staff		%EF·F·'2F·F· ÆF·F· Research Fields	G;GSG}GSGW Keywords
ø M 5 Associate Professor	#ã]F·0« • Kunifumi TAGAWA	• R#Õ"@ (ô ·"@G<GjGEGnGEG !"+` ·"@GnGOGuG4 G" (Ê$Î#Õ#Õ"@ Û$×G‰ š3QG@G\Gn&É Û$×Fû0Ž Ò F÷H , • ·"@FúG G Fû e '%&&à ·"@Fþ2s ;G 4 ìG"0Ž Â FéG %Ê'2 Study to elucidate the origin and evolution of Deuterostomia and Bilateria by analysing molecular developmental biology and comparative genomics of ma organisms such as Enteropneust hemichordate and Acc flatworms.	• R#Õ"@H G6G,G7GUG,G7>Ø š Gn Marine Organisms, EvoDevo, Comparative genomics
ø M 5 Associate Professor	¤#ãF· $*> Hiromi TSUBOTA	Ü"@G Ü#ÕFû6õFéG å K#Õ"@ Û$×G‰ Ü"@ …#. Û$ &k Û$×G‰ (Ê(Ô)+ Û$×%Ê'2 Studies of plants and vegetation focusing on the ecolog evolutionary biology, biogeography, phytosociology, and conservation of biotas on islands surrounded by ocean its related area.	#Õ"@ ¨] öH Ü"@ …#.H (Ê(Ô)+ Û Biodiversity, Phytogeography, Molecular phylogeny
ø M 5 Associate Professor	! #ÕF·FãFêFØ Kozue HAMAO	·"@(ý+ Fþ(ý+ 9µ A D šFø(ý+ (/ãFþ (Ê µ SFû6õFéG %Ê'2 Molecular mechanisms of cytoskeletal regulation and ce division in animal cells.	(ý+ 9µ AH (ý+ (/ãH (ý+ 2A (/ã Cytoskeleton, Mitosis, Cytokinesi
ø M 5 Associate Professor	Ý ÝF· – ´4{ Jutarou FUKAZAWA	Ü"@GiGyGpG•FûG G B6× D šFþ (Ê µ SH Ü"@GiGy #Õ œ BH ™ • 4) lG G=G{GGGVGŠG=Fþ (Ê µ S Molecular mechanisms of plant growth and developmer ?"? ? >Ì? ? ? ? ? >Ì? ? ? ? ? ? ? ? F¸>ù? ? ? ? ?!? ? ? > hormone biosythesis, signaling and crosstalk.	Ü"@GiGyGpG•H 3? × D šH ™ • 4) Plant hormone, Transcriptional regulation, Signal transduction
1nF· Œ Lecturer	ò •F· ô ö Kazuki MORIGUCHI	G^G=GTGxG0>Ù%? >#Õ"@6ë%& « 8#ÝFþGoG9GYG %Ê'2 4G ÊFþ È ¹ ÛGoG9GYGHGnFøH 4G ÊFþ Ñ SFø ¨] FôFÔFöFþ%Ê'2 Molecular mechanisms of bacteria-eukaryotes interactio Molecular mechanisms at horizontal gene transfer, and spread and diversity of genes caused by it.	G^G=GTGxG0H È ¹ ÛH %& « 8 4G Ê _ ° Bacteria, Horizontal gene transfe Interaction, Gene introduction

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	Haruko TAKAHASHI
		#Õ / ¥>Ô? ? >Ì?"? ? ? ? >Õ>ß –$×FÜG#))ÊGpGUGyF
		GmGQG=GGGUGŠGMG"#ÝFÔFï)+ œ$×0Ž ÒFûG G H
		GYGHGnFþ0Ž ÂFø $ª ö% Â#Ý
		Analysis of the malignant mechanism of cancer and its therapeutic application by integrated analysis using 3D vitro cancer tissue models, images and omics data.
