Sanela Martic
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Employment

2019-present	Trent University	Assistant Professor
2017-2018	Oakland University	Associate Professor
2012-2016	Oakland University	Assistant Professor

Education

PDF	University of Toronto Scarborough	2011-2012
PDF	University of Western Ontario	2009-2011
Ph.D.	Queen's University	2005-2009
M.Sc.	McMaster University	2003-2005

Peer-reviewed publications

1. Lewis, T., Lucas, S., Martic, S. (2020). Recent advancements in neuroelectrochemistry of disease biomarkers. J. Electrochem. Soc. 167: 037527.
2. Ziu, I., Laryea, E.T., Alashkar, F., Wu, C.G, Martic, S. (2020). A dip-and-read optical aptasensor for detection of tau protein. Analytical and Bioanalytical Chemistry. 412: 1193-1201.
3. Zabik, N., Anwar, S., Ziu, I., Martic-Milne, S. (2019). Electrochemical reactivity of bulky-phenols with superoxide anion radical. Electrochim. Acta. 296: 174-180.
4. Carlin, N., Martic-Milne, S. (2018). Anti-tau antibodies based electrochemical sensor for detection of tau protein. J. Electrochem. Soc.165: G3018-G3025.
5. Hanif, M., Meier, S. M., Adhireksa, Z., Henke, H., Martic, S., Movassaghi, S., Labib, M., Kandioller, W., Jamieson, S. M. F., Hejl, M., Jakupec, M. A., Kraatz, H. B., Davey, C. A., Keppler, B. K., Hartinger, C. G. (2017). Functionalization of ruthenium(II)(?6-p-cymene)(3-hydroxy-2-pyridone) complexes with (thio)morpholine: synthesis and bioanalytical studies.ChemPlusChem. 82: 841-847.
6. Wang, N., She, Z., Ingar, Z., Martic, S., Kraatz, H.B. (2017). A bioorganometallic approach to the study of histidine kinase auto-phosphorylation.Chem. Eur. J. 23: 3152-3158.
7. Zabik, N., Imhof, M., Martic-Milne, S. (2017). Structural evaluations of tau protein conformation: methodologies and approaches. Biochem. Cell Biol. 95: 338-349.
8. Jahshan, A., Esteves, J.O.V., Martic-Milne, S. (2016). Evaluation of ferritin and transferrin binding to tau protein. J. Inorg. Biochem. 162: 127-134.
9. Zabik, N., Virca, C. N., McCormick, T., Martic-Milne, S. (2016). Selective electrochemical versus chemical oxidation of bulky phenols. J. Phys. Chem. B. 120: 8914-8924.
10. Shah, A., Adhikari, B., Martic, S., Munir, A., Shahzad, S., Ahmad, K., and Kraatz, H.B. (2016). Electron transfer in peptides. Chem.Soc.Rev. 44: 1015-1027.
11. Esteves, J.O.V., Martic-Milne, S. (2016). Electrochemical detection of anti-tau antibodies binding to tau protein and inhibition of GSK-3-β-catalyzed phosphorylation. Anal. Biochem. 496: 55-62.

12. Loeffler, D. A., Smith, L. M., Klaver, A. C., Martic, S. (2015). Effects of antibodies to phosphorylated and non-phosphorylated tau on in vitro tau phosphorylation a tSerine-199: Preliminary Report. Exp. Gerentol. 67:15-18.
13. Trzeciakiewicz, H., Esteves, J.O.V., Carlin, N., Martic, S. (2015). Electrochemistry of heparin binding to tau protein on Au surfaces. Electrochim. Acta. 162: 24-30.
14. Esteves, J.O.V., Trzeciakiewicz, H., Loeffler, D.A., Martic, S. (2015). Effects of tau domain-specific antibodies and intravenous immunoglobulin on tau aggregation and aggregate degradation. Biochemistry. 54: 15-18.
15. Trzeciakiewicz, H., Esteves, J.O.V., Soudy, R., Kaur, K., Martic-Milne, S. (2015). Electrochemical characterization of protein adsorption onto YNGRT-Au and VLGXE-Au surfaces. Sensors. 2015: 19429-19442.
16. Wang, N., She, Z., Lin, Y. C., Martic, S., Mann, D. J., Kraatz, H.B. (2015). Clickable-5'-γ-ferrocenyl adenosine triphosphate bioconjugates in kinase catalyzed phosphorylations. Chem. Eur. J. 21: 1-13.
17. Martic, S., Rains, M. K., Haftchenary, S., Shahani, V. M., Kraskouskaya, D., Ball, D. P., Gunning, P. T., Kraatz, H.B. (2014). Electrochemical detection of the Fc-STAT3 phosphorylation and STAT3/Fc-STAT3 dimerization and inhibition. Mol. Biosys.10: 576-580.
18. Esteves, J.O.V., Trzeciakiewicz, H., Martic, S. (2014). A protein-based electrochemical biosensor for detection of tau protein, a neurodegenerative disease biomarker. Analyst. 139: 2823-2831.

