

Kamil Banaś

Curriculum Vitae

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Experience

Professional

- 01.01.2019 – **Senior Numerical Analysis Engineer**, *CIM-mes Projekt Sp. z o.o. (Warsaw)*,
31.08.2019 Stress, CFD, Heat Transfer analysis of blast furnace cooling system.
- 01.05.2018 – **Analysis Engineer**, *Stowarzyszenie B-4 (Rzeszow)*,
31.12.2018 Part time job - Remote.
- 01.05.2017 – **Specialist**, *Institute of Fluid Flow Machinery Polish Academy of Sciences (Gdansk)*,
31.12.2018 *Department of Energy Conversion*,
Part time job.
- 01.07.2016 – **Design Engineer (FE Analysis)**, *Pratt & Whitney Rzeszow S.A. (Rzeszow)*, *Airworthiness Department, Analysis Team*.
31.12.2017
CAE analysis of rotating and stationary parts of turboshaft engines (PZL-10W, GTD-350) and turboprop engine (PZL-10S/TWD-10B) related to:
• checking the influence of dimensional deviations on material effort of engines parts,
• research and development programs,
• root cause failure analysis.
Mainly: static stress analysis, CFD analysis, one way thermal-FSI analysis: conjugate heat transfer (CFD) —> stress (Mechanical).
ANSYS (Mechanical, Fluent, Meshing, Turbogrid, IcemCFD), MSC (Partan, Marc, Nastran).
- 01.10.2012 – **Junior Design Engineer (FE Analysis)**, *Pratt & Whitney Rzeszow S.A. (Rzeszow)*,
01.07.2016 *Airworthiness Department, Analysis Team*.

Internship

- 2012 **Trainee**, *Pratt & Whitney Rzeszow S.A. (Rzeszow)*, *Airworthiness Department, Analysis Team*.
3 months
- 2011 **Trainee**, *Institute of Aviation (Warsaw)*, *Center of New Technologies, CFD laboratory*.
1 month
- 2011 **Trainee**, *Engineering Design Center (Warsaw)*, *Aerostructures & Composites CoE – Analysis Team*.
1 month
- 2010 **Trainee**, *PZL Mielec A Sikorsky Aircraft Company (Mielec)*, *Research & Development Department – Analysis Team*.
1 month

Education

- 2018 **PhD in Mechanics (Specialization: Heat Transfer)**, *Institute of Fluid Flow Machinery Polish Academy of Sciences*.
Heat transfer modelling in fluid flow machinery based on thermal-FSI tools.
- 2015 **Postgraduate in Aircraft Engines**, *Rzeszow University of Technology*,
Final mark: 5.0.
The conceptual design of centrifugal compressor with a pressure ratio of $\pi^* = 4,1$ and mass flow rate $\dot{m} = 2,9 \left[\frac{kg}{s} \right]$.
- 2012 **Bachelor of Science in Aeronautics and Space Technology**, *Rzeszow University of Technology*, Specialization: Aircraft,
Final mark: 4.5 - in the group of 5% best graduates of the University.
Modelling flow around airfoil with slotted flap with aim to predict lift and drag coefficients (ICEM CFD, Fluent).
2d, steady, incompressible ($M = 0.2$), viscous (*Reynolds* $3 \cdot 10^6$).
- 2009 **Master of Science in Mathematics**, *University of Rzeszow*,
Final mark: 5.0.

Research Articles

- 2017 K. Banas and J. Badur, *Effect of turbulence model, turbulence length scale, and wall roughness on the laminar-turbulence transition and temperature distribution of a convectively cooled C3X turbine vane*, Transactions of the Institute of Fluid-Flow Machinery, Vol. 138, pp. 3-22,
<http://yadda.icm.edu.pl/yadda/element/bwmeta1.element.baztech-30d3c765-3d20-4aa7-8a0f-56f33b325fbf>.
- 2017 K. Banas and J. Badur, *Influence of strength differential effect on material effort of a turbine guide vane based on thermoelastoplastic analysis*, Journal of Thermal Stresses, Vol. 40, No. 11, pp. 1368-1385,
<http://www.tandfonline.com/eprint/KDUteHUusZCCBUZSYeBC/full>.
- 2017 K. Banas and J. Badur, *Influence of turbulence RANS models on heat transfer coefficients and stress distribution during thermal-FSI analysis of power turbine guide vane of helicopter turbine engine PZL-10W taking into account convergence of heat flux*, Progress in Computational Fluid Dynamics, Vol. 18, No. 5, pp. 317-324,
<http://www.inderscience.com/offer.php?id=94619>.
- 2015 K. Banas, *Implementation of the nonlinear imperfect transmission conditions between dissimilar materials into commercial FEM software MSC.Marc using Fortran user subroutine: Plane strain case*, Composite Interfaces, Vol. 22, No. 6, pp. 447-471,
<http://dx.doi.org/10.1080/09276440.2015.1048649>.

Computer skills

CAD, CAE

- Basic CFX, Catia
- Intermediate Nastran, nCode DesignLife
- Advanced NX, ANSYS: (SpaceClaim, DesignModeler, Meshing, Mechanical (Fortran UPF, Phyton ACT extension), Icem CFD, Turbogrid, Fluent, Thermal), MSC: (Partran, Marc)

Programming Languages

 <https://github.com/kamilbanas85>

Basic Java, C++, Python, Web Development (HTML, CSS, JavaScript)

Intermediate Fortran

Text Editors

Advanced Excel (VBA), Word, L^AT_EX

Awards

- 2016 – Award of the supervisor (Pratt & Whitney Rzeszow) for heat transfer and stress analysis of power turbine guide vane of turbine engine PZL–10W.
- B.Eng. degree in Aeronautics and Space Technology completed in the group of 5% best graduates of the University
- The final mark for the M.Sc. thesis in mathematics: very good with distinction
- Regular scholarships for academic achievements (Mathematics, Aeronautics and Space Technology)

Courses

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|------|---|---|
| 2017 | Design Optimization in Ansys | Mesco, 1 days |
| 2016 | Geometry in SpaceClaim | Mesco, 1 days |
| 2014 | NX - advanced | INNpuls, 5 days |
| 2014 | Heat transfer | PAS, Institute of Fluid-Flow Machinery, 10 days |
| 2014 | Basic Nonlinear Analysis using Marc and Patran | EC Engineering, 5 days |
| 2013 | Modelling fluid flow using CFD software - advanced | PAS, Institute of Fluid-Flow Machinery, 10 days |
| 2013 | Fatigue analysis in Ansys (Ansys, Ansys nCode DesignLife) | Mesco, 3 days |
| 2013 | Nonlinearities in Ansys (Ansys Mechanical) | Mesco, 3 days |
| 2012 | Multiscale Modeling of Complex Materials | CISM, Italy, 4 days |
| 2012 | Thermal and Thermomechanical analysis (Ansys Thermal) | Mesco, 1 day |
| 2011 | Introduction to CFD (Fluent) | Mesco, 2 days |
| 2011 | Geometry and Meshing (DesignModeler, Ansys Meshing) | Mesco, 2 days |

Languages

English B2

Interests

- Sport
- Aviation

I hereby agree for processing the following personal information strictly for the purposes of job recruitment in accordance with the regulation for the protection of personal data passed on the following day: 29.08.97r. DzU nr 133 poz. 883.