

Selected Top 40 Journal Publications [First author(s) underlined]:

(Complete list includes over 80 Journal Publications)

1. Vashist, S.K., Czilwik, G., van Oordt, T., von Stetten, F., Zengerle, R., E.M. Schneider, J.H.T. Luong
One-step kinetics-based immunoassay for the highly sensitive detection of C-reactive protein in less than 30 min.
ANALYTICAL BIOCHEMISTRY, 456, 32-37, 2014.
2. Vashist, S.K., E.M. Schneider, E. Lam, S. Hrapovic, J.H.T. Luong
One-step antibody immobilization-based rapid and highly-sensitive sandwich ELISA procedure for potential *in vitro* diagnostics.
SCIENTIFIC REPORTS (BY NATURE PUBLISHING GROUP) 4, 4407; DOI: 10.1038/srep04407, 2014.
3. Vashist, S.K., Schneider, E.M., Luong, J.H.T.
Rapid sandwich ELISA-based *in vitro* diagnostic procedure for the highly-sensitive detection of human fetuin A.
BIOSENSORS & BIOELECTRONICS, DOI: 10.1016/j.bios.2014.06.058, 2014.
4. Dixit, C.K., Vashist, S.K., MacCraith, B.D., O'Kennedy, R.
Multisubstrate-compatible ELISA procedures for rapid and high-sensitivity immunoassays.
NATURE PROTOCOLS, 6(4), 439-445, 2011.
5. Dixit, C.K., Vashist, S.K., O'Neill, F.T., O'Reilly, B., MacCraith, B.D., O'Kennedy, R.
Development of a high sensitivity rapid sandwich ELISA procedure and its comparison with the conventional approach.
ANALYTICAL CHEMISTRY, 82(16), 7049-52, 2010.
6. Vashist, S.K.
A sub-picogram sensitive rapid chemiluminescent immunoassay for the detection of human fetuin A.
BIOSENSORS & BIOELECTRONICS, 40, 297-302, 2013.
7. Vashist, S.K., Mudanyali, O., Schneider, E.M., Zengerle, R., Ozcan, A.
Cellphone-based devices for bioanalytical sciences: a review.
ANALYTICAL & BIOANALYTICAL CHEMISTRY, 406, 3263-3277, 2014.
8. Vashist, S.K., E.M. Schneider, J.H.T. Luong
Surface plasmon resonance-based immunoassay for human fetuin A.
ANALYST, 139, 2237-42, 2014.
9. Vashist, S.K.
Graphene-based immunoassay for human lipocalin-2.
ANALYTICAL BIOCHEMISTRY, 446, 96-101, 2014.
10. Dixit, C.K., Vashist, S.K., MacCraith, B.D., O'Kennedy, R.
Evaluation of apparent non-specific protein loss due to adsorption on sampling tube surfaces and/or compromised immunogenicity.
ANALYST, 136(7), 1406-11, 2011.
11. Vashist, S.K., Dixit, C.K., MacCraith, B.D., O'Kennedy, R.
Effect of antibody immobilization strategies on the analytical performance of a surface plasmon resonance-based immunoassay.
ANALYST, 136(21), 4431-36, 2011.
12. Vashist, S.K.

Effect of antibody modifications on its biomolecular binding as determined by Surface Plasmon Resonance. **ANALYTICAL BIOCHEMISTRY**, 421, 336-338, **2012**.

