

## Preface

The Brazilian Symposium on Bioinformatics (BSB, *Simpósio Brasileiro de Bioinformática*) is an international scientific conference with focus on Bioinformatics, Computational Biology, Systems Biology, Biomedical Informatics and related areas. It is organized every year by the Brazilian Computer Society (*Sociedade Brasileira de Computação – SBC*), under the steering of the Special Committee for Computational Biology (*Comissão Especial de Biologia Computacional – CE-BioComp*), which is presently coordinated by Sérgio Lifschitz (PUC-RJ) and co-coordinated by Kele Belloze (CEFET-RJ). BSB 2024 was the 17th edition of the conference, taking place in December 2–4, 2024, at Cidade da Inovação, Instituto Federal do Espírito Santo (IFES), Vitória, Brazil. Vitória is the capital of Espírito Santo, a state located in the Brazilian southeast.

BSB 2024 had as general chair Sérgio Nery Simões (IFES) and as vice-general chair Karin Satie Komati (IFES). The Local Organization Committee also had as members Francisco de Assis Boldt (IFES), Hilário Tomaz Alves de Oliveira (IFES), and Leandro Colombi Resendo (IFES). The Technical Program Committee (TPC) of this year was composed of 44 members from Brazil and also from Canada, France, Germany, Mexico, Portugal, and the USA. The symposium two tracks of this year, accepting contributions in the form of full and short papers, received a total of 33 full paper submissions, with 20 works being accepted, and a total of 7 short paper submissions, with 2 of them being accepted. The submitted articles were evaluated through a single-blind review process, with each paper having at least two independent reviews. The 22 accepted papers were presented at the conference by one of their authors at one of the four technical sessions held during BSB 2024, and now they have their archival versions in these annals.

Apart from the technical sessions, the conference had a mini-course (“Introduction to Machine Learning for Bioinformatics”) and two poster sessions, alpha and beta, in which 59 posters were presented. BSB 2024 also counted four internationally renowned keynote speakers: Peter Stadler (Leipzig University, Germany), Giancarlo Guizzardi (University of Twente, the Netherlands), Yayoi Natsume-Kitatani (NIBIOHN, Japan), and Maria Emília Machado Telles Walter (University of Brasília, Brazil). Maria Emília Walter was the honored researcher of this year, “in recognition of her dedication and exceptional contribution to the advancement of Bioinformatics and the training of students throughout a brilliant career”. Thank you so much, Maria Emília!

We also thank everyone who made BSB 2024 such a successful event, with around 100 (one hundred) delegates from Brazil and abroad: the TPC members, the local organization members, and volunteers, the keynote speakers, the session chairs, the several researchers that helped in the evaluation of the works presented during the poster sessions, SBC and CNPq for their support. Nominally, we also thank the best paper evaluation board (João Carlos Setubal, Alberto Paccanaro, and Maribel Hernandez) and the instructor of the mini-course offered during the conference (Ronaldo Nogueira). Last but not least, we thank all the authors who made contributions to this conference, either in the form of paper or poster abstract, and the conference delegates; thank you very much, and we hope to see you all again in BSB 2025!

December 2024

Marcelo S. Reis  
Fabricio M. Lopes

## **Organization**

### **General Chairs**

Sérgio Nery Simões  
Karin Satie Komati

Instituto Federal do Espírito Santo, Brazil  
Instituto Federal do Espírito Santo, Brazil

### **Local Organization Committee**

Sérgio Nery Simões  
Karin Satie Komati  
Francisco de Assis Boldt  
Hilário Tomaz Alves de Oliveira  
Leandro Colombi Resendo

Instituto Federal do Espírito Santo, Brazil  
Instituto Federal do Espírito Santo, Brazil  
Instituto Federal do Espírito Santo, Brazil  
Instituto Federal do Espírito Santo, Brazil  
Instituto Federal do Espírito Santo, Brazil

### **Technical Program Committee Chairs**

Marcelo S. Reis  
Fabricio M. Lopes

Universidade Estadual de Campinas, Brazil  
Universidade Tecnológica Federal do Paraná, Brazil