Presentations

1. (2019). Using electrochemical methods to probe neurochemistry of proteins. 63rd Canadian Society for Analytical Sciences and Spectroscopy, Canada, **Invited**
2. (2019). Mischievous Proteins: disease mechanisms, detection, and treatment. Seminar in Department of Chemistry at Brock U, Canada, **Invited**
3. (2019). Proteins: structure, function and application in health sciences. Seminar in Department of Chemistry at UQAM, Canada, **Invited**
4. (2019). Optical and electrochemical detection of neurodegeneration biomarker: tau protein.102nd Chemical Society of Chemistry meeting, Canada
5. (2019). Protein pathogenesis: disease mechanisms, biomarkers, and therapies. Seminar in the Department of Chemistry at UOIT, Canada, **Invited**
6. (2019). Evaluating the structure and function of tau protein. 2019 Chemical Biophysical Symposium, Canada
7. (2019). Protein pathogenesis: disease mechanisms, biomarkers, and therapies. Seminar in the Chemistry Department at Trent University, Canada, **Invited**
8. DeVreugd, L., Guessous, L., Roth, B., Walters, J., Martic, S., Cunningham, J. (2019). Transitioning from WISE to WISER – Life after an NSF ADVANCE Grant. 2019 Collaborative Network for Engineering and Computing Diversity Conference, United States
9. (2019). Metallo-tau peptides: catalytic activity and aggregation propensity. 102nd Canadian Society of Chemistry meeting, Canada
10. Mirza, K., Martic, S., Yates, J., Malik, K. (2018). Strategies to promote use of technology-based teaching modules. 2018 Teaching Lilly Conference, United States
11. (2018). Protein Pathogenesis: Mechanisms, Biomarkers and Drug Design. Seminar in the Department of Chemistry at Eastern Michigan University, United States, **Invited**

12. (2018). Tau protein pathogenesis: mechanisms, biomarkers and potential therapeutics. Seminar in the College of Pharmacy at Wayne State University, United States, **Invited**
13. (2017). Role of antibodies on tau phosphorylation and microtubule binding. 100th Canadian Society of Chemistry, Canada
14. (2016). Targeting tau protein biochemistry via epitope-based approach. 99th Canadian Society of Chemistry, Canada
15. (2016). Effects of metal ions on tau protein biochemistry. 99th Canadian Society of Chemistry, Canada
16. Anwar, S. and Silva, S. (2016). Morphological outcomes of misfolding peptides and proteins.2016 Michigan Microscopy & Microanalysis Society, United States
17. (2016). Metallation of misfolding tau peptides/protein: aggregation, phosphorylation and catalytic activity. 251st American Chemical Society, United States
18. (2016). Biomolecular approach to immunotherapies for tauopathies. Invited seminar in the Department of Chemistry at Wayne State University, United States, **Invited**
19. (2016). Electrochemical detection of metal coordination to tau peptides/protein and evaluation of hydrogen peroxide formation. 251st American Chemical Society, United States
20. (2015). Naphthalene-based Val/Phe peptides as molecular sponges. Pacifichem, United States
21. (2015). Effects of anti-tau antibodies on tau biochemistry. 98th CSC, Canada
22. (2014). Exploring amino acid code towards biomaterials and biosensors. Seminar in the Department of Chemistry and Biochemistry at University of Windsor, Canada, **Invited**
23. (2014). Electrochemical survey of tau aggregation and search for tau biomarkers. 248th ACS, United States
25. (2014). Exploring amino acid code towards biomaterials and biosensors. Seminar in the Department of Chemistry at Michigan State University, United States, **Invited**

Awards/honors

2018 Lilly Conference Travel Grant
2016 URC Faculty Research Award, Oakland University
2016 Teaching Excellence Award nomination
2014 Oral Presentation Award at Oakland University-Beaumont Symposium
Oakland University
2014 URC Faculty Research Fellowship Award
2014 - 2015 Student Success Award, Oakland University

Memberships

2019-present member, Canadian Society for Molecular Biosciences
2004-present member, Chemical Institute of Canada
2019-present member, Electrochemical Society

Grants

2020/6 - 2021/5	Principal Applicant	NSERC Alliance COVID-19, $49,000 CAD
2020/4 - 2025/3	Principal Applicant	NSERC Discovery Grant, $180,000 CAD
2020/1 - 2022/12	Principal Applicant	ORF, $86,317 CAD

2019/8 - 2021/7	Principal Applicant	CFI, Grant, $86,317 CAD
2019/5 - 2020/10	Principal Applicant	Trent U Research Grant, $4,500 CAD
2019/4 - 2020/3	Collaborator	American Heart Association IPA, $5,900 CAD
2016/5 - 2018/12	Principal Investigator	National Institutes of Health, $533,123 CAD
2017/5 - 2018/12	Principal Investigator	Oakland University Research Grant, $22,140 CAD
2018/7 - 2018/12	Principal Investigator	American Heart Association, $201,720 CAD
2015/8 - 2018/7	Principal Investigator	American Chemical Society PRF, $67,650 CAD

Trainees

11 Graduate students; 40 Undergraduate students