



हिमाचल प्रदेश केंद्रीय विश्वविद्यालय
Central University of Himachal Pradesh
(Established under Central Universities Act 2009)
अस्थायी शैक्षणिक खण्ड, शाहपुर, जिला काँगड़ा, हिमाचल प्रदेश - 176206
Temporary Academic Block, Shahpur, Distt. Kangra (HP) - 176206
Website: www.cuhimachal.ac.in

File No: LS/1-5/ CUHP/12/01

Dated: 18/09/2020

MINUTES

The 6th Board of Studies (BoS) meeting of Centre for Computational Biology and Bioinformatics was held on 18th September, 2020 at 11:00 AM at Central University of Himachal Pradesh, Temporary Academic Block, Shahpur. The following were present:

1.	Dr. Mahesh Kulharia, Director, Centre for Computational Biology and Bioinformatics, School of Life Sciences	CONVERNER & CHAIRMAN	Offline Mode
2.	Prof. Birj Mohan, Ret. Professor, Chaudhary charan kumar Himachal Pradesh Agriculture University	SUBJECT EXPERT	Online Mode
3.	Prof. Desh Deepak Singh, Professor, Deapartment of Biotechnology, Punjab University,	SUBJECT EXPERT	Online Mode
4.	Prof. Pardeep Kumar, Dean, Professor, Department of Plant Sciences, School of Life Sciences	MEMBER (VC NOMINEE)	Offline Mode
5.	Dr. Sunil Kumar, Associate Professor, Department of Animal Sciences, School of Life Sciences	MEMBER (VC NOMINEE)	Online Mode
6.	Dr. Shailender Kumar Verma, Assistant Professor, Centre for Computational Biology and Bioinformatics, School of Life Sciences	MEMBER	Offline Mode

The Director, Centre for Computational Biology and Bioinformatics (Convener & Chairman), School of Life Sciences welcomed all the members and thanked them for being available for attending this meeting.

Minutes of the 6th BOS meeting of Centre for Computational Biology and Bioinformatics
Held on 18th Sep 2020

ITEM NO: CBB-BOS-6/20-1: Approved the Minutes of the 5th Meeting of the Board of Studies held on 23rd August, 2018.(Annexure-I)

ITEM NO: CBB-BOS-6/20-2: Recommended the Change from nomenclature of the Centre for Computational Biology and Bioinformatics to Department of Computational Biology and Bioinformatics.

ITEM NO: CBB-BOS-6/20-3: Scrutinized, modified and approved the modified list of courses and syllabi to be taught/offered in the coming academic session (for 2020 Batch onwards) for the M.Sc. Centre for Computational Biology and Bioinformatics Sciences program in the CBCS format. **(Annexure-II)**

ITEM NO: CBB-BOS-6/20-4: Approved the list of courses to be taught/offered and syllabi for the course work of Research Degree students of the Centre for Computational Biology and Bioinformatics Sciences. **(Annexure-III)**

ITEM NO: CBB-BOS-6/20-5: Accredited the Faculty Member i.e. Dr. Mahesh Kulharia, Associate Professor, Centre for Computational Biology and Bioinformatics to become Ph.D. Supervisor/Guide.

ITEM NO: CBB-BOS-6/20-6: Approved of the allotment of Supervisor/Guide for the Ph.D. Scholars.

Sr. No.	Name of Student	Roll. Number	Name of Supervisor
1.	Mr. Ashish Panghalia	CUHP17RDCBB01	Dr. Vikram Singh
2.	Ms. Himisha Dixit	CUHP17RDCBB02	Dr. Shailender Kumar Verma
3.	Ms. Deepanshi Awasthi	CUHP20RDCBB01	Dr. Vikram Singh
4.	Ms. Shilpa Chauhan	CUHP20RDCBB02	Dr. Shailender Kumar Verma
5.	Ms. Varuni Bhardwaj	CUHP20RDCBB03	Dr. Mahesh Kulharia
6.	Mr. Virender Kumar	CUHP20RDCBB04	Dr. Shailender Kumar Verma

ITEM NO: CBB-BOS-6/20-7: Approved the RAC of Ms. Himisha Dixit and Mr. Ashish Panghalia.

