

## CURRICULUM VITAE

**Dr KOVAČEVIĆ S. Milan**

**Assistant Professor**



BSc-Physics (Kragujevac) Yugoslavia  
MSc-Physics (Belgrade) Yugoslavia  
PhD-Physics (Kragujevac) Serbia

**Research Areas:**

Applied Optics, Plasma Physics and Physics Education

**Permanent / mailing/ Address:**

Faculty of Science  
Department of Physics  
R. Domanovica 12  
34000 Kragujevac  
SERBIA

Phone: +381 34 336 223 ext.337

Fax: +381 34 335040

E-mail: [kovac@kg.ac.rs](mailto:kovac@kg.ac.rs)

Web: [www.pmf.kg.rs](http://www.pmf.kg.rs)

**Date of birth:** May 21, 1967,

**Place of birth:** Bajina Bašta, SERBIA (Former Yugoslavia) now Serbia

**Citizenship:** Serbian

**Persons fully dependent upon me for financial support:**

Kovačević Sonja, wife, Professor of Physics in the high school.

Kovačević Ivona, daughter, student, primary school.

## EDUCATION/Degrees:

<b>PhD Thesis:</b> “ <i>Contribution to modelling of light propagation in multimode step-index plastic optical fibres</i> ”, University of Kragujevac, Faculty of Science, Department of Physics, Serbia (2007). Area: Applied physics
<b>MSc. Thesis:</b> “ <i>Contributions to investigation of plasma in plasma sources of surfatron type</i> ”, University of Belgrade, Faculty of Physics, Belgrade, Yugoslavia (2000). Area: Plasma physics
<b>BSc.</b> Diploma in Physics, University of Kragujevac, Faculty of Science, Department of Physics, Kragujevac, Yugoslavia (1993). Area: Radiation physics

**Languages Spoken:** Serbian (mother language), English, and Russian.

## EMPLOYMENT/ Working Experiences:

1993-1995: Physics teacher, High School Valjevo, Yugoslavia.
1995-2006: Assistant, Department of Physics, Faculty of Science, University of Kragujevac, Yugoslavia.
1996-2003: Teaching Assistant (biophysics), Medical Faculty of University of Serb Sarajevo.
2007-present: Assistant Professor, Department of Physics, Faculty of Science, University of Kragujevac, Serbia.
2002: Research Assistant (6 months), City University of Hong Kong, MEEM Department, (Project “ <i>Curvature gauge made of glass optical fibers</i> ”).
2005: Research Assistant (3 months), City University of Hong Kong, MEEM Department, (Project “ <i>Mode Coupling in Plastic Optical Fibers</i> ”).
2006: Research Assistant (3 months), City University of Hong Kong, MEEM Department, (Project “ <i>Mode Coupling in Plastic Optical Fibers</i> ”).
2008: Senior Research Assistant (3 months), City University of Hong Kong, MEEM Department, (Project “ <i>Mode Coupling in Plastic Optical Fibers</i> ”).
2009: Research Fellow (3 months), City University of Hong Kong, MEEM Department, (Project “ <i>Power Transfer in Curved Polymer Optical Fibers</i> ”).
2007: 12-23 February, Winter College on Fiber Optics, Fiber Lasers and Sensors, ICTP Trieste, Italy

## TEACHING/ Current Courses:

- Plasma Physics
- Optical Waveguides
- Electrodynamics (classical)
- Physics in the school
- Physics laboratory (electromagnetism and optics)

## RESEARCH

- Ray analysis of multimode optical waveguides;
- Transmission properties (optical power, loss, dispersion, bandwidth) of step and graded index polymer optical fibers (POF);
- Electromagnetic analysis of optical waveguides;
- Dispersion relation of surface plasma waves;
- Coherent nonlinear structures in two-dimensional compressional MHD;
- Physics education.

## OTHER ACTIVITIES

### Reviewer:

- Optical and Quantum Electronics
- Chinese Physics Letters
- Journal of Optics & Laser Technology

