Padova, Tuesday, October 25, 2016

Curriculum Vitae – Stefano Toppo

PERSONAL INFORMATION

Name: Stefano
Surname: Toppo
Date of birth: April 1, 1969
Place of birth: Venezia-Mestre (Italy)
Nationality: Italian
Address: Via M. Serao, 19 – I-35124 Padova, Italy
E-mail: stefano.toppo@unipd.it

Current position: Assistant Professor of Biochemistry (BIO/10), School of Medicine, University of Padova Department of Molecular Medicine

EDUCATION

2001 PHD in Biotechnology
     Thesis title: "A knowledgebase of human skeletal muscle transcripts"
     Tutor: Prof. Giorgio Valle
     University of Padova
     Padova (Italy)

1995 "Intensive Course of Human Genetics and its Animal Models"
     Ecole Normale Superiéure
     Paris (France)

1994 Graduation in Biological Science
     Graduation grade: 110/110 magna cum laude
     Thesis title: "Construction and sequencing of a cDNA library of human skeletal muscle".
     Tutor: Prof. Gerolamo Lanfranchi
     University of Padova
     Padova (Italy)

1988 Scientific High School Degree
     Liceo Scientifico Statale Leonardo Da Vinci
     Level in national classification: 58/60
     Treviso (Italy)

PROFESSIONAL BACKGROUND

2015 – present - Associate Professor of Biochemistry (BIO/10)
    School of Medicine
    University of Padova
    Padova (Italy)

2002 – 2014 - Assistant Professor of Biochemistry (BIO/10)
    School of Medicine
    University of Padova
    Padova (Italy)

2001-2002 - Postdoc University of Padova
    Tutor: Prof. Giorgio Valle
    Role: bioinformatics data analysis and algorithms development.
    CRIBI Biotech Center
    Padova (Italy)

1995-1997 Telethon fellowship project B.30/B.39
    Tutors: Prof. Giorgio Valle and Prof. Gerolamo Lanfranchi
    Role: manager of a EST sequencing project of human skeletal muscle.
    CRIBI biotech center
    Padova (Italy)

SCIENTIFIC EXPERIENCE

Research fields: bioinformatics, function prediction of proteins, study of protein families, protein structure prediction and analysis, study at quantum level of theory of catalytic sites, phylogeny, mass spectrometry data analysis in proteomics both identification and label free quantitation, genome sequencing data analysis, genome assembly, transcriptomics analysis and RNA-seq mapping and quantitation. Studies of viral and bacterial genomes, gene prediction, analysis of genome sequences searching for promoters, SNP and UTR regulatory regions. DNA data microarray analysis and design. Study of glutathione peroxidases at structural, computational, and phylogenetic level.

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SKILLS

Informatics: different programming languages (Perl, PHP, rudiments of C and Java, SQL, scripting language), algorithms optimization, TCP/IP networking, Linux/UNIX system administration of HPC clusters. Developer of working pipelines and algorithms for data analysis and management
Biochemistry and molecular biology: different lab techniques, project design of hypothesis driven experiments.

OTHER

1. Developer of web server for automatic protein structure prediction (FOX Fold eXtractor) and structural pattern recognition ranked in the TOP 20% of CASP6 experiment (Critical Assessment of Techniques for Protein Structure Prediction 2004).
2. Developer of a web server for automatic protein function prediction Argot2 (Annotation Retrieval of Gene Ontology Terms) ranked 2nd out of 56 international predictors at the CAFA experiment (Critical Assessment of Function Annotations 2012). Awarded as the best freely available tool.
3. Developer of e-commerce web sites and bank transaction platforms (2001-2002).

EDITORIAL BOARD

Current Bioinformatics (2006-present)

PEER REVIEWING ACTIVITY
(only principal activities reported)

1. Bioinformatics
2. Nucleic Acids Research
3. BMC bioinformatics
4. Antioxidant & Redox Signaling
5. Free Radical Biology and Medicine
6. Proteins
7. Proteomics
8. Current Bioinformatics
9. PlosONE
10. Plos Computational Biology
11. Bio- and Medical Informatics and Cybernetics (BMIC conference) reviewer
12. Qatar National Research Fund (QNRF) reviewer.