### **Steering Committee (CE-BioComp)**

Sérgio Lifschitz  
Kele Belloze  
Daniel de Oliveira  
Diogo Tschoeke  
João Carlos Setubal  
Marcelo S. Reis  
Raquel C. de Melo-Minardi  
Sérgio Nery Simões

Pontifícia Universidade Católica do Rio de Janeiro,  
Brazil  
Centro Federal de Educação Tecnológica Celso  
Suckow da Fonseca, Brazil  
Universidade Federal Fluminense, Brazil  
Universidade Federal do Rio de Janeiro, Brazil  
Universidade de São Paulo, Brazil  
Universidade Estadual de Campinas, Brazil  
Universidade Federal de Minas Gerais, Brazil  
Instituto Federal do Espírito Santo, Brazil

## Technical Program Committee

Adriano Werhli	Universidade Federal do Rio Grande, Brazil
Alessandra Silva	Universidade Federal de Minas Gerais, Brazil
André Fujita	Universidade de São Paulo, Brazil
Andre Kashiwabara	Universidade Tecnológica Federal do Paraná, Brazil
Carlos da Silveira	Universidade Federal de Itajubá, Brazil
Christian H. zu Siederdisen	Friedrich-Schiller-Universität Jena, Germany
Daniel de Oliveira	Universidade Federal Fluminense, Brazil
David Martins-Jr	Universidade Federal do ABC, Brazil
Didier Vega-Oliveros	Universidade Federal de São Paulo, Brazil
Diego Mariano	Universidade Federal de Minas Gerais, Brazil
Dieval Guizelini	Universidade Federal do Paraná, Brazil
Diogo Tschoeke	Universidade Federal do Rio de Janeiro, Brazil
Emely Silva	Universidade Estadual de Campinas, Brazil
Eneas Carvalho	Instituto Butantan, Brazil
Felipe Louza	Universidade Federal de Uberlândia, Brazil
Giuseppe Leite	Universidade Federal de São Paulo, Brazil
Glaucia Bressan	Universidade Tecnológica Federal do Paraná, Brazil
Guilherme Telles	Universidade Estadual de Campinas, Brazil
João Carlos Setubal	Universidade de São Paulo, Brazil
João Meidanis	Universidade Estadual de Campinas, Brazil
José Patané	Instituto do Coração (InCor), Brazil
Karina dos Santos Machado	Universidade Federal do Rio Grande, Brazil
Kele Belloze	Centro Federal de Educação Tecnológica Celso Suckow da Fonseca, Brazil
Liliane Oliveira	Universidade Tecnológica Federal do Paraná, Brazil
Luís Cunha	Universidade Federal Fluminense, Brazil
Luiz Manoel R. Gadelha Júnior	Laboratório Nacional de Computação Científica, Brazil
Manuel Lafond	University of Sherbrooke, Canada
Marcelo Brigido	Universidade de Brasília, Brazil
Mariana Recamonde-Mendoza	Universidade Federal do Rio Grande do Sul, Brazil
Maribel Hernandez	CINVESTAV Irapuato, Mexico
Miguel Rocha	Universidade do Minho, Portugal
Milton Nishiyama-Jr	Instituto Butantan, Brazil
Mirela Darc	Universidade Federal do Rio de Janeiro, Brazil
Natasha Andressa N. Jorge	Leipzig University, Germany
Robson Bonidia	Universidade Tecnológica Federal do Paraná, Brazil
Ronaldo Hashimoto	Universidade de São Paulo, Brazil
Sérgio Lifschitz	Pontifícia Universidade Católica do Rio de Janeiro, Brazil
Sérgio Nery Simões	Instituto Federal do Espírito Santo, Brazil
Seyed Jamalaldin Haddadi	Universidade Estadual de Campinas, Brazil
Valerie Anda	University of Florida, USA
Víctor Martinez	Universidade Estadual de Campinas, Brazil
Zanoni Dias	Universidade Estadual de Campinas, Brazil

## **Realization**

Sociedade Brasileira de Computação (SBC), Brazil



## **Financial Support**

Conselho Nacional de Desenvolvimento Científico e Tecnológico (CNPq), Brazil



## **Institutional Organization**

Instituto Federal do Espírito Santo (IFES), Brazil



**INSTITUTO  
FEDERAL**  
Espírito Santo