			>ß –? ? >Ì?"? ? ? ? GpGUGy>Ø
			C>Ø>Ì FÜG# Ý
			3D in vitro model, Tumor microenvironment, Anti-cancer

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	%ÊF·F·'2F·F· ÆF·F· Research Fields	G;GŠG}GŠGW Keywords
M>Ì>Ì 5 8ä6ëF· ™ Professor Makoto IIMA	#Õ"@4 ·FúFùFû6õ €FéG H FåG FæG Fú0 7§ vG G FíFþGpGUG X#.$×0{!lFÛG Fþ#.1=G G 9,%Ê'2 Theoretical and experimental study of complex flows and models s as swimming/flying problems based on mathematical science.	v / Š ÛH #Õ"@Fþ KFÞG‰8Õ*gH 4 Fluid mechanics, Swimming/Flying, Vortex dynamics
M>Ì>Ì 5 (F· ‡3\ Professor Shunsuke IZUMI	#Õ /9× (Ê (ÒFþFïG Fþ>ù>í>ø>ð>õGlGVGxGQG=GGFþ6ä$ÎFø>¡ #ÝFÔFï ì Û ·4J"@2AFþ H(ô Development of MALDI matrix for protein analysis and search for chemical repellents using SALDI-IMS method.	GlGyGUG1GŠ>ÌGlGVGxG=GG>Ì>ØC Ò>Ø>Ì>ÿ>í>ø>ð>õ>Ù>õ>ù>ÿ 2 MALDI matrix, Proteomics, SALDI- IMS method
M>Ì>Ì 5 ± ÃF·*O/ñ Professor Yoshihiro OMORI	:68®GpGUGyG"#ÝFÔFï+(Ý ·"@Fþ g Â g BF¸4 ìF¸%Q6õ4 $L HF(G G@G\Gn&É Û$×%Ê'2 Understanding molecular mechanisms of vertebrate morphogenesi evolution, and pathogenesis of ophthalmology disease using teleos fish models based on genome science	G@G\Gn&É ÛF¸:68®GpGUGyF¸&„) : HF¸+(Ý ·"@4 ìF¸>ó? >í>ÿ0Ž Ò Genome science, Teleost fish models Neurodegenerative diseases, Vertebra evolution, Genome wide association study
M>Ì>Ì 5 • •F· T Professor Atsushi SAKAMOTO	>Ô>Ý>Õ>Ì Ü"@Fþ#" C Â'ÅFøGGGVGzGG4: ÂFþ (Ê µ S>ç>Ì>Ô> FøFéG Ü"@Fþ B6×#Õ Ñ S$ >ç>Ì>Ô>ß>Õ>Ì Ü"@ µ+ Fþ3° G‰#Ç ö&O lG Â#Ý%Ê'2>Ì>Ì>ÔGGGVGzGG*• öG‰8y ú ö I ìH .48®G^C FúFù>Õ (1) Molecular mechanisms for stress responses and adaptation in plants; (2) Metabolic plasticity-based strategies for plant growth an survival; (3) Basic and applied research on plant function towards i agricultural and industrial applications (improved performance und stress; algal bioenergy innovation, etc.).	Ü"@ (Ê µ+ H GGGVGzGG Â'ÅH æ: Ê#Õ#. Plant molecular function, Stress response, Metabolism and molecular physiology
MF· 5 F·%? M Professor Shin-ichi TATE	zFøFçFö>ú>ù>þG"#ÝFÔFï ³!› š öGMG•G_G=2AFþ µ+ D š µ SFþ !› š ö8• æG" ÓFçFï(ý+ ÆGWG{GQGeGzGQGV g B D š µ SFþ0Ž G=G{GlGOG•Fþ'g / S4 0Ž Ò	>ú>ù>þH ³!› š öGMG•G_G=2AH > A GOG•'g / S4