## SELECTED PUBLICATIONS/International Journal on ISI list

1. Kovacevic M., Nikezic D., and Djordjevic A., "Monte Carlo simulation of curvature gauges by ray tracing," *Meas. Science Tech.* **15** (2004) 1756-1761
2. Kovacevic M., Nikezic D., and Djordjevic A., "Modelling of the Loss and Mode Coupling that are Due to Irregular Core-Cladding Interface in SI POF," *Applied Optics* **44**, (2005) 3898-3903
3. Babovic V., Kovacevic M., and Kanjevac K., "An Efficient Iterative Procedure for Solution of Plasma Loaded Helical Waveguide Problems," *Chinese Physics Letters*, **22**, (2005) 3123-3126
4. Babovic V., Kovacevic M., and Djordjevic A., "Numerical investigations of guided plasma waves beyond the quasistatic limits," *Wave Motion*, **43/6** (2006) 499-507
5. Kovacevic M., and Nikezic D., "The influence of the bend on the power distribution in step-index plastic optical fibers and calculation of the bending loss," *Applied Optics* **45** (2006) 6675-6681
6. Kovacevic M., Djordjevic A., and Nikezic D., "Effect of end-face tilt-angle on numerical aperture for straight and bent plastic optical fibers," *Fiber & Integrated Optics* **26.2** (2007)
7. Cabric, B., Kovacevic, M., Pavlovic, T., "Crystallization in a chamber furnace," *J. Applied Crystallography*, **30**, 512, (1996)
8. Kovacevic M. and Djordjevic A., "A mechanical analogy for the photoelectric effect," *Physics Education* **41** (6) (2006) 551-555
9. Kovacevic M., Nikezic D., Reply to Comment on "Influence of bending on power distribution in step-index fibers and calculation of bending loss," *Applied Optics* **46** (2007) 4869-4870

10. Kovacevic M., Djordjevich A. and Nikezic D., "Analytical Optimization of Optical Fibre Curvature Gauges," *IEEE Sensors Journal* **8**, 227-232 (2008)
11. Kovacevic M., Djordjevich A., "Thermal Diffusion Process estimation for fabrication of graded plastic optical fibers," *Chinese Physics Letters* **25** (11) (2008) 4030-4033
12. Kovacevic M., Djordjevich A., Nikezic D., "Light propagation in thermally expanded core fibers with graded-index," *Optica Applicata* **39** (2) (2009) 267-276
13. Kovacevic M., Djordjevich A., "Temperature dependence of mode dispersion in PMMA step-index polymer optical fibers," *JOAM* (Submitted, 2009)
14. Kovacevic M., Djordjevich A., Nikezic D., "Investigation of material dispersion in multimode optical fibers around zero material dispersion wavelength," *MOTL* (Submitted, 2009)
15. Kovacevc M., Djordjevich A., "Investigation of Tilt Angle Dependence of Mode Dispersion in Step-Index Plastic Optical Fibers", *Fiber & Integrated optics* (Submitted, 2009)

### **SELECTED PUBLICATIONS/ International conference papers:**

1. Dordjevich A., Kovacevic M. and Nikezic D., "Curvature Gauge simulation by ray tracing, "5th General Conference of the Balkan Physical Union, (2003) 947-952
2. Kanjevac K., Babovic V and Kovacevic M., "Basic equations of plasma loaded helical waveguide treated by fixed point method," *5th General Conference of the Balkan Physical Union*, (2003) 1121-1124
3. Kovacevic M and Nikezic D., "A desktop apparatus for studying projectile motion and measuring the gravity acceleration, g,," *5th General Conference of the Balkan Physical Union*, (2003)
4. K., Kanjevac, V., Babovic and M., Kovacevic "Fixed Point Method in Plasma Loaded Helical Waveguide Problems," *22nd Summer School and International Symposium on the Physics of Ionized Gases, Tara, Serbian and Montenegro*, (2004) 437-440
5. D. Jovanovic and M. Kovacevic "Coherent Nonlinear Structures in two-dimensional Compressional MHD," *22nd Summer School and International Symposium on the Physics of Ionized Gases, Tara, Serbian and Montenegro*, (2004) 540-544
6. V. Babovic, M. Kovacevic, and K. Kanjevac, "EM Waves in Plasma Waveguides – Numerical treatment based on the fixed point method," *XLVIII Conference for electronics, telecommunications, computers, automation and nuclear engineering, Serbia and Montenegro*, Belgrade (2004) 193-195
7. Kovacevic M., Djordjevich A., Nikezic D., "An analytical approach and optimization of curvature gauge," *IOP, J. Phy. Conference Series* **48** (2006) 850-858 *4th International Symposium on Instrumentation Science and Technology, Harbin, China*, (2006)
8. Kovacevic M., Nikezic D., Djordjevich A., "Modeling of light propagation in step-index polymer optical fibers with random imperfections by ray tracing," *Winter College on Fiber Optics, Fiber Lasers and Sensors*, 12-23 February 2007, ICTP Trieste, Italy.
9. Kovacevic M., Djordjevich A., "Temperature dependence analysis of mode dispersion in step-index polymer optical fibers," *II International School and Conference on Photonics*, 24-28 August 2009, Belgrade, Serbia (Accepted).
10. Kovacevic M, A. Djordjevich and D. Nikezic., "Effects of Goos – Hanchen shift on pulse dispersion in multimode step-index polymer optical fibers," *II International School and Conference on Photonics*, 24-28 August 2009, Belgrade, Serbia (Accepted).