DMM DEPARTMENT OF
MOLECULAR MEDICINE

UNIVERSITÀ
DEGLI STUDI
DI PADOVA

Via A. Gabelli 63 – I-35121 Padova, Italy

STEERING COMMITEEE

1. Executive Member of the International Grapevine Genome Project at Istituto Agrario San Michele all'Adige (2005-2007)
2. DATA-ENABLED LIFE SCIENCES ALLIANCE (DELSA http://delsaglobal.org) steering committee member (2013-present)

MEMBER OF SCIENTIFIC SOCIETY

1. BITS (Bioinformatics Italian Society) (2004-present)
2. ISCB (International Society for Computational Biology) (2012-present)

LECTURES AND SEMINARS

Invited speaker at over 30 meetings and international/national conferences/courses. Most recent talks are reported (2012-2016):

1. **From genome assembly of bacteria to protein function prediction: pitfalls and challenges**
   BIOforIU Project international meeting on 'The plural pathways of evolution"
   Date: 07/04/2014
   Place: Bari (Italy)
2. **Analisi bioinformatica dei dati di spettrometria di massa in proteomica**
   Corso di Perfezionamento Nuove Tecnologie in Medicina Molecolare
   Date: 07/11/2014
   Place: Padova (Italy)
3. **Problematiche bioinformatiche nell'analisi dei dati omici**
   Corso di Perfezionamento Nuove Tecnologie in Medicina Molecolare
   Date: 02/04/2014
   Place: Padova
4. **keeSeek: a tool for distant DNA k-mer generation**
   AACSE Summer School HIGH PERFORMANCE SCIENTIFIC COMPUTING
   Date: 19/09/2013
   Place: Padova (Italy)
5. **Function Prediction at Genomic Scale**
   Invited as lecturer by Prof. Ing. Matej Lexa - Faculty of Informatics Masaryk University
   Date: 10/04/2013
   Place: Brno (Czech Republic)
6. **NGS data analysis: The sequence is dead: long live the sequencing !**
   SIV – International Meeting of "Società Italiana di Virologia"

Date: 17-19/09/2012
Place: Orvieto (Italy)

7. **Can we go beyond sequence similarity?**
CAFA 2012 (Critical Assessment of Function Annotations) 2012 – Automated Function Prediction Special Interest Group (AFP-SIG) of ISMB conference
Date: 15-17/07/2012
Place: Long Beach LA (USA)

8. **Protein function prediction at genomic scale: the Argot project**
HP event – Computing for Bioinformatics
Date: 12/01/2012
Place: Padova (Italy)

SCIENTIFIC AWARDS

1. Awarded as the best protein function prediction server (Argot2) available for the scientific community. CAFA 2012 (Critical Assessment of Function Annotations) 2012 – Automated Function Prediction Special Interest Group (AFP-SIG) of ISMB conference Long Beach LA July, 15-17, 2012 selected talk.

TEACHING ACTIVITIES

1. 2011-2016 Padova (Italy) holder of "Proteomics and Bioinformatics" course in the second-level degree in Medical Biotechnology (School of Medicine - University of Padova). (held in English)
2. 2011-2014 Padova (Italy) holder of "Struttura e Funzione delle Proteine" course in the "Pietro D'Abano" degree in Medicine (Faculty of Medicine - University of Padova). (held in English)
3. 2011-2014 Padova (Italy) holder of "Boinformatica" course in the "Curriculum Biomedico" and "Pietro D'Abano" degree in Medicine (School of Medicine - University of Padova). (held in English)
4. 2010-2016 Padova (Italy) holder of "Boinformatica" course in the "Curriculum Biomedico" degree in Medicine (School of Medicine - University of Padova).
5. 2009-2010 Padova (Italy) holder of "Proteomica e bioinformatica" course in the second-level degree in Medicine Biotechnology (School of Medicine - University of Padova).
6. September 12-16, 2011 Padova (Italy) AACSE summer school of Algorithms and Architectures for Computational Science And Engineering
7. 2003 – 2008 Padova (Italy) holder of "Laboratorio biochimica strutturale e proteomica" course in the second-level degree in Medicine Biotechnology (School of Medicine - University of Padova).
8. November 28-30, 2005 Salsomaggiore Terme (Parma) (Italy) 2nd part: Tutorial on "Bioinformatic management of EST projects" for PhD students in an "Advanced course of