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ø M 5 Associate Professor	(– `F· !(Ö Akinori AWAZU	(ÊG‰(ý+ Fþ#.1=#Õ"@ ÛH G@G\Gn · ÂFø4G Ê D šH $Î#ÕFø ¢ Fþ#.1=G‰ 9,%Ê'2 Theoretical molecular and cell biology : Theoretical and experimen studies of genome dynamics, gene regulation, development, and morphogenesis.	#'1ß1=$× X#.GpGUGxG•G>H 9,GU 9Q · ºGpGUGxG•G>H GpGUGxG•G> 9, Phenomenal mathematical modeling, Experiment data driven modeling, Experiments for modeling
ø M 5 Associate Professor	±0YF· ¬ Isamu OHNISHI	(ç(‹ X#. ÛFøFçFöFþ8)z g#Õ è X#. ÛF¸"IFûF¸FãFþ ÆF÷G F¸&¾Fþ FÿF¸GEG0G\G^G=>ÌGTGxG0G Ü"@Fþ#Õ"@ q ·F¸G FçFßFÿF¸# G FÔFúG FþF÷F¸"IFûF¸8)z g ÝFÜ FÔFöFÔG FãFøF÷+Æ á ÝF GGFÜ2sFÝG (ÔG"F¸8)z g ë ¤ (‰&ì '(ÔF÷GpGUGy ìFçF¸ w7H – 7H –Fþ Š Ú(Ô$×Fú0i!lG |#ÝFçFôFô ÈFÔ – áFþ0Ž Ò ÛFøFçFöF)z g ë ¤ (‰&ì 'FþÒŽFþ ö2AFøFçFöFþ%Ê'2FéG FãFøG"GgGŠGG G FûF¸ X#.#.1=$×Fú ô 1=$× D š#.1=G" z8ŸFøFéG F¹FãG G"3ûF 0ŽFþ úG +ÙFÔFûFôFÔFöFþ D š £ G FíFþ – áFþ0Ž1 G"/œFúFÖ M+áFû8)z g öG" âFô D š8oFþ ÝFû ½ /$×FûFçFóFÛG Fø0• lF÷F G FÖFú#.1=$×Fú%Ê'2FéG FãFøFÜ*â0[F÷FÒG F¹ fFûFÿ Ò ‹FÿF¸ šFþ e8ŸH "IFûF¸ d Û$×Fú D š e8ŸH Fû vG) G FïFÔF¹ ½ /$×Fú Â X#.$×%Ê'2G"/œFÔFôFôF¸FíFþ X#.#.1=$× ö&O ÜFáG"G /œFÖF F÷FÒG F¹&¾FùG Fþ%Ê'2 F÷FÿF¸>ÌAÿ D šFéG FûFÿF¸G FêFÿF¸F FéG FãFøAÿ>ÌFÜGGG{GŠG:G•F÷FÒG F¹ >û?!? >Ì? ? ? ? >Ó? >Ì? ? ? ? ? ? >Ì? ? >ÌAþ? ? >Ì? ? ? ? ? ? ? >Ì? labo works for nonlinear pure mathematical science, especially wit such subjects, my specialty is nonlinear mathemtical science relate biological activities of both plants' and cyanobacteria's biological activity. We use a system of nonlinear partial differential equations create a dynamical system in which interesting dynamics occur du ? ? ? ? ? ? ? ? ? >Ì? ? ? ? ? ? ? >Ø>Ì? ? ? ? >Ì?!? ? ? ? >Ì? ? ? >Ì? infinite-dimensional dynamical systems. Furthermore, our labo will deal with the mathematically scientifical theoretical deterministic control theory. Actually. by applying it to concrete control problems (especially concrete engineering control problems), we will study it from mathematically scientific point of vi	8)z g#Õ è X#. ÛH X#.&É Û$×Fú ô 1=$×8)z g D š#.1=H 8)z g öFþ H Ó nonlinear mathematical science for lif organization, mathematically scientific theoretical deterministic control theory research for nonlinearity
ø M 5 Associate Professor	"& F· ž µ Katsuo KATAYANAGI	.®$Ñ2A'g / S4 Fþ)Y*6$×0Ž ÒH G_GŠG;G•GKG•$SG *öFÜG#6õ4 2AH >ð>ú>í Ÿ Ÿ4Ý(òH ;ä, GdGWG4#+,æ#ä ¶Fþ ˜(ò.®$Ñ2AH Ü"@ $Ñ2AH >ð>õ? q öFþ •.4#ä ¶GzG=GOG•FúFùH H FÚG G Ç d.® S4 0Ž ÒFûG G (Ê4 ìFþ0Ž Â Three dimensional structure and function of Protein by protein X-ra crystallography, and, Molecular evolution of protein derived from X ray structure of artificial proteins.	GMG•G_G=2A'g / S4 H ?)z) ÛH : Ú œ 3D structure of protein, X-ray crystallography, Synchrotron radiation
