

Curriculum Vitae



NIKOLAY BONEV

Associate Professor
Department of Geology, Paleontology and Fossil Fuels
Sofia University "St. Kliment Ohridski"
15 Tzar Osvoboditel Bd. 1504 Sofia, Bulgaria
Phone: office (+359 2) 9308 431
Fax: (+3592) 944 64 87
e-mail: niki@gea.uni-sofia.bg

Education:

2002: Ph.D. in Tectonics. Department of Geology, Paleontology and Fossil Fuels, Sofia University "St. Kliment Ohridski", Bulgaria, thesis title: *Structure and evolution of the Kesebir gneiss dome, Eastern Rhodope*

1986-1991: B.Sc. and M.Sc. in Geology and Geochemistry (with honours), specialisation in igneous petrology, Department of Mineralogy, Petrology and Economic Geology, Sofia University "St. Kliment Ohridski", Bulgaria.

Professional experience:

2005-present: Associate Professor, Department of Geology, Paleontology and Fossil Fuels, Sofia University "St. Kliment Ohridski", Bulgaria

1995-2005: Assistant Professor, Department of Geology, Paleontology and Fossil Fuels, Sofia University "St. Kliment Ohridski", Bulgaria

06/1994-08/1994: Field geologist, Geology and Geophysics Corporation, Sofia, Bulgaria

Membership in Professional Societies

Bulgarian Geological Society, American Geophysical Union (1999-2000) and 2008-present

Research fields and interests

- Structural geology and tectonics of high- and low-grade metamorphic terrains: thrust and nappe tectonics and extensional tectonics in orogenic belts

- Petrology, geochemistry and mineralogy of igneous and metamorphic rocks: modelling fractionation-partial melting processes, Sr-Nd-Pb isotopic geochemistry
- Regional geology and geodynamics of the northern Aegean region (Bulgaria-Greece-NW Turkey)
- Economic geology: structural control on low-sulfidation hydrothermal precious and base metals deposits hosted by metamorphic and sedimentary rocks
- $^{40}\text{Ar}/^{39}\text{Ar}$ and U-Pb geochronology

Courses taught:

Lectures:

- General/Introductory Geology - bachelor degree students in Geology and Geophysics
- Paleogeography and Geodynamic reconstructions - master degree students in Geology

Laboratory components and field camps: bachelor degree students in Geology

- Structural Geology
- Field Geology and Geological Mapping
- General Geology
- Geology of Bulgaria

Supervisor and co-supervision of Ph.D. and M.Sc. theses and B.Sc. student papers

Co-supervisor of Istvan Márton (Department of Mineralogy, University of Geneva, Switzerland) Ph.D. thesis defended 2008, Supervisor of 3 M.Sc. students and 3 B.Sc. degree student papers

Student award for scientific achievements in research

B.Sc. student D. Nizamova, Awarded by Sofia University “St. Kliment Ohridski” December 2009 for student involvement in research

Professional activities:

Journals Advisory Board position

- Member of Advisory Editorial Board of **Open Geology Journal** (online journal)
- Editorial Board Member of **Geologica Balcanica**, Bulgaria

Reviewer for Journals (2005-present)

Annuaire de l'Université de Sofia, (twice), Comptes Rendus de l'Académie bulgare des Sciences, (twice), Turkish Journal of Earth Sciences, Geological Magazine (twice), Lithos, Open Geology Journal (fourfold), Neues Jahrbuch für Geologie und Paläontologie, Gondwana Research (twice), Sedimentary Geology, Geologica Balcanica, (triple), Geological Journal

Convener & Organizer of Special Session in International Conferences

- Convener of Session TS6.3: *Lithospheric processes in continental extension at convergent margin settings*, European Geosciences Union, Vienna, Austria, 19-24 April 2009
- Convener of Special Session S05: *Advances in geology and geodynamic evolution of the Rhodope massif*, 19 Carpatho-Balkan Geological Association (CBGA), Thessaloniki, Greece, 23-26 September 2010
- Co-convener of Technical Session: *Aegean geodynamics and extensional tectonics*, Tectonic Crossroads: Evolving Orogens of Eurasia-Africa-Arabia, Geological Society of America meeting, Ankara, Turkey, 4-8 October 2010