### **SELECTED PUBLICATIONS/ National journals (in English):**

1. Babovic, V., Milojevic, S., Kovacevic, M. "Axially symmetric electron plasma surface waves on equivalent cylindrical guiding structures," Collection of Scientific papers of Faculty of Science, **17**, (1995) Kragujevac 107-122
2. Babovic, V., Kovacevic, M. "An estimation of the plasma column length in a discharge of the surfatron type," Collection of Scientific papers of Faculty of Science, **19** (1997) Kragujevac 85 - 93
3. Babovic, V., Kovacevic, M. "Evaluating of the dispersion relation of the surface electron plasma waves by fixed point method," J. Res. Physics **28**, (2002) 5-12
4. Kanjevac K., Babovic V., Kovacevic M. "Improved Numerical solutions to plasma loaded helical waveguide," J. Sci., **25**, Kragujevac, (2003) 21-40
5. Danilovic N., Kovacevic M., Babovic V., "Could variable mass oscillator exhibit the lateral instability?" *J. Sci.* **30** Kragujevac, Serbia (2008) 31-44.

### **SELECTED PUBLICATIONS/ National Conference papers (in English):**

1. Kovacevic M., "Demonstration of the photoelectric effect by one mechanical model," *Phys. Congress Serbia and Montenegro*, Petrovac, (2004) 83-86
2. Babovic V., Kovacevic M., and Kanjevac K., "Characteristic impedance of the plasma waveguide: treatment by the fixed point method," *Phys. Congress, Serbia and Montenegro*, Petrovac, (2004) 35-38
3. Nikezic D, Yu K.N., Kovacevic M., Stevanovic N., Krstic D., Kostic D., Janicijevic A., "The Optical Characters of the particle trace," *Phy. Congress, Serbia and Montenegro, Petrovac*, (2004) 135-138
4. Kovacevic, M., Babovic, V., "Evaluating of the dispersion relation of the surface electron plasma waves," *X Conference of Physicists of Yugoslavia, V. Banja 27-29. March (2000), Proc. II., 733-736*

### **SELECTED PUBLICATIONS/ National Conference papers (in Serbian):**

1. Kovačević M., "Jedan opšti algoritam za rešavanje računskih zadataka iz fizike," Republički seminar o nastavi fizike, V. Banja 2003, Zbornik radova 100-103.
2. Kovačević M., "Demonstracija trećeg Njutnovog zakona," Republički seminar o nastavi fizike, Soko Banja 2004, Zbornik radova 147-151.
3. Kovačević M., "Šta svaki profesor fizike treba da zna o optičkom vlaknu," Republički seminar o nastavi fizike, V. Banja 2007, Zbornik radova 182-187.
4. Kovačević M., Popović M., Spasić A., "Merenje osvetljenosti pomoću luksmetra," Republički seminar o nastavi fizike, V. Banja, 2009, Zbornik radova 118-122.
5. Kovačević M., Jovanović S., "Određivanje magnetske permabilnosti vakuuma  $\mu_0$ ," Republički seminar o nastavi fizike, V. Banja, 2009, Zbornik radova 123-126.

## **SELECTED PUBLICATIONS/ Physics Education (in Serbian):**

1. Babović V., Kovačević M., Kako "osporiti" zakon spojenih sudova, Fizika i tehnika, Valjevo, 1995.
2. Kovačević M., Metodčki putevi, Prosvetni pregled, Pedagoška praksa 2203 (29) 2003.
3. Kovačević M., Začarani krug, Prosvetni pregled, Pedagoška praksa 542, 2003.
4. Kovačević M., Njtn u školskoj laboratoriji, Prosvetni pregled, Pedagoška praksa, br. 525, 2003.
5. Kovačević M., Od kviza do eksperimenta, Prosvetni pregled, Pedagoška praksa 538, 2003.
6. Kovačević M., Tabla kao olakšanje, Prosvetni pregled, Pedagoška praksa 536, 2003.
7. Kovačević M., Učenje kroz slike, Prosvetni pregled, Pedagoška praksa 533, 2003.
8. Kovačević M., Demonstracijom protiv dosade, Prosvetni pregled, Pedagoška praksa, br. 531, 2003.
9. Čabrić B, Kovačević M., Nauka o materijalima, Prosvetni pregled, Pedagoška praksa, 2003.
10. Čabrić B., Kovačević M., Kristalizaciona klupa, Prosvetni pregled, Pedagoška praksa 518, 2002.
11. Kovačević M., Rešenje od zlata, Prosvetni pregled, Pedagoška praksa 575. Oktobar 2004.
12. Kovačević M., Na početku bez formula, Prosvetni pregled, Pedagoška praksa, Maj 2006.

## **OTHER RELEVANT ACTIVITIES/ Mentor/ Membership in various commissions for BSc, Mphyl and PhD:**

1. Janković Ivan, (BSc, mentor)
2. Simović Ana, BSc
3. Josić Miloš, (BSc, mentor)