13. Vashist, S.K.
A method for regenerating gold surface for prolonged reuse of gold-coated Surface Plasmon Resonance chip.
ANALYTICAL BIOCHEMISTRY, 423, 23-25, **2012**.
14. Zheng, D., Vashist, S.K., Al-Rubeaan, K., Luong, J.H.T., Sheu, F.-S.
Rapid and simple preparation of a reagentless glucose electrochemical biosensor.
ANALYST, 137(16), 3800-3805, **2012**.
15. Zheng, D., Vashist, S.K., Al-Rubeaan, K., Luong, J.H.T., Sheu, F.-S.
Amperometric glucose biosensing using 3-aminopropyltriethoxysilane functionalized graphene.
TALANTA, 99, 22-28, **2012**.
16. Vashist, S.K., Zheng, D., Al-Rubeaan, K., Luong, J.H.T., Sheu, F.-S.
Sulfo-N-hydroxysuccinimide interferes with bicinchoninic acid protein assay.
ANALYTICAL BIOCHEMISTRY, 417(1), 156-8, **2011**.
17. Stevens, G.B., Silver, D.A., Zgaga-Griesz, A., Bessler, W.G., Vashist, S.K., Patel, P., Achazi, K., Strotmeier, J., Worbs, S., Dorner, M.B., Dorner, B.G., Pauly, D., Rummel, A., Urban, G.A., Krueger, M.
Bioluminescence assay for the highly sensitive detection of botulinum neurotoxin A activity.
ANALYST, 138, 6154-6162, **2013**.
18. Zheng, D., Vashist, S.K., Al-Rubeaan, K., Lam, E., Hrapovic, S., Luong, J.H.T., Sheu, F.-S.
Effect of 3-aminopropyltriethoxysilane on the electrocatalysis of carbon nanotubes for reagentless glucose biosensing.
JOURNAL OF NANOPHARMACEUTICS & DRUG DELIVERY, 1, 64-73, **2013**.
19. Vashist, S.K.
Comparison of various 1-Ethyl-3-(3-dimethylaminopropyl) carbodiimide based strategies for crosslinking antibodies to 3-aminopropyltriethoxysilane-functionalized bioanalytical platforms.
DIAGNOSTICS, 2, 23-33, **2012**.
20. Vashist, S.K., Saraswat, M., Holthöfer, H.
Comparative study of the developed chemiluminescent, ELISA and SPR immunoassay formats for the highly sensitive detection of human albumin.
PROCEDIA CHEMISTRY, 6, 184-193, **2012**.
21. Vashist, S.K., Saraswat, M., Holthöfer, H.
Development of a rapid sandwich Enzyme Linked Immunoassay procedure for the highly sensitive detection of human Lipocalin-2/NGAL.
PROCEDIA CHEMISTRY, 6, 141-148, **2012**.
22. Vashist, S.K., Dixit, C.K.
Interference of N-hydroxysuccinimide with bicinchoninic acid protein assay.
BIOCHEMICAL & BIOPHYSICAL RESEARCH COMMUNICATIONS, 411(2), 455-7, **2011**.
23. Van Oordt, T., Stevens, G.B., Vashist, S.K., Zengerle, R., von Stetten, F.
Rapid and highly sensitive luciferase reporter assay for the automated detection of botulinum toxin in the centrifugal microfluidic LabDisk platform.
RSC ADVANCES, 3, 22046-52, **2013**.
24. Vashist, S.K., Zheng, D., Al-Rubeaan, K., Luong, J.H.T., Sheu, F.-S.

