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Decreto Rettore Università di Roma “La Sapienza” n. 195/2018 del 19/01/2018

FERDINANDO BOSI

Curriculum Vitae

ai fini della pubblicazione

Place Rome
Date 14/02/2018

Part I – General Information

Full Name	Ferdinando Bosi
Citizenship	Italian
Spoken Languages	Italian, English, Spanish

Part II – Education

Type	Year	Institution	Notes (Degree, Experience,…)
University graduation	1996	Sapienza University of Rome	Geological Sciences
PhD	2001	Sapienza University of Rome	Earth Sciences: Mineralogy
Licensure 01	1997	D’Annunzio Chieti University	Professional Geologist

Part III – Appointments

IIIA – Academic Appointments

Start	End	Institution	Position
2001	2003	Sapienza University of Rome	Postdoctoral Researcher
2003	2005	Sapienza University of Rome	Postdoctoral Researcher
2006	2008	Swedish Museum of Natural History	Postdoctoral Researcher
2008	-	Sapienza University of Rome	Researcher and “aggregato” Professor
2010	2010	University of Copenhagen	Qualification as Associate Professor
2011	2011	University of Oslo	Qualification as Associate Professor
2014	2020	MIUR	National Scientific Qualification to Associate Professor 04/A1
2014	2014	Swedish Museum of Natural History	Guest Researcher (10 months)
2014	2014	University of Oslo	Qualification as Full Professor
2017	2023	MIUR	National Scientific Qualification to Full Professor 04/A1

IIIB – Other Appointments

Start	End	Institution	Position

2004	-	ISI scientific journals (Contrib Mineral Petrol, Am Mineral, Acta Cryst B, Eur J Mineral, Phys Chem Minerals, Z Kristallogr, Mineral Mag, Period Mineral, Can Mineral, Ceram Int).	Peer Reviewer (44 papers)
2008	-	CNR – National Council of Research	Associate Researcher to IGG-IGAG
2008	2016	Sapienza University of Rome	Member of the Mineralogy Museum executive board
2008	2008	University of Bari	Expert evaluator on the PhD project of Dr. I. Pignatelli
2009	-	International Institutions Czech Science Foundation, National Science Centre of Poland, University of Trieste, Austrian Science Fund	Expert evaluator for 7 scientific projects (> 1 M€ in total)
2010	-	Sapienza University of Rome	Leader of the single-crystal X-ray diffraction laboratory
2013	2013	National Group of Mineralogy: GNM Meeting, Padua	Invited key note speaker
2013	2013	University of Uppsala	Invited key note speaker
2013	2016	Mineralogical Society of America	Associate Editor of the ISI scientific journal American Mineralogist
2015	2015	8th European Conference on Mineralogy and Spectroscopy (ECMS 2015)	Co-chairman
2015	2015	Periodico di Mineralogia	Guest Editor for the Proceedings of the 8th ECMS 2015
2015	2016	European Journal of Mineralogy	Guest Editor of a special issue
2016	2016	Italian Society of Mineralogy and Petrology (SIMP)	Member of the Prize committee
2016	-	Sapienza University of Rome	Member of the Earth Sciences Museum (MUST) executive board
2017	-	Sapienza University of Rome	Member of the Ph.D. in Earth Sciences executive board
2017	2017	University of Parma	External evaluator on the PhD thesis of Dr. C. Gori
2017	2017	Tourmaline 2017 Conference	Scientific board member
2017	2017	Tourmaline 2017 Conference	Invited key note speaker
2017	2017	McGill University	External evaluator on the tenure candidacy of Prof. V. van Hinsberg
2018	-	Mineralogical Society of Great Britain & Ireland	Associate Editor of the ISI scientific journal Mineralogical Magazine

Part IV – Teaching experience

Year	Institution	Lecture/Course
2008-2011	Sapienza University of Rome	Elements of Mineralogy (3 CFU), BS in Chemistry

2011-present	Sapienza University of Rome	Systematic Mineralogy (6 CFU), BS in Geological Sciences
2011-present	Sapienza University of Rome	Characterization of minerals (6 CFU), MS in Exploration Geology
2010-present	Sapienza University of Rome	Supervisor of 3 BS thesis (G. Sara, I. Evangelista, D. Ferrari) and 4 MS thesis (L. Colantuono, C. Gori, N. Satta, C. Egidi)

Part V - Society memberberships, Awards and Honors

Year	Title
2007	Award for the best poster presented at the First EuroMinScI Conference, France.
2008-present	Italian Society of Mineralogy and Petrology (SIMP), membership
2013-2015	Mineralogical Society of America (MSA), membership
2017-present	Italian Crystallographic Association (AIC), membership
2015	Dedication of the new mineral bosiite (Ertl et al. 2016, Eur. J. Mineral., 28, 581–591)

Part VI - Funding Information [grants as PI-principal investigator or I-investigator]