ø M 5 Associate Professor	g.(F·&ñ Nen Saito	(ý+ ÆGNG2GXGmG=GGG 4 ìGNG2GXGmG=GGFúFù]F»Fú#Õ X#.GpGUGy0Ž ÒG ±0d • X Í0£'ìH µ " Û*f0Ž ÒFúFùG"/œFÔH #Õ "@#.G‰ X#.#Õ"@ ÛFúFùFþ0{!lFÛG #.1=$×Fú%Ê'2G"/œFÖF¹ From the viewpoints of biophysics and mathematical biology, we a understand various biological phenomena by performing mathema modeling , large-scale numerical computation and machine learnin analysis, etc.	X#.GpGUGxG•G>H #Õ"@"@#. ÛH # "@ Û mathematical modeling, biophysics, theoretical biology
ø M 5 Associate Professor	• •F· f Û Naoaki SAKAMOTO	G4GYFþ$Î#ÕG"GpGUGyFøFçFöH g Â g B4G ÊFþ3? × D šH $Î# FÚFáG 4G ÊG‰G=G{GlGOG•G‰ , /Fþ · ÂH G2G•GGGzGŠGM FûFôFÔFö%Ê'2 Research for transcriptional regulation of morphogenetic genes, nuclear dynamics of gene, chromatin and chromosome during development, and mechanism of insulator activity, using the sea ur development as a model.	G4GYFþ$Î#ÕH 3? ×H > Æ · Â Sea urchin development, Transcriptio Nuclear dynamics
ø M 5 Associate Professor	å#ãF·/ñ ^ Hiroshi SHIMADA	œ œ B µ+ Fþ0Ž ÖFøH 4G Ë 5 šG‰G?GmG9GyG^G2G{GFGŠF "á ¥ V •/¡Fþ6ä$Î -%)s /G^G2G8GFG5G[GEGGFþ%Ê'2 Analysis of photosynthesis, and improving photosynthetic efficienc for greater yield by gene modification and chemical biology. Analysis of chloroplast biogenesis.	œ œ BH -%)s /H G?GmG9GyG^G2G Photosynthesis, Chloroplast, Chemica biology

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ø M 5 Associate Professor	¡F· Å&; Takuma SUGI	¶Fø7Ÿ KFþ/œ ·G" -4ÄFéG "@#. NFþ%Ê'2>Ø>Ì&„) G[GQGVG}GŠ Fþ%Ê'2 Behavioral systems biology and neural network aging.	/œ ·>Ø>Ì&„) G[GQGVG}GŠG=*• ì>Ø> /¡6ä$Î Behavior, Imaging, Neural network aging
ø M 5 Associate Professor	.(NF· ò Yoshihisa FUJIWARA	œG‰&" ¼G‰5 ŠH ¤ `5 ŠFø4#5 ŠH Fþ ›#" C I ÊFÜ "", HFÔFÿ FçFö;Ü,æFúFùFþ#Õ"@Fþ · ÂG o ÂFû lG Fé s8jFþ%Ê'2 FíG G #" C I ÊFûG G ì Û o ÂG‰ S4 G‰ µ+ D šG Fþ s8jH µ+ ö qG‰GXG\ ¦ qFþ9×) ìFþ%Ê'2 Effects of environmental factors of light, magnetic field, and gravity (microgravity and hypergravity) on biological phenomena and react of micro-organism such as Aspergillus oryzae. Influence of their factors on reactions, micro-structure, and function of chemical functional nano-materials.	œG‰&" G‰5 ŠFþ ÝH œ ì ÛH ;Ü Effecs of light, Magnetic field and ? ? ? ?"? ? ?%H >ü? ? ? ? ? ? ? ? ? ? oryzae