Sl. No.	Name of the Student	Registration No.	Constitution of RPMC/RAC
1.	Mr. Ashish Panghalia	CUHP17RDCBB01	1. Head of the Department-Ex-Officio Chairman 2. Dr. Vikram Singh-(Research Supervisor)- Convener 3. Dr. Dilbag Singh- Subject Expert
2.	Ms. Himisha Dixit	CUHP17RDCBB02	1. Head of the Department-Ex-Officio Chairman 2. Dr. Shailender Kumar Verma-(Research Supervisor)- Convener 3. Dr. Tarkeshwer- Subject Expert

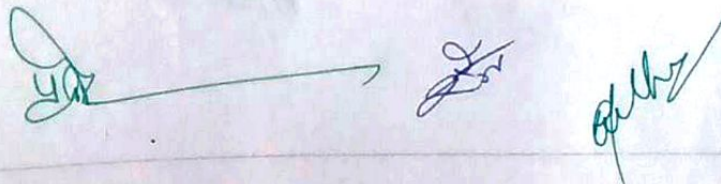
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ITEM NO: CBB-BOS-6/20-8: Approved (Post facto) the allotment of Dissertation students
semester (M.Sc. CBB).

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Sr. No.	Name of Students	Roll No.	Title of the Thesis	Name of the Supervisor
1.	ASHITA SOOD	CUHP18CBB02	Atomistic structural determination of CALHM2 through in-silico techniques"	Dr. Mahesh Kulharia, Associate Professor
2.	DIKSHA TANTA	CUHP18CBB03	Protein-protein Interactions based study to analyze their importance as an effective drug targets	
3.	ISHIKA	CUHP18CBB04	To Create the drug molecule that can block PfHT1 (Plasmodium Falciparum Hexose Transporter 1) or its Homologs in other Plasmodium species.	
4.	PUSHPENDER SINGH CHANDEL	CUHP18CBB011	MD Simulation of Ebola virus Vp24 protein	
5.	ANKITA CHAUHAN	CUHP18CBB01	Network scale exploration of miRNA mediated regulation in Epilepsy associated COVID-19	Dr. Vikram Singh, Assistant Professor
6.	PUSHPESH DHIMAN	CUHP18CBB12	Comparative flux balance analysis of MERS, SARS and SARS-CoV-2 genomes	
7.	RADHIKA JOSHI	CUHP18CBB13	Aspects of genome scale evolution of SARS-CoV-2 and its protein interaction network with human-miRNAs	
8.	SHILPA PATHANIA	CUHP18CBB14	"Construction and analysis of SARS-CoV-2 protein interaction network with miRNAs associated with Glaucoma and Keratoconus"	
9.	NISHA VERMA	CUHP18CBB08	In silico structural analysis, physiochemical characterization and structure prediction of Triticum aestivum Iron Regulated Transporter 1 (IRT1) Protein	Dr. Shailender Kumar Verma, Assistant Prof
10.	PRATIBHA SHARMA	CUHP18CBB09	Identification and Classification of ABC transporter proteins of Xanthomonas oryzae_BB151-3	



1.	PRIYANKA CHOUHARY	CUHP18CBB10	Bioinformatics functional characterization of hypothetical proteins of Chlamydia pistacci strain Ful127 to discover potential drug targets
12.	SHIVALI KASHYAP	CUHP18CBB15	Phylogenetic Analysis of ATP-Binding Cassette Transporter (ABC) Gene in Xanthomonas translucens strain 569

ITEM NO: CBB-BOS-6/20-9: Approved the Academic Activity Schedule of the Centre for Computational Biology and Bioinformatics. (Annexure-IV)

ITEM NO: CBB-BOS-6/20-10: Approved the updated list of External Examiners for conducting practical /M.Sc. Dissertations Examinations and of the Centre for Computational Biology and Bioinformatics Sciences. (Annexure-V)

ITEM NO: CBB-BOS-6/ 20-11: Approved (Post facto) the title, objectives and synopses of the Ph.D thesis of Mr. Gagandeep Singh, CUHP12RDCBB03. (Annexure-VI)

Sr. No.	Name of Students	Roll No.	Title of the Thesis	Name of the Supervisor
1.	Gagandeep Singh	CUHP12RDCBB03	In-silico studies on systems scale characterization of Camellia sinensis (tea) using transcriptomic and genomic data	Dr. Vikram Singh, Assistant Professor

ITEM NO: CBB-BOS-6/20-12: Approved the proposal for initiating the Advance Diploma in Bioinformatics as 1 year (2 semester) course by the Centre for Computational Biology and Bioinformatics in self-financing mode. The funds thus generated will be used for the upgradation of the research facilities of Centre for Computational Biology and Bioinformatics.