Year	Title	Program	Grant value
2008	Phase transitions, short- and long-range cation ordering in Mn-multiple oxide	Sapienza University of Rome, AST grants	10000 € (PI)
2009	From minerals to materials: relations among structure, physical properties and applications in natural and synthetic multiple oxides	Sapienza University of Rome, research grants	22000 € (I)
2010	Interazione fra ordinamento cationico a corto e a lungo raggio in spinelli a Cr, Fe e Co	PRIN 2008, Rome Research Unit	20000 € (I)
2010	Sintesi e caratterizzazione di ossidi semiconduttori nanostrutturati per celle fotovoltaiche DSSC,	Sapienza University of Rome, research grants	35000 € (I)
2011	From minerals to materials: study of spinels belonging to system $(Mg,Fe,Co)(Fe,Al,Cr)_2O_4$ for applications in geological, gemological and technological field	Sapienza University of Rome, research grants	31818 € (I)
2012	Crystal-chemical study of spinels belonging to series $(Mg,Fe)_2TiO_4$, $(Mg,Cu)Al_2O_4$ and $(Mg,Fe)(Al,Cr)_2O_4$ for geological and technological applications	Sapienza University of Rome, research grants	7000 € (PI)
2013	Form the material of the Earth	PRIN 2010-2011, Rome	20000 € (I)

	system to the technological applications: crystal chemical and structural studies	Research Unit	
2014	Crystal chemistry of multiple oxides belonging to the system $Mg(Al,V,Cr,Fe)_2O_4$ of spinel group	Sapienza University of Rome, research grants	8800 € (PI)
2015	Crystal chemistry of Fe in the tourmaline structure	Sapienza University of Rome, research grants	5000 € (PI)
2016	Crystal chemistry of V, Cr, Al, Fe and Mn in tourmaline: mineralogical and petrological implications	Sapienza University of Rome, research grants	3000 € (PI)
2017	Studio in condizioni non ambientali di fasi borosilicatiche con implicazioni oxy-termobarometriche	Sapienza University of Rome, research grants	9000 € (I)
2017	Fondo per il finanziamento delle attività base di ricerca	MIUR/ANVUR	3000 € (I)

Part VII – Research Activities

Keywords
Tourmaline
Spinel
Mineral systematics
Crystal Chemistry
Crystallography
X-ray diffraction

Brief Description

My research concerns the crystal chemistry of minerals from an experimental and theoretical viewpoint. It is addressed to develop a more fundamental approach to Mineralogy, making great efforts to combine crystallographic and spectroscopic information. Several experimental techniques are used for this purpose such as single-crystal X-ray diffraction, infrared, optical absorption and Mössbauer spectroscopy.

My studies are mainly focused on structural and crystal-chemical aspects of tourmalines and spinels as well as on other rare and complex minerals as they may reflect unusual physical-chemical conditions of formation. In general, I think that the more complicated a mineral or structure is, the more information it contains about the way they were formed. The theoretical basic aspects of crystal structure and chemical bond in minerals are also part of my studies and are generally investigated by the Bond Valence Model.

Recently, my research activity has been addressed to mineral nomenclature and classification. In this regard, I am involved in the next IMA-CNMNC subcommittee to revise the nomenclature of tourmaline supergroup. Moreover, as the spinel nomenclature is missing, I have submitted a proposal to the IMA-CNMNC for approving. I am also discussing with the IMA-CNMNC officers about a way to improve the current guidelines for an unambiguous nomenclature and classification of minerals.

Part VIII – Summary of Scientific Achievements

Product type	Number	Data Base	Start	End
Papers [international]	76	Scopus	2001	2018
Papers [national]				
Books [scientific]				

Books [teaching]				

Total Impact factor	145
Total Citations	1120 (Scopus)
Average Citations per Product	15
Hirsch (H) index	21 (Scopus)
Normalized H index*	1.2

*****H index divided by the academic seniority.

Part IX– Selected Publications

List of the publications selected for the evaluation. For each publication report title, authors, reference data, journal IF (if applicable), citations, press/media release (if any).