"F· M Assistant	.(-F·7ž • >ù? ? ? ? ? ? F·>ò? >ó?Fœõ	#.1=#Õ"@ ÛH #Õ / ÆFþ (ÊFþ · Š ÛFø ì Û o ÂFþ#.1=H #Õ / ÆFþ GGGTGn#Õ"@ ÛFø)+0£GUGŠGM0Ž Ò Theoretical Biology: e.g. molecular dynamics and theory of biochemical reactions, system biology and statistical analysis.	#'1ß1=$×GpGUGyH (Ê · Š ÛGpGUG #Õ"@ ÛFþ X#. Phenomenological modeling, molecul dynamics model, mathematics and physics of biology
"F· M Assistant	Ç •F· • Muneyuki MATSUO	2x (Ê ì ÛFþ0i ÙFû ?FæFçFï8 ¹/® öG‰8)z g öFþ _ °FûG G Ç d $×#Õ"@]GEGGGTGnFþ S(FÚG G FíFþ µ+ $Î#' µ SFþ0Ž Â Construction of artificial "Life-like Systems" by introducing non-equilibrium and non-linearity based on the supramolecular system chemistry, and elucidation of their functional emergence mechanis	GEGGGTGn ì ÛF¸2x (Ê ì ÛF¸ Ç d(ý+ N (ý+ F¸#Õ è2s ; Systems Chemistry, Supramolecular Chemistry, Artificial Cells, Protocells, Origins of Life
"F· M Assistant	ó#ãF· $ ± Kyota TASUDA	#Õ / (ÊFþ(ý+ Æ>Û ¥F÷Fþ ì'56ë$× µ+ D š µ SFÚG G FíFþ$L HF Fþ6õ4 >Ú>Ì(ý+ Fþ g ÂG‰ (Ê (4ÄG‰ µ+ $× öFþ%Ê'2>Ú Spatio-temporal regulation mechanisms of intracellular/extracellula functions of biomolecules and their relation to diseases. Cellular Morphology, Molecular Distribution, and Functional Polarity.	(ý+ G2GoGŠGFG•G>F¸G8GmGQG= š ö$L HF¸>þ>ú>í • ~ Cellular imaging, omics analysis, neurodegenerative diseases, RNA localization

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M>Ì>Ì 5 Professor	%¼#ãF· T j >í? ? ?!? ? ? ? F·>õ>ÿ>ô>ßõõ	GMG•G_G=2AGxG•4ß ìG‰+:GxG•4ß ìFû6õG G ›' 4Ý(2AFþ#Õ ì Û$×%Ê'2 Biochemistry on enzymes and proteins which mediate protein phosphorylation and dephosphorylation.	_ 4)H 4Ý(òH &„) H/HEHCHJH=HHF·HPHNH=HJH Neuron
M 5 Professor	%¼ NF· ã ù Yasuhiro ISHIHARA	G>GxG0(ý+ Fû%T% FçFï&„) . #. ÛG‰&„) ˜ ö Û%Ê'2H "@2AH #" C ì Û"@2AG >ü>ù>Þ>Ú>áFúFùH Z7âFûG (Fþ Ÿ8íFø Y8ì ô+!*ë4ßH >ð>ô>íH Fþ7€ š D Ý Neuropharmacology and neurotoxicology on glial cells: Modulation of neurological disorders by chemical expos (i.e. environmental chemicals and PM2.5) and neuroprotective action of unsaturated fatty acid such as DHA.	G>GxG0(ý+ H w ì Û"@2AH &„) –1¤ Glia, Harmful chemicals, Neuroprotection
M>Ì>Ì 5 Professor	Ò §F· Å “ ? ? ? ?!?%? F·>õ>ù>í>ù?	7Ë6×8®+;Fþ g Â$×G‰ µ+ $×$Î4)G" -FØG G6GbG@G\ GwGnFþ#.0Ž Understanding epigenomic mechanisms that underlie th development of primate brain.	7Ë6×8®>Ø>Ì+;>Ø>ÌG\G•GAGŠG primate, brain, non-coding RNA