- Technology behind commercial devices for blood glucose monitoring in diabetes management: A review.
ANALYTICA CHIMICA ACTA, 703(2), 124-136, 2011.
25. Vashist, S.K.
Non-invasive glucose monitoring technology in diabetes management: A Review.
ANALYTICA CHIMICA ACTA, 750, 16-27, 2012.
26. Vashist, S.K.
Continuous Glucose Monitoring Systems: a review.
DIAGNOSTICS, 3, 385-412, 2013.
27. Vashist, S.K., Al-Rubeaan, K.
Rapidly growing importance of glycated haemoglobin (HbA1c) in diabetic management.
JOURNAL OF BASIC & APPLIED SCIENCES, 9, 337-340, 2013.
28. Vashist, S.K., Zheng, D., Al-Rubeaan, K., Luong, J.H.T., Sheu, F.-S.
Advances in carbon nanotube based electrochemical sensors for bioanalytical applications.
BIOTECHNOLOGY ADVANCES, 29(2), 169-188, 2011.
29. Vashist, S.K., Zheng, D., Pastorin, G., Al-Rubeaan, K., Luong, J.H.T., Sheu, F.-S.
Delivery of drugs and biomolecules using carbon nanotubes.
CARBON, 49(13), 4077-97, 2011.
30. Li, J., Yap, S.Q., Nayak, T.R., Chandra, G.W., Ang, W.H., Panczyk, T., Ramaprabhu, S., Vashist, S.K., Sheu, F.-S., Tan, A., Pastorin, G.
Carbon nanotube bottles for incorporation release and enhanced cytotoxic effect of Cisplatin.
CARBON, 50, 1625-1634, 2012.
31. Cui, H.-F., Vashist, S.K., Al-Rubeaan, K., Luong, J.H.T., Sheu, F.-S.
Interfacing carbon nanotubes with living mammalian cells and cytotoxicity issues.
CHEMICAL RESEARCH TOXICOLOGY, 23(7), 1131-1147, 2010.
32. Zheng, D., Vashist, S.K., Dykas, M., Saha, S., Lam, E., Al-Rubeaan, K., Luong, J.H.T., Sheu, F.-S.
Graphene versus multi-walled carbon nanotubes for electrochemical glucose sensing.
MATERIALS, 6, 1011-1027, 2013.
33. Li, J., Nayak, T.R., Chandra, G.W., Ramaprabhu, S., Vashist, S.K., Sheu, F.-S., Pastorin, G.
Incorporation and delivery of bioactive molecules from smart carbon nano-devices.
ASIAN CHEMISTRY LETTERS, 16(1), 1-8, 2012.
34. Vashist, S.K., Venkatesh, A.G., Mitsakakis, K., Czilwik, G., Roth, G., von Stetten, F., Zengerle, R.
Nanotechnology-based diagnostics and biosensors: Technology Push Vs. Industrial/Healthcare Requirements.
BIONANOSCEINCE, 2(3), 115-126, 2012.
35. Vashist, S.K., van Oordt, T., Schneider, E.M., von Stetten, F., Zengerle, R.
Smartphone and tablet based point-of-care *in vitro* diagnostics and devices for mobile healthcare.
NEUROLOGY, PSYCHOLOGY AND BRAIN RESEARCH, 20, 25-26, 2014.
36. Vashist, S.K.
C-Reactive Protein: An Overview.
JOURNAL OF BASIC & APPLIED SCIENCES, 9, 496-499, 2013.
37. Vashist, S.K., Holthöfer, H.

- Microcantilevers for sensing applications.
J. MEASUREMENT & CONTROL, 43(3), 84-88, 2010.
38. Vashist, S.K., Schneider, E.M.
 Depression: An Insight and Need for Personalized Psychological Stress Monitoring and Management.
JOURNAL OF BASIC & APPLIED SCIENCES, 10, 177-182, 2014.
39. Vashist, S.K., Kaur, I., Bajpai, R.P., Bharadwaj, L.M., Tewari, R., Raiteri, R.
 Demonstration of a new biosensing concept for immunodiagnostic applications based on change in surface conductance of antibodies after biomolecular interactions.
JZUS B SCIENCE LETT., 7 (9), 683-685, 2006.
40. Vashist, S.K., Raiteri, R., Tewari, R., Bajpai, R.P., Bharadwaj, L.M.
 Quantification of human immunoglobulin G immobilized on gold-coated silicon chip for biosensor applications.
J. PHYSICS: CONF. SER., 34, 806-811, 2006.

Book Chapters:

1. Vashist, S.K., Korotcenkov, G.
 Microcantilever-based Chemical Sensors. (Book Chapter)
CHEMICAL SENSORS: TECHNOLOGIES. VOLUME 4: SOLID-STATE DEVICES
 Book published by Momentum Press, USA in 2011.
2. Vashist, S.K.
 Advances in Nanotechnology and the Future Prospects. (Book Chapter)
NANOTECHNOLOGY: RECENT TRENDS, EMERGING ISSUES AND FUTURE DIRECTIONS, ISBN: 978-1-63117-567-1, Nova Publishers, 2014.
3. Vashist, S.K., Luong, J.H.T.
 Electrochemical biosensing schemes using Graphene and Graphene-based nanocomposites.
ADVANCED MATERIALS BOOK SERIES, WILEY-Scrivener, USA, 2014. (in Press)

Selected Top 40 Conference Publications:

1. Vashist, S.K