ITEM NO: CBB-BOS-6/20-13: Scrutinized, modified and approved the list of courses and detailed syllabi to be taught/offered in the next academic session (for 2021 Batch onwards) for the Advance Diploma in Bioinformatics. (Annexure-VII).

ITEM NO: CBB-BOS-6/ 20-11: Approved (Post facto) the list of courses to be taught/offered and syllabi for the previous batches of M.Sc. Computational Biology and Bioinformatics. (Annexure-VIII)

approved online
Prof. Desh Deepak Singh
 Dept. of Biotechnology
 Punjab University, Chandigarh

approved online
Prof. Brijmohan Sharma
 CSKHPKV, Palampur

[Signature]
Prof. Pardeep Kumar
 Dean SLS
 CUHP, Dharamsala

[Signature]
Dr. Shailender Kumar Verma
 Assistant Professor, CCBB
 CUHP, Dharamsala

approved online
Dr. Sunil Kumar
 HOD, Animal Sciences
 CUHP, Dharamsala

[Signature]
Dr. Mahesh Kulharia
 Director, CCBB
 CUHP, Dharamsala

Fwd: regarding the Board of studies CCBB

Inbox

Mahesh Kulharia
to me

11:38 AM (19 minutes ago)

----- Forwarded message -----

From: Prof. Desh Deepak Singh <ddsingh@pu.ac.in>

Date: Wed, Oct 7, 2020 at 11:54 AM

Subject: Re: regarding the Board of studies CCBB

To: Mahesh Kulharia <kulharia@hpcu.ac.in>

Cc: Dr.Pardeep Kumar <pardeepsangla@gmail.com>, Dr Sunil Kumar Thakur <sunilbes@gmail.com>, Brij Sharma <drbrijsharma@gmail.com>, Shailender Kumar Verma <shailenderverma22@gmail.com>

Dear Dr. Mahesh Kulharia,

This is with reference to the BOS meeting and the draft minutes sent by you.

I am approving the minutes you sent and it maybe recorded accordingly.

Best wishes

--

Prof. Desh Deepak Singh
Professor, Biotechnology Department
BMS-I, South Campus
Panjab University,
Chandigarh-160 014
www. <http://biotechnology.puchd.ac.in/>
Email: ddsingh@pu.ac.in
Ph: +91 172 2534091
+919228379835;

On 2020-10-06 13:38, Mahesh Kulharia wrote:

Dear Sirs,
Please find the draft minutes of the 6th meeting of Board of studies along with the annexures attached herewith for your kind perusal and approval.
We would really appreciate if you could find time to give your valuable suggestions/corrections/approval in next two days (i.e. 8 oct 2020).
Thanking you in anticipation
yours truly

Mahesh Kulharia
to me

11:38 AM (19 minutes ago)

----- Forwarded message -----

From: Brij Sharma <drbrijsharma@gmail.com>

Date: Wed, Oct 7, 2020 at 11:54 AM

Subject: Re: regarding the Board of studies CCBB

To: Mahesh Kulharia <kulharia@hpcu.ac.in>

Cc: Dr.Pardeep Kumar <pardeepsangla@gmail.com>, Dr Sunil Kumar Thakur <sunilbes@gmail.com>, <ddsingh@pu.ac.in>, Shailender Kumar Verma <shailenderverma22@gmail.com>

Approved.

Dr. B. M. Sharma

Sr.Professor & Programme Director(Retd.),

Ganesh Vihar(Khilru),P.O.Bindraban,

Near SSB Chowk,Palampur- 176 061

Tel: +91 94184 71501

E-mail- drbrijsharma@gmail.com

FAX 01894 230326

Mahesh Kulharia

to me

----- Forwarded message -----

From: **Dr Sunil Kumar Thakur** <sunilbes@gmail.com>

Date: Wed, Oct 7, 2020 at 3:14 PM

Subject: Re: regarding the Board of studies CCBB

To: Mahesh Kulharia <kulharia@hpcu.ac.in>

Dear Dr Kulharia

I am approving the minutes of BOS sent by you.

Thanks & Regards

डॉ सुनील कुमार / Dr Sunil Kumar

सह-प्रोफेसर और विभागाध्यक्ष / Assoc. Prof. & Head

जंतु विज्ञान विभाग / Department of Animal Sciences

जैविक विज्ञान स्कूल / School of Life Sciences

हिमाचल प्रदेश केन्द्रीय विश्वविद्यालय / Central University of Himachal Pradesh

अस्थायी शैक्षणिक खण्ड, शाहपुर / TAB Shahapur, Kangra HP - 176206




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Academic Activity Schedule for Centre for Computational Biology and Bioinformatics

Annexure  

The detailed annual schedule for academic and lab activity for the Centre for Computational Biology.