M>Ì>Ì 5 Professor	‹'0F· ô*O Kazuyoshi UKENA	8× 'G G6G[GyG<GŠ æ1p1*(Fû6õG G +; Æ"@2AFþ#Õ Fû6õFéG %Ê'2 Study on the physiological functions of neuronal substances regulating appetite and energy homeostasis	8× 'H *ç 6H æ1p$L H Appetite, Obesity, Metabolic disease
M>Ì>Ì 5 Professor	,¶5 F·*Õ Hajime OGINO	+(Ý ·"@Fþ$Î#ÕG‰ Ì#ÕG" -4ÄFéG G@G\GnG‰G6Gb SFþ%Ê'2 g#Õ8®FûFÚFáG G@G\Gn4 ìFø#" C4: ÂFûFôFÔFöFþ "@ Û$×%Ê'2 Genomic and epigenetic regulation of development and regeneration in vertebrates. Molecular mechanisms of genome evolution and environmental adaptation in amphibians.	$Î#ÕH Ì#ÕH 4 ì Development, Regeneration, Evolution
M>Ì>Ì 5 Professor	± ÃF·*O/ñ Yoshihiro OMORI	:68®GpGUGyG"#ÝFÔFï+(Ý ·"@Fþ g Â g BF¸4 ìF¸%Q $L HFû6õFéG G@G\Gn&É Û$×%Ê'2 Understanding molecular mechanisms of vertebrate morphogenesis, evolution, and pathogenesis of ophthalmology disease using teleost fish models based genome science	G@G\Gn&É ÛF¸:68®GpGUGyF¸ ö$L HF¸+(Ý ·"@4 ìF¸>ó? >í>ÿ0Ž Ò Genome science, Teleost fish models, Neurodegenerative diseases, Vertebrate evolution, Genome wide association study
M>Ì>Ì 5 Professor	,å åF·/ñ Yutaka KIKUCHI	4 · þ S(Fø%Ú)bFþ (Ê µ S Construction of musculoskeletal systems and molecular mechanisms of their breakdown.	4 · þ Musculoskeletal systems
M>Ì>Ì 5 Professor	F·%? M Shinichi TATE	³!› š öGMG•G_G=2AFþ S4 GNG2GXGmG=GGFø µ+ %Ê'2 Exploreing the structure dynamics and functions associtaed with intrinsically disordered proteins (IDPs).	>ú>ù>þ>Ø>Ì ³!› š öGMG•G_G=2A G= S4 GNG2GXGmG=GG NMR, Intrinsically disordered protein, Protein struture dynamics
M>Ì>Ì 5 Professor	NF· ë/ñ Takahiro CHIHARA	&„) G2°Fþ g BH B!ÍH FíFçFö)T âG" –G (Ê ö% Fþ0Ž Â #" CH $8ô"g ÂH ÝFÔH GGGVGzGGFúFùH Fø ¶ /#Õ# G /œ ·FúFùH Fþ%& « 8#ÝFûõõFéG %Ê'2 Molecular mechanism underlying neural network format maturation and maintenance. Genetic studies to reveal molecular mechanism for the interaction between environment (nutrition, odor and various stresses etc.) and physiological condition (longevity and behavior etc.).	&„) G2°H ¥0lH Q è Neural network, Olfaction, Longevity
M>Ì>Ì 5 Professor	ØF· < Toshinori HAYASHI	w • g#Õ8®G"#ÝFÔFï þ Ì#ÕH $Î#ÕFþ%Ê'2 þ Ì#ÕFûFÚFáG (ý+ Q j µ SFþ%Ê'2 Study of organ regeneration and development using urodele amphibian. Regulatory mechanism of cell proliferation in organ regeneration.	G2GgGxG0GVG@G2GpGxH þ Iberian ribbed newt, Organ regeneration, Development