Organizer of field excursions

- Co-organizer of joint international field trip (Sofia University-University of Bonn-Aristotle University of Thessaloniki) in Bulgaria-Greece, April 2004 (including field guide preparation)

Other activities

- Reviewer for proposals submitted to American-Bulgarian Fulbright Commission in the field of Earth and Environmental Sciences, June 2010
- Reviewer in concurs for academic title Associate-Professor, Commission of the Specialists in Earth Science Section, April 2007
- Participation in Council of experts on the geological maps in scale 1:50 000 of the eastern Rhodope, Bulgaria, June 2007

Fellowships:

09/2010: EU ERASMUS Program short-term lecturer in the Department of Mineralogy and Petrology, Aristotle University of Thessaloniki, Greece.

08/2008-01/2009: Fulbright Senior Research Scholar in Miami University, Oxford, Ohio, USA. Granted by US Department of State.

06/2008: Visiting Fellow on Educational Program of the Francophone Universities Agency (Paris), Institute of Geology and Paleontology, University of Lausanne, Switzerland.

09/2007: Visiting scientist in the Department of Mineralogy and Petrology, National and Kapodistrian University of Athens, Greece. Granted by the University of Athens, Greece.

02-03/2007: Visiting research scientist in the Department of Mineralogy, University of Geneva, Switzerland. Granted by the University of Geneva, Switzerland.

11/2004 – 08/2005: Post-doctoral Research Fellow of the Francophone Universities Agency (Paris), Institute of Geology and Paleontology, University of Lausanne, Switzerland.

09/2002 – 06/2003: Post-doctoral Research Fellow of the Francophone Universities Agency (Paris), Institute of Geology and Paleontology, University of Lausanne, Switzerland.

03/1993 – 08/1993: Post-graduate Research Fellow of the French Ministry of Exterior, University of Montpellier II, France.

Research projects

Principal investigator

2006 – 2009: Bulgarian National Science Foundation grant. Project no. NZ-VU-02/06. *Structural frame and geochronology of Late Alpine tectonic, magmatic and ore-forming processes in the eastern Rhodopean domes.* Project leader Dr. N. Bonev, Sofia University.

1998 – 2010: Four internal grants by Sofia University Scientific Research Fund. Leader: Dr. N. Bonev

Participant and Collaborator

2005 – 2008: Swiss National Science Foundation, Scientific Co-operation between Eastern Europe and Switzerland (SCOPEs). Project no. IB7320111046. *Tectonic and magmatic controls on Cretaceous and Tertiary gold and copper deposits in the Rhodope Massif, the Srednogorie belt and the Caucasus, Bulgaria and Georgia.* Project leader: Dr. R. Moritz, University of Geneva, Switzerland.

2004 – 2005: *Exhumation of Tertiary metamorphic complexes in the Biga Peninsula, NW Turkey – correlation with the Rhodope area (Greece/Bulgaria).* Funded by 450 Anniversary University of Lausanne Fund and Academic Society of canton Vaud, Switzerland. Project leader: Dr. L. Beccaletto, University of Lausanne, Switzerland.

2000 – 2003: Swiss National Science Foundation, Scientific Co-operation between Eastern Europe and Switzerland (SCOPEs). Project no. 7BUPJ062276. *Magmatic and geodynamic controls on the Upper Cretaceous and Paleogene ore deposits in the Srednogie belt and Rhodope Massif, Bulgaria* Project leader: Dr. R. Moritz, University of Geneva, Switzerland.

1993 – 1994: *Structure and geodynamic evolution of the Rhodope massif*. Funded by Bulgarian National Science Foundation. Project leader: Associated Professor Dr. Z. Ivanov.

Research collaboration within past five years:

R. Moritz (University of Geneva, Switzerland), R. Spikings (University of Geneva, Switzerland), M. Ovtcharova (University of Geneva, Switzerland), (L. Beccalotto (University of Lausanne, Switzerland; BRGM, Orléans, France), P. Marchev (Geological Institute of Bulgarian Academy of Sciences, Bulgaria), Y. Dilek (Miami University, Ohio, USA), G. Stampfli (University of Lausanne, Switzerland), A. Magganas (University of Athens, Greece)

Educational collaboration within past five years:

Prof. G. Christofides (Aristotle University of Thessaloniki, Greece)

- EU Erasmus Program lectureship (September 2010)

Prof. Nikolaus Froitzheim (University of Bonn, Germany)