1) **Bosi F**, Hålenius U, D'Ippolito V, Andreozzi GB (2012) Blue spinel crystals in the $MgAl_2O_4$-$CoAl_2O_4$ series: II. Cation ordering over short-range and long-range scales. *American Mineralogist*, 97, 1834–1840. IF = 2.204, cited by 20.
2) Filip J, **Bosi F**, Novák M, Skogby H, Tuček J, Čuda J, Wildner M (2012) Redox processes of iron in the tourmaline structure: example of the high-temperature treatment of Fe^{3+}-rich schorl. *Geochimica et Cosmochimica Acta*, 86, 239–256. IF = 3.884, cited by 31.
3) **Bosi F**, Skogby H (2013) Oxy-dravite, $Na(Al_2Mg)(Al_5Mg)(Si_6O_{18})(BO_3)_3(OH)_3O$, a new mineral species of the tourmaline supergroup. *American Mineralogist*, 98, 1442–1448. IF = 2.059, cited by 21.
4) **Bosi F** (2013) Bond-valence constraints around the O1 site of tourmaline. *Mineralogical Magazine*, 77, 343–351. IF = 1.898, cited by 17.
5) **Bosi F**, Skogby H, Hålenius U, Reznitskii L (2013) Crystallographic and spectroscopic characterization of Fe-bearing chromo-alumino-povondraite and its relations with oxy-chromium-dravite and oxy-dravite. *American Mineralogist*, 98, 1557–1564. IF = 2.059, cited by 11.
6) **Bosi F**, Skogby H, Reznitskii L, Hålenius U (2014) Vanadio-oxy-dravite, $NaV_3(Al_4Mg_2)(Si_6O_{18})(BO_3)_3(OH)_3O$, a new mineral species of the tourmaline supergroup. *American Mineralogist*, 99, 218–224. IF = 1.964, cited by 8.
7) Perinelli C, **Bosi F**, Andreozzi GB, Conte AM, Armienti P (2014) Geothermometric study of Cr-spinels of peridotite mantle xenoliths from northern Victoria Land (Antarctica). *American Mineralogist*, 99, 839–846. IF = 1.964, cited by 15.
8) Gatta GD, **Bosi F**, McIntyre GJ, Skogby H (2014) First accurate location of two proton sites in tourmaline: A single-crystal neutron diffraction study of oxy-dravite. *Mineralogical Magazine*, 78, 681–692. IF = 2.026, cited by 11.
9) **Bosi F** (2014) Mean bond length variation in crystal structures: a bond valence approach. *Acta Crystallographica*, B70, 697–704. IF = 2.184, cited by 4.
10) **Bosi F** (2014) Bond valence at mixed occupancy sites. I. Regular polyhedra. *Acta Crystallographica*, B70, 864–870. IF = 2.184, cited by 6.
11) **Bosi F**, Andreozzi GB, Agrosì G, Scandale E (2015) Fluor-tsilaisite, $NaMn_3Al_6(Si_6O_{18})(BO_3)_3(OH)_3F$, a new tourmaline from San Piero in Campo (Elba, Italy) and new data on tsilaisitic tourmaline from the holotype specimen locality. *Mineralogical Magazine*, 79, 89–101. IF = 2.212, cited by 6.
12) **Bosi F**, Skogby H, Lazor P, Reznitskii L (2015) Atomic arrangements around the O3 site in Al- and Cr-rich oxy-tourmalines: a combined EMP, SREF, FTIR and Raman study. *Physics and Chemistry of Minerals*, 42, 441–453. IF = 1.585, cited by 9.
13) **Bosi F**, Andreozzi GB, Hålenius U, Skogby H (2015) Experimental evidence for partial Fe^{2+} disorder at the *Y* and *Z* sites of tourmaline: a combined EMP, SREF, MS, IR and OAS study of schorl. *Mineralogical Magazine*, 79, 515–528. IF = 2.212, cited by 12.

14) Bruschini E, Speziale S, Andreozzi GB, **Bosi F**, Hålenius U (2015) The elasticity of $MgAl_2O_4$-$MnAl_2O_4$ spinels by Brillouin scattering and an empirical approach for bulk modulus prediction. American Mineralogist, 100, 644–651. IF = 1.918, cited by 5.

15) **Bosi F**, Skogby H, Fregola RA, Hålenius U (2016) Crystal chemistry of spinels in the system $MgAl_2O_4$-MgV_2O_4-Mg_2VO_4. *American Mineralogist*, 580–586. IF = 2.021, cited by 2.

16) **Bosi F**, Skogby H, Hålenius U (2016) Thermally induced cation redistribution in Fe-bearing oxy-dravite and potential geothermometric implications. *Contributions to Mineralogy and Petrology*, 171, 47. IF = 2.913, cited by 5.

17) **Bosi F**, Skogby H, Balić-Žunić T (2016) Thermal stability of extended clusters in dravite: a combined EMP, SREF and FTIR study. *Physics and Chemistry of Minerals*, 43, 395–407. IF = 1.521, cited by 4.

18) **Bosi F**, Skogby H, Ciriotti ME, Gadas P, Novák M, Cempírek J, Všianský D, Filip J (2017) Lucchesiite, $CaFe^{2+}_3Al_6(Si_6O_{18})(BO_3)_3(OH)_3O$, a new mineral species of the tourmaline supergroup. *Mineralogical Magazine*, 81, 1–14. IF = 1.285 (year 2016), cited by 2.

19) **Bosi F**, Andreozzi GB (2017) Chromium influence on Mg-Al intracrystalline exchange in spinels and geothermometric implications. *American Mineralogist*, 102, 333–340. IF = 2.021 (year 2016), cited by 0.

20) Biagioni C, **Bosi F**, Hålenius U, Pasero M (2017) The crystal structure of turneaureite, $Ca_5(AsO_4)_3Cl$, the arsenate analogue of chlorapatite, and its relationships with the arsenate apatites johnbaumite and svabite. *American Mineralogist*, 102, 1981–1986. IF = 2.021 (year 2016), cited by 0.

Roma, 14 febbraio 2018

Ferdinando Bosi