M>Ì>Ì 5 Professor	£ •F· Takashi YAMAMOTO	G@G\Gn)…7Ÿ •/¡Fþ6ä$ÎFø$L HGpGUGy(ý+ G‰ ·"@ 8 FéG %Ê'2 Development of genome editing technology and genera of disease model cells and animals.	G@G\Gn)…7ŸH $L HGpGUGy Genome editing, Disease model
M 5 Professor	“3°F·&½7ž Hidemasa BONO	G@G\Gn)…7ŸGUGŠGM0Ž Ò ö% •/¡Fþ6ä$ÎFøG^G2G GTG1G=GGFûG G 4G Ê µ+ 0Ž Ò Development of database technologies for genome edit and functional genomics by bioinformatic approach.	G@G\Gn)…7ŸH G^G2G8G2G•G GGH 4G Ê µ+ 0Ž Ò Genome editing, Bioinformatics, Functional genomics

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¸F· \F· MF· (Academic Staff		%EF·F·'2F·F· ÆF·F· Research Fields	G;GSG}GSGW Keywords
(M 5 Visiting Professor	$ £F·F· Þ M Keiichi HATAKEYAMA	+« Ë _ FøFÜG#G@G\GnGUGŠGMFþ)+ œG"% æFçF 0Ž Ò%Ê'2 +X$†(ý+ ð)° •/¡G"#ÝFÔFïFÜG#G@G\Gn0Ž ÒFþ9×(- Ø +« Ë Â#Ý Cancer genome analysis to integrate of clinical informat and genome data. Improving the accuracy of cancer genome analysis usin tumor cell enrichment and its application in clinical practice.	FÜG#G@G\Gn>Ø>Ì š$ >Ø>Ì /(ý+ + (Ô 4 š ì>Ø>Ì+« Ë Â#Ý Cancer genome, mutation, somatic/germline alteration, clinical application
(M 5 Visiting Professor	û4SF· x ™ Tomonobu M WATANABE	#Õ è#'1ßG" 5 FéG œ Û0£ •/¡Fþ6ä$ÎFøFíG G G"#ÝFÓ Fï ¿(ý+ %Ê'2FÚG G ÛG‰#Ø Â#Ý Stem cell researches with development of optical measurement technologies to quantify biological phenomena, and medical/industrial applications of them	œ Û8§ ¤6~H (œ ÛH #Õ"@"@# ÛH ¿(ý+ Optical spetcroscopy, quantitative biology, biophysics, stem cell
ø M 5 Associate Professor	-]F· J ? ? ? ? ? ? ? F·>õ>ó>í? >(	g#Õ8®Fþ' (ìFø#" C4: ÂFû6õG G G@G\Gn4 ì Û$×%Ê'2 Genome evolution underlying speciation and environme adaptation of amphibians.	g#Õ8®H 4: Â4 ìH G@G\GmG=(Amphibians, Adaptive evolution, Genomics
ø M 5 Associate Professor	V5 F· ¾ Masaru UENO	%? >#Õ"@FþGTG{GoG0)T â µ SG‰>ð>ú>í Ÿ Ÿ µ SFþ Fþ *• ìG‰ $´6õ4 ì. G Fþ Â#Ý%Ê'2 Study on molecular mechanisms of telomere maintenan and DNA repair and their applications for development anti-cancer and anti-ageing agents.	GTG{GoG0H FÜG#H *• ì Telomere, Cancer, Aging
ø M 5 Associate Professor	ß §F·*>(ê Ê Misako OKUMURA	œ ¤%±GoG9GYGHGnFþ0Ž Â>Ú>Ì²#' º • (öFþ (Ê ö% Â Molecular mechanism of phototransduction. Molecular mechanism of phenotypic plasticity.	)z.x>Ø>Ì œ w />Ø>Ì²#' º • (ö Nematode, Photoreceptor, Phenotypic plasticity