- Field camps with students in geology from the University of Bonn in the Rhodope Massif of Bulgaria (September 2006 and April 2008)

Prof. Gérard Stampfli (Université de Lausanne, Suisse)

- Geodynamic Reconstructions using GIS, University of Lausanne, Switzerland (June 2008)

Publications: (last five years)

Submitted manuscripts:

Bonev, N., Spikings, R., Moritz, R., Marchev, P.. $^{40}\text{Ar}/^{39}\text{Ar}$ age constraints on timing of the Cenozoic crustal extension, and its temporal relation to ore-forming and magmatic processes in the Eastern Rhodope Massif, Bulgaria. *Tectonics*.

Bonev, N., Stampfli, G. Alpine tectonic evolution of a Jurassic subduction-accretionary complex: deformation, kinematics and $^{40}\text{Ar}/^{39}\text{Ar}$ age constraints on the Mesozoic low-grade schists of the Circum-Rhodope Belt in the eastern Rhodope-Thrace region, Bulgaria-Greece. *Journal of Geodynamics*.

Márton, I., Moritz, R., Marchev, P., Chiaradia, M., **Bonev, N.**, Vennemann, T., Kouzmanov, K., Andrew, C., Hasson, S. Regional to local ore controls on the formation of Tertiary sedimentary rock-hosted gold deposits from the Eastern Rhodopes, Bulgaria. *Economic Geology*.

Peer-reviewed papers:

Bonev, N., Magganas, A., Klain, L., 2010. Regional geology and correlation of the eastern Circum-Rhodope Belt, Bulgaria-Greece. *Proceedings of 19 Congress of CBGA, Scientific Annals of the School of Geology, Aristotle University of Thessaloniki*, Special Volume, 100 pp. 157-164.

Moritz, R., Marton, I., Ortelli, M., Marchev, P., Voudouris, P., **Bonev, N.**, Spikings, R., Cosca, M., 2010. A review of age constraints of epithermal precious and base metal deposits of the Tertiary eastern Rhodopes: coincidence with Late Eocene-Early Oligocene tectonic plate reorganization along the Tethys. *Proceedings of 19 Congress of CBGA, Scientific Annals of the School of Geology, Aristotle University of Thessaloniki*, Special Volume, 100 pp. 351-358.

- Bonev, N.,** Spikings, R., Moritz, R., Marchev, P. 2010. The effect of early Alpine thrusting in late-stage extensional tectonics: Evidence from the Kulidzhik nappe and the Pelevun extensional allochthon in the Rhodope Massif, Bulgaria. *Tectonophysics*, 488, 256-281.
- Bonev, N.,** Stampfli, G. 2010. Comment on “Geochemistry, petrogenesis and tectonic setting of Samothraki mafic suite, NE Greece: trace elements, isotopic and zircon age constraints” by N. Koglin, D. Kostopoulos & T. Reischmann {*Tectonophysics* 473, 53-68 (doi: 10.1016/j.tecto.2008.10.028). *Tectonophysics*, 483, 413-419.
- Bonev, N.** 2010. Occurrence of the Mesozoic low-grade unit in the central part of the Byala reka dome, Eastern Rhodope, Bulgaria. *Comptes Rendus de l'Academie bulgare des Sciences*, 63, 1, 121-128.
- Bonev, N.,** Dilek, Y. 2010. Geochemistry and tectonic significance of proto-ophiolitic metamafic units from the Serbo-Macedonian and western Rhodope massifs (Bulgaria-Greece). *International Geology Review*, 52, 2/3, 298-335.
- Bonev, N.,** Moritz, R., Marton, I., Chiaradia, M., Marchev, P. 2010. Geochemistry, tectonics, and crustal evolution of basement rocks in the eastern Rhodope Massif, Bulgaria. *International Geology Review*, 52, 2/3, 269-297.
- Bonev, N.,** Beccalotto, L., Robyr, M., Monie, P. 2009. Metamorphic and age constraints on the Alakeçi shear zone: implications for the extensional exhumation history of the northern Kazdağ Massif, NW Turkey. *Lithos*, 113, 331-345.
- Bonev, N.,** Stampfli, G. 2009. Gabbro, plagiogranite and associated dykes in the supra-subduction zone Evros ophiolites, NE Greece. *Geological Magazine*, 146, 72-91.
- Bonev, N.,** Stampfli, G. 2008. Petrology, geochemistry and geodynamic implications of Jurassic island arc magmatism as revealed by mafic volcanic rocks in the Mesozoic low-grade sequence, eastern Rhodope, Bulgaria. *Lithos*, 100, 210-233.
- Bonev, N.,** Beccalotto, L. 2007. From syn- to post-orogenic Tertiary extension in the north Aegean region: constraints on the kinematics in the eastern Rhodope-Thrace, Bulgaria-Greece and the Biga Peninsula, northwest Turkey, *In: Taymaz, T., Yilmaz, Y., Dilek, Y. (eds.). The Geodynamics of the Aegean and Anatolia. Geological Society, London, Special Publication*, 291, 113-142.
- Beccalotto, L., **Bonev, N.,** Bosch, D., Bruguier, O. 2007. Record of a Paleogene syn-collisional extension in the north Aegean region: Evidence from the Kemer micaschists (NW Turkey). *Geological Magazine*, 144, 2, 393-400.
- Bonev, N.** 2006. Structural and geochemical studies on amphibolite and greenschist-facies rocks in the Kulidjik river valley, eastern Rhodope, Bulgaria: preliminary results. *Neues Jahrbuch für Geologie und Paläontologie Abhandlungen*, 239, 2, 161-181.
- Bonev, N.** 2006. Cenozoic tectonic evolution of the eastern Rhodope massif (Bulgaria): Basement structure and kinematics of syn- to postcollisional extensional deformation, *In: Dilek, Y., Pavlides, S., (eds.) Post-collisional tectonics and magmatism in the Mediterranean region and Asia. Geological Society of America Special Paper* 409, 211-235.
- Bonev, N.,** Burg, J.-P., Ivanov, Z. 2006. Mesozoic-Tertiary structural evolution of an extensional gneiss dome – the Kesebir-Kardamos dome, eastern Rhodope (Bulgaria-Greece). *International Journal of Earth Sciences (Geol. Rundsch.)*, 95, 2, 318-340.
- Bonev, N.,** Marchev, P., Singer, B. 2006. ⁴⁰Ar/³⁹Ar geochronology constraints on the Middle Tertiary basement extensional exhumation, and its relation to ore-forming and magmatic processes in the Eastern Rhodope (Bulgaria). *Geodinamica Acta*, 19, 5, 267-282.
- Bonev, N.,** 2005. Foraminifers from the exotic Late Permian limestone pebbles in the Mesozoic low-grade sequence of the eastern Rhodope, Bulgaria: paleogeographic and paleotectonic consequences. *Neues Jahrbuch für Geologie und Paläontologie Monatshefte*, 7, 385-403.

Conference abstracts: (personal presentations only)

- Bonev, N.,** Marchev, P., Ovtcharova, M., Moritz, R., Ulianov, A. 2010. U-Pb LA-ICP/MS zircon geochronology of metamorphic basement and Oligocene volcanic rocks from the SE Rhodopes:

inferences for the geological history of the Eastern Rhodope crystalline basement. Bulgarian Geological Society Annual Meeting, *Geosciences 2010*, 9-10 December 2010. Forthcoming