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bioinformatic applied to genetic improvement of plants" organized by "Società Italiana di Genetica Agraria" (SIGA)

9. May 2-4, 2005 Salsomaggiore Terme (Parma) (Italy) 1st part: Tutorial on "Bioinformatic management of EST projects" for PhD students in an "Advanced course of bioinformatic applied to genetic improvement of plants" organized by "Società Italiana di Genetica Agraria" (SIGA)

10. 2003 – 2004 Padova (Italy) Holder of "Bioinformatica I" course in the first-level degree in (Faculty of Science MM.FF.NN. - University of Padova)

11. 2001 – 2002 Holder of "Bioinformatica I" course in the first-level degree in Molecular Biology (Faculty of Science MM.FF.NN. - University of Padova)

12. 2001 – 2002 Padova (Italy) Integrative teaching activity for "Laboratory of Bioinformatics" in the first-level degree in Molecular Biology and Biological Science (Faculty of Science MM.FF.NN. - University of Padova)

13. May 6-8, 2002 Roma (Italy) Lesson on "Analysis and annotation of DNA sequences" for The "Microarray Course" at "Istituto Superiore della Sanità"

14. 1996 Padova (Italy) two days course on "Internet and Medicine" for physicians at CNR Padova

15. 1996 Padova (Italy) one week couse on "Large Scale DNA Sequencing"

16. practical activity" for ERASMUS students at CRIBI biotechnology center

PRESENT TUTORING

2013 - present: Tutor of Dr. Enrico Lavezzo
senior post-doc position at the University of Padova
Project Title: "*Using functional space to predict function: exploring new approaches to annotate genes and proteins*"

2013 - present: Tutor of Dr. Marco Falda
senior post-doc position at the University of Padova
Project Title: "*Exploring the conservation of protein functions beyond their sequence similarity to improve algorithms of protein function prediction*"

2014 - present: Tutor of Michele Berselli
PhD position at the University of Padova - School: MEDICINA MOLECOLARE

MEMBER OF THE COMMITTEE OF PhD SCHOOLS

1. School: BIOMEDICINA – Coordinator Prof. Giorgio Palù
Cycle XXIV (2007)
University of Padova
Padova (Italy)

2. School: BIOMEDICINA – Coordinator Prof. Giorgio Palù

Cycle XXV (2008)
University of Padova
Padova (Italy)

3. School: BIOMEDICINA – Coordinator Prof. Giorgio Palù
    Cycle XXV (2009)
    University of Padova
    Padova (Italy)

4. School: BIOMEDICINA – Coordinator Prof. Giorgio Palù
    Cycle XXVI (2010)
    University of Padova
    Padova (Italy)

5. School: BIOMEDICINA – Coordinator Prof. Giorgio Palù
    Cycle XXVII (2011)
    University of Padova
    Padova (Italy)

6. School: BIOMEDICINA – Coordinator Prof. Giorgio Palù
    Cycle XXVIII (2012)
    University of Padova
    Padova (Italy)

7. School: BIOMEDICINA – Coordinator Prof. Giorgio Palù
    Cycle XXIX (2013)
    University of Padova
    Padova (Italy)

8. School: MEDICINA MOLECOLARE - DOT1319403 – Coordinator Prof. Stefano Piccolo
    Cycle XXX (2014)
    University of Padova
    Padova (Italy)

9. School: MEDICINA MOLECOLARE - DOT1319403 – Coordinator Prof. Stefano Piccolo
    Cycle XXXI (2015)
    University of Padova
    Padova (Italy)

10. School: MEDICINA MOLECOLARE - DOT1319403 – Coordinator Prof. Stefano Piccolo
    Cycle XXXII (2016)
    University of Padova
    Padova (Italy)

BIBLIOMETRICS AND PUBLICATONS

1. Update October 2016
    a. Web Of Science:
        i. h-index: 23
        ii. Total citations: 2824
    b. Scopus
        i. h-index: 23
        ii. Total citations: 3136
    c. Google Scholar
        i. h-index: 29
        ii. Total citations: 4482
2. Total peer reviewed papers: 75
3. Letter: 1
4. Book chapters: 2
5. Published interviews: 2
6. Abstracts: over 150 in international conferences