S.No.	Activity	Date/Schedule
1.	RAC schedule of PhD scholars	1-Jan to 31-Jan
2.	Monthly Lab cleaning Schedule	1 week of every month
3.	Board of studies meeting	1-Feb to 28 Feb
4.	Lab Inspection	1-March to 7-March
5.	Centre's File Auditing	15-May to 22-May
6.	RAC Schedule of PhD scholars	1-July to 30-July
7.	Annual Asset verification Schedule	1-July to 7-July
8.	Board of studies meeting	1-Aug to 31 Aug
9.	Lab Inspection	1-Oct to 7-Oct
10.	Centre's File Auditing	15-Nov to 22-Nov
11.	Report Submission for M.Sc. Dissertation-I (CBB 599A)	7-Nov to 14-Nov
12.	Viva for M.Sc. Dissertation-I (CBB 599A)	22-Nov to 1-Dec
13.	Report Submission for M.Sc. Dissertation-II (CBB 599B)	7-May to 14-May
14.	Viva for M.Sc. Dissertation M.Sc. Dissertation-II (CBB 599B)	22-May to 1-June
15.	G.N. Ramachandran Technology Skill Festival	1 to 15 October
16.	Open Seminar of faculty, research fellows and PhD scholars for research aptitude inculcation	Last working Friday of every month

List of external experts for M.Sc. Practicals and Dissertation Viva Evaluation
Centre for Computational Biology and Bioinformatics
Central University of Punjab

Dr. R. K. Chahohta
Professor
Department of Agricultural Biotechnology
CSK Himachal Pradesh Agriculture University Palampur-176062 (HP) INDIA
Tel: 94183-69800
Email: rkchahota@gmail.com

Dr Sneh Sharma
Associate Professor
Department of Biotechnology
College of Horticulture and Forestry
Neri, Hamirpur (HP)-177 001
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Mob no : 9805468689

Dr. Vinod Pathania
Associate Professor
Head of Department of Pharmaceutical Sciences
Central University of Punjab
Bathinda
Email: vpathania18@gmail.com
Tel: 7018660635

Dr. Jagmohan Singh
Principal Scientist
IMTECH
Chandigarh
Contact Number: 9417182983
Email: jsjagsingh@gmail.com

Dr. Sudhir Kumar
Professor (Chemistry) & Head
Bioinformatics Section, College of Basic Sciences & Humanities
CCS Haryana Agricultural University, Hisar-125004
Phone Number: 01662-289114
Mobile: 9466242051
Email: Sudhir@hau.ernet.in

Prof. Desh Deepak Singh
Department of Biotechnology
Panjab University
Sector 14, Chandigarh, 160014
Contact No.: +91 9228379835
Email: ddsingh@pu.ac.in

Dr. Debasisa Mohanty
National Institute of Immunology New Delhi 110067

Tel 01126703749
Email: deb@nii.res.in

Dr. Purshottam Kumar
Chemistry Department
Punjab University, Chandigarh
Tel:9855855239
Email: sonumultip@gmail.com

Dr. Sudip Chakraborty
Head of the Department
Computational Sciences
Central University of Punjab
Bathinda
Tel:9902728016
Email: sudip.hammer@gmail.com

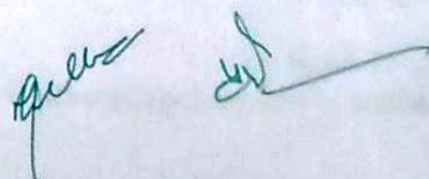
Dr. Kousik Giri
Former Head of the Department
Computational Sciences
Central University of Punjab
Bathinda
Tel: 9501586930
Email: kousik.giri@gmail.com

Er. Surinder Singh Khurana
Department of Computer Science and Technology
Central University of Punjab
Bathinda
Tel:987837711
Email: surinder.seeker@gmail.com

Prof. Anjana Munshi
Department of Human Genetics and Molecular Medicine
Central University of Punjab
Bathinda
Tel: 9872694373
Email:anjanadurani@yahoo.co.in

Dr. Vishal Goyal
Designation: Professor
Department Of Computer Science,
Punjabi University, Patiala, Punjab, India.
Mobile: 9501096111
Email:vishal.pup@gmail.com