- Bonev, N.**, Spikings, R., Moritz, R., Marchev, P. 2010. Timing of extensional exhumation of the Eastern Rhodope high-grade basement (Bulgaria): $^{40}\text{Ar}/^{39}\text{Ar}$ age constraints. Bulgarian Geological Society Annual Meeting, *Geosciences 2010*, 9-10 December 2010. Forthcoming presentation
- Bonev, N.**, Spikings, R., Moritz, R., Stampfli, G., Dilek, Y., Marchev, P. 2010. Regional tectonics and $^{40}\text{Ar}/^{39}\text{Ar}$ timing of crustal extension in the eastern Rhodope Massif, Bulgaria-Greece, and Mesozoic-Cenozoic geodynamic evolution of the north Aegean region. – *Tectonic Crossroads: Evolving Orogens of Eurasia-Africa-Arabia*, Geological Society of America International Meeting, 3-8 October 2010, Ankara, Turkey, Abstracts with Program, p. 70-71.
- Bonev, N.**, Magganas, A., Klain, L. 2010. Regional geology and correlation of the eastern Circum-Rhodope Belt, Bulgaria-Greece. *Geologica Balcanica*, 39, 1/2, p. 49, 19 Carpatho-Balkan Geological Association (CBGA), 23-26 September 2010, Thessaloniki, Greece.
- Bonev, N.**, Klain, L., Pimpirev, Ch. 2009. Lithologic-tectonic aspect of the Circum-Rhodope belt flysch in the Chalkidiki Peninsula (Sithonia) and the Rodopi-Thrace districts, northern Greece. *Proceedings of Annual Conference of the Bulgarian Geological Society “Geosciences 2009”*, pp. 81-82, 1-2 December 2009, Sofia, Bulgaria.
- Bonev, N.**, Márton, I., Moritz, R., Spikings, R., Marchev, P. 2009. Tectonic, magmatic and hydrothermal processes associated with Tertiary crustal extension in the basement domes of the southeastern Rhodope Massif, Bulgaria. European Geosciences Union, General Assembly, 19-24 April 2009, Vienna, Austria. *Geophysical Research Abstracts*, 11, 2 pp. paper EGU-2009-5304.
- Bonev, N.**, Beccaletto, L., Robyr, M., Monie, P. 2008. Metamorphic and Ar/Ar geochronology constraints on the Alakeçi shear zone: implications for the extensional exhumation history of the northern Kazdağ Massif, NW Turkey. Donald D. Harrington Symposium on the Geology of the Aegean, 28-30 April 2008, Jackson School of Geosciences, University of Texas at Austin, Texas, USA (*invited keynote speaker*). IOP Conference Series: Earth and Environmental Sciences, 2, 2 pp. doi: 10.1088/1755-1307/2/1/012012.
- Bonev, N.**, Spikings, R., Moritz, R., Marchev, P. 2008. Structural and $^{40}\text{Ar}/^{39}\text{Ar}$ geochronology constraints on the Kulidjik nappe: a record of an early Alpine thrust tectonics in the northeastern Rhodope Massif, Bulgaria. Donald D. Harrington Symposium on the Geology of the Aegean, Donald D. Harrington Symposium on the Geology of the Aegean, 28-30 April 2008, Jackson School of Geosciences, University of Texas at Austin, Texas, USA (*invited keynote speaker*). IOP Conference Series: Earth and Environmental Sciences, 2, 2 pp. doi: 10.1088/1755-1307/2/1/012016.
- Bonev, N.**, Peychev, K., Moritz, R. 2007. Ductile and brittle structures, and kinematics related to crustal extension in the central Byala Reka dome, Eastern Rhodope, Bulgaria. *Advances in Regional Geological and Metallogenic Studies in the Carpathians, Balkans, Rhodope Massif and Caucasus (Romania, Serbia, Bulgaria and Georgia)*, A Field Conference, Bor area, Serbia, 4-7 September 2007, 1 pp.
- Bonev, N.**, Peychev, K., Nizamova, D. 2006. MOR-vs. SSZ-origin of metamafic rocks in the upper high-grade basement unit of the eastern Rhodope: geochemical diversity and tectonic significance. *Proceedings of Annual Conference of the Bulgarian Geological Society, “Geosciences 2006”*, pp. 181-184, 30 November-01 December 2006, Sofia, Bulgaria.
- Bonev, N.**, Beccaletto, L. 2005. Regional-scale Tertiary extension-related kinematic framework in northern Aegean region: evidence from the eastern Rhodopes-Thrace (Bulgaria-Greece) and the Biga peninsula (NW Turkey). *Proceedings of Annual Conference of the Bulgarian Geological Society*, pp. 24-27, 17-18 November 2005, Sofia, Bulgaria.
- Bonev, N.**, Stampfli, G. 2005. Compositional diversity of the Evros ophiolite, Thrace, northeastern Greece: field occurrences, preliminary petrologic and geochemical data on plutonic sequence and tectonic implications. *Proceedings of Annual Conference of Bulgarian Geological Society*, pp. 28-31, 17-18 November 2005, Sofia, Bulgaria.

Bonev, N., Beccaletto, L. 2005. Northeastward ductile shear in the Kemer micaschists, Biga Peninsula (NW Turkey). International Symposium on the Geodynamics of Eastern Mediterranean - Active tectonics of the Aegean, Kadir Has University, 15-18 June 2005, Istanbul, Turkey, p.65.