ø M 5 Associate Professor	,(•F· M0d Kazunori KUME	(ý+ Fþ µ+ G" –0ÉFéG (ý+ S4 H G8GyG:G[GwG (ý+ ö FúFùH Fþ D š µ SFû6õFéG %Ê'2 Study on the control mechanisms of cell structure (organelles and cell polarity etc.) which ensures cellular functions.	(ý+ S4 H G8GyG:G[GwH (ý+ ö Cell structure, Organelle, Cell polarity
ø M 5 Associate Professor	• •F· f Û Naoaki SAKAMOTO	G4GYFþ$Î#ÕG"GpGUGyFøFçFöH g Â g B4G ÊFþ3? $Î#Õ4#&ìFûFÚFáG 4G ÊG‰G=G{GlGOG•G‰ , /Fþ GGGzGŠGMGŠFþ 8#Ý µ SFûFôFÔFö%Ê'2 Research for transcriptional regulation of morphogeneti genes, nuclear dynamics of gene, chromatin and chromosome during development, and mechanism of insulator activity, using the sea urchin development as a model.	G4GYFþ$Î#ÕH 3? ×H > Æ · Â Sea urchin development, Transcription, Nuclear dynamics
ø M 5 Associate Professor	¡F· Å&; Takuma SUGI	¶Fø7Ÿ KFþ/œ ·G" -4ÄFéG "@#. NFþ%Ê'2>Ø>Ì&„) G[G G=*• ì µ SFþ%Ê'2 Behavioral systems biology and neural network aging.	/œ ·>Ø>Ì&„) G[GQGVG}GŠG=*• ì •/¡6ä$Î>Ø Behavior, Imaging, Neural networ aging
ø M 5 Associate Professor	! #ÕF·FãFêFØ Kozue HAMAO	·"@(ý+ Fþ(ý+ 9µ A D šFø(ý+ (/ãFþ (Ê µ SFû6õFéG %Ê'2 Molecular mechanisms of cytoskeletal regulation and ce division in animal cells.	(ý+ 9µ AH (ý+ (/ãH (ý+ 2A (/ã Cytoskeleton, Mitosis, Cytokinesi
ø M 5 Associate Professor	•#ãF· W … Masayuki YOSHIDA	FãFãG Fþ#Õ"@ Û$× ö% Fû6õFéG %Ê'2 Biological basis of emotion, learning, and mind in anima	·"@ °#.H _ ·H &„) &É Û Animal psychology, Emotion, Neuroscience

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Assistant
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	Haruko TAKAHASHI
		#Õ / ¥>Ô? ? >Ì?"? ? ? ? >Õ>ß –$×FÜG#))ÊGpGUGyF
		GmGQG=GGGUGŠGMG"#ÝFÔFï)+ œ$×0Ž ÒFûG G H
		GYGHGnFþ0Ž ÂFø $ª ö% Â#Ý
		Analysis of the malignant mechanism of cancer and its therapeutic application by integrated analysis using 3D vitro cancer tissue models, images and omics data.
			>ß –? ? >Ì?"? ? ? ? GpGUGy>Ø
			C>Ø>Ì FÜG# Ý
			3D in vitro model, Tumor microenvironment, Anti-cancer

“F· M Assistant	.]F· A • Masashi YUKAWA	G@G\GnFþ ó ö – âFû ²8rFú ¤ `'ö g B µ SFû6õFéG %É '2Fø w#Ý#Õ#. q ö"@2AFþ6ä$Î Our research focuses on the molecular mechanisms to establish and maintain a bipolar spindle structure, which essential for proper chromosome segregation. We also to implement our findings towards the development of novel drugs and therapeutic technologies by which to bu and sustain healthy aging society.	(ý+ Ø ‡H , / (4ÄH >Ì(ý+ 9µ A Cell cycle, Chromosome segregation, Cytoskeleton