Dr. Anil Kumar Verma
Designation: Professor
Address: Thapar University
Patiala, Punjab Contact No. +91-9888-601-667
Email: akverma@thapar.edu



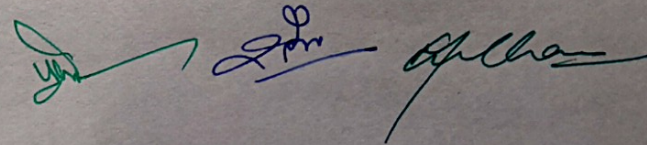
Dr. Neeraj Dilbaghi
Professor Incharge Radio Ecology Centre (NanoBio Technology)
Guru Jambheshwar University of Science & Technology
Hisar- 125 001, Haryana
Contact Number: 01662-263500, 01662-263349
Email: ndnano@gmail.com , ndnano@gjust.org



Annexure 2

SEMESTER-II

Human Making Course (Total Credits = 02)			Credits
1.	CBB 459	History of Sciences and Technology in India	2
Skill Development Course (Total Credits = 02)			
1.	CBB 460	Machine Learning II	2



Programme Outcomes: On successful completion of the Ph.D. programme, the students will be able to:

- Design independent research problems in the field of Computational Biology and Bioinformatics
- Explore real-life problems with the help of computational tools
- Pursue research in this multidisciplinary area of science

Ph.D. Course Work in Computational Biology and Bioinformatics

Scheme of Courses for Ph.D. Work Course in Computational Biology and Bioinformatics

Course Code	C/E*	Course Name	Credits
CPE-RPE	C	Research and Publication Ethics	2
CBB – 601	C	Research Methodology	4
CBB – 602	E	Sequence and Structural Bioinformatics	4
CBB – 603	E	Statistical Mechanics	4
CBB – 604	E	Scientific Programming Lab	4
CBB – 605	E	Molecular Informatics Lab	4
CBB – 606	E	Plant Bioinformatics	4
CBB – 607	E	Machine Learning & Applications	4
CBB – 608	E	Scientific Writing & Presentation Skills	4

*Students can select any two elective papers from above scheme.

C- Compulsory

E-Elective

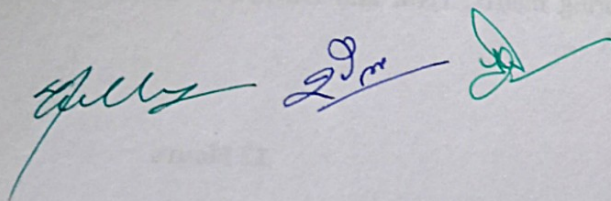
Mode of Transaction:

Lecture, Laboratory based Practical, Seminar, Group discussion, Team teaching, Self-learning.

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Course Work of Advance Diploma in Bioinformatics
Scheme of Courses for Course Work of Advance Diploma in Bioinformatics

Semester	Semester Credits	Course Title	Subject Credits
I	20	ADB 601 – Sequence Analysis	4
		ADB 602 – Computer Aided Drug Discovery	4
		ADB 603 – Fundamentals of Molecular Dynamics simulations	2
		ADB 604 – Statistical Mechanics	2
		ADB 605 – Programming Lab I	4
		ADB 606 – Sequence Analysis Lab	4
Total			20



Course Title: Sequence Analysis

Course Code: ADB.601

Total Hours: 60

Learning Outcomes: The outcomes of the subject is to ensure that a student can apply the knowledge of the following

- Data storage formats
- Pairwise alignments
- Sequence patterns and profiling
- Multiple sequence alignment

Course Content

Unit 1

13 Hours

Basic concepts of sequence similarity, identity and homology, homologues, orthologues, paralogues and xenologues Pairwise sequence alignments: basic concepts of sequence alignment, Needleman and Wunsch, Smith and Waterman algorithms for pairwise alignments, gap penalties

Unit 2

10 Hours

Scoring matrices: basic concept of a scoring matrix, PAM and BLOSUM series Tools such as BLAST (various versions of it) and FASTA

Unit 3

12 Hours

Multiple sequence alignments (MSA): basic concepts of various approaches for MSA (e.g. progressive, hierarchical etc.). Algorithm of CLUSTALW (including interpretation of results), concept of dendrogram and its interpretation.

Unit 4

10 Hours

Sequence patterns and profiles: Basic concept and definition of sequence patterns, motifs and profiles, profile-based database searches using PSI-BLAST, analysis and interpretation of profile-based searches.