GRANTS AS PRINCIPAL INVESTIGATOR/RESPONSIBLE OF RESEARCH UNIT (PI) OR COLLABORATOR:

AS PRINCIPAL INVESTIGATOR

1. GRANTS ex60% (last four years top ranked based on scientific production):
    a. title: "Studio di motivi redox proteici, possibili substrati della PHGPx"
       year: 2003
       code: 60A06-0855/03
       Amount: € 3.510
    b. title: " Studio di motivi redox proteici, possibili substrati della PHGPx"
       year: 2005
       code: 60A06-4055/05
       Amount: € 2.151
    c. title: "Studio di motivi redox proteici, possibili substrati della PHGPx"
       year: 2006
       code: 60A06-5348/06
       Amount: € 2.646
    d. title: " Studio di proteine differenzialmente espresse in cellule LNCaP con analisi PF2D e spettrometria di massa"
       year: 2007

      code: 60A06-4595/07
      Amount: € 1.932

e. title: " Studio di proteine differenzialmente espresse in cellule LNCaP con analisi PF2D e spettrometria di massa"
    year: 2008
    code: 60A06-3281/08
    Amount: € 4.200

f. title: "Studio dei siti catalitici e dei substrati delle strutture X-Ray di glutation perossidasi"
    year: 2009
    code: 60A06-5459/09
    Amount: € 4.732

g. title: "Studio dei siti catalitici e dei substrati delle strutture X-Ray di glutation perossidasi"
    year: 2010
    code: 60A06-3841/10
    Amount: € 3.528

h. title: "predizione di funzione a livello proteomico"
    year: 2011
    code: 60A06-3433/11
    Amount: € 5.122

i. title: "Analisi di dati di lipidomica"
    year: 2012
    code: 60A06-5501/12
    Amount: € 5.005

j. title: "Protein function prediction exploiting the functional space"
    year: 2013
    code: 60A06-4487/13
    Amount: € 3.254

k. title: "Protein function prediction of metagenomic data"
    year: 2014
    code: 60A06-4030/14
    Amount: € 3.697

2. Ricerca Finalizzata Sanitaria - Coordinator of a Research Unit (UO):
    year: 2008
    title: "Il glioblastoma multiforme: ricerca traslazionale dalla clinica al laboratorio e viceversa. Creazione di una rete neurooncologica di Area Vasta per l'omogeneizzazione dei percorsi di diagnosi e cura e per l'attuazione di un protocollo di ricerca di laboratorio finalizzato allo studio della genomica, proteomica e metabolomica del glioblastoma"

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Amount for the Research Unit: € 30000 (PI: Prof. Domenico D'Avella € 140.000 for the project)

3. Progetto d'Ateneo (PRAT):
   title: "Exploring the conservation of protein functions beyond their sequence similarity to improve algorithms of protein function prediction"
   year: 2013
   code: CPDA138081/13
   Amount: € 52.913

4. Tutor of a Research Grant for Senior Post-Doc position to Dr. Enrico Lavezzo:
   title: "Using functional space to predict function: exploring new approaches to annotate genes and proteins "
   year: 2014
   Amount: € 24.000

AS COLLABORATOR

1. PRIN2004
   PI: Prof. Fulvio Ursini
   year: 2004
   title: "La catalisi da selenio nella PHGPx produce una transizione redox di tioli proteici cruciale per la spermatogenesi e la fertilizzazione."
   Amount: € 105.000

2. Progetto Strategico di Ateneo - Università di Padova
   PI: Prof. Stefano Piccolo
   year: 2008
   title: "Cancer cell invasion and metastasis: new mechanisms and therapeutic perspectives"
   Amount: € 985.514,29

3. HFSP – (Human Frontier) collaborator in the Research Unit headed by Prof. Ursini
   PI: Markus Conrad of the Helmholtz Center Munich and co-investigators Valerian Kagan, University of Pittsburgh, USA, Judith Klein-Seetharaman, University of Warwick, UK and Fulvio Ursini, University of Padova, Italy
   year: 2014
   title: "Oxidized lipidome: the unspoken language of non-apoptotic cell death"