

Name: **Alexey**

Last name: **Sibirev**

**PhD, Research Assistant**

*Curriculum Vitae*

Universitetskiy pr. 28

198504 Saint Petersburg, Russia

Mob.: +7 (906) 262 9671

ORCID ID: 0000-0001-6564-5959

h-index: 4 (WOS), 4 (SCOPUS)

alekspb@list.ru



## Personal information

**Date of birth:** 20.02.1988  
**Nationality:** Russian  
**Citizenship:** Russian Federation  
**Marital status:** Single, No children

## Scientific interests

---

- Smart materials & structures
- Materials engineering
- Experimental methods in materials science
- Development of new devices and software
- Shape memory alloys (SMA)
- Magnetic shape memory alloys (MSMA)

## Work experience

- 2010 – 2014**      **Saint Petersburg State University, Strength of Materials Laboratory**  
*Research assistant*
- Shape memory alloys research
  - XRD, DSC, resitivity measurements and mechanical testing of materials
  - Automation of measurements, development of testing devices
- 2012 – 2013**      **The Petersburg Nuclear Physics Institute (PNPI), Saint Petersburg**  
*Engineer*
- 2014 – present**      **Saint Petersburg State University, Department of Physical Mechanics**  
*Researcher*
- Shape memory alloys research
  - XRD, DSC, resitivity measurements and mechanical testing of materials
  - Automation of measurements, development of testing devices
  - Project leadership

## Education

---

- 2011 – 2014**      **PhD in Solid State Mechanics, Saint Petersburg State University**  
Thesis: “Residual strain in TiNi shape memory alloy during thermal cycling” (in Russian)
- 2009 – 2011**      **Masters Degree in Mathematics and Mechanics, Saint Petersburg State University**

## Skills

---

- |                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|-------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Scientific</b> | <ul style="list-style-type: none"> <li>– Strong background in <b>Elasticity Theory</b></li> <li>– Vast experience in <b>Shape Memory Alloys</b></li> <li>– Strong <b>experimental background</b> (mechanical testing, indentation hardness tests, DSC, XRD, optical microscopy, 4-point resistivity)</li> <li>– Experience in <b>finite element analysis</b> (ANSYS)</li> <li>– Experience in <b>development of testing devices</b></li> <li>– Experience in <b>scientific projects management</b></li> </ul> |
| <b>Languages</b>  | <ul style="list-style-type: none"> <li>– <b>Russian</b>: native</li> <li>– <b>English</b>: fluent</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                  |

## Research projects leadership (last 5 years)

---

- The head of research project “Modeling of the shape memory alloys mechanical behavior, taking into account the thermally activated softening”, funded by The Russian Foundation for Basic Research (2016-2018)
- The head of research project “Ultrasonic and thermal initiation of shape memory effect in TiNi alloy”, funded by The Russian Foundation for Basic Research (2017-2018)
- The head of research project “NiFeGa shape memory alloy as a working element material for solid state heat engine”, funded by grants of Russian Federation president fund (2017-2018)
- The head of research project “Functional stability research of TiNi shape memory alloy for developing linear actuators”, funded by The Russian Foundation for Basic Research (2014-2015)

## Key publications

---

- S. Belyaev, N. Resnina, and A. Sibirev, “Peculiarities of residual strain accumulation during thermal cycling of TiNi alloy,” *J. Alloys Compd.*, vol. 542, pp. 37–42, Nov. 2012.
- A. Sibirev, S. Belyaev, and N. Resnina, “Unusual Multistage Martensitic Transformation in TiNi Shape Memory Alloy after Thermal Cycling,” *Mater. Sci. Forum*, vol. 738–739, no. 0, pp. 372–376, Jan. 2013.
- S. Belyaev, N. Resnina, and A. Sibirev, “Accumulation of Residual Strain in TiNi Alloy During Thermal Cycling,” *J. Mater. Eng. Perform.*, vol. 23, no. 7, pp. 2339–2342, Apr. 2014.
- S. Belyaev, N. Resnina, A. Sibirev, and I. Lomakin, “Variation in kinetics of martensitic transformation during partial thermal cycling of the TiNi alloy,” *Thermochim. Acta*, vol. 582, pp. 46–52, Apr. 2014.
- A. Sibirev, S. Belyaev, N. Resnina, “Softening process during reverse martensitic transformation in TiNi shape memory alloy,” *J. Alloys Compd.*, vol. 661, pp. 155–160, 2016.
- S. Belyaev, N. Resnina, V. Nikolaev, R. Timashov, A. Gazizullina, A. Sibirev, et al., “Shape memory effects in [001] Ni<sub>55</sub>Fe<sub>18</sub>Ga<sub>27</sub> single crystal,” *Smart Mater. Struct.*, vol. 26, no. 9, 2017.
- S. Belyaev, V. Rubanik, N. Resnina, V. Rubanik, A. Sibirev, A. Lesota, “Initiation of recoverable strain variation in shape memory bimetal strips by ultrasonic vibrations,” *Mater. Lett.*, vol. 214, pp. 162–164, 2018.

## References

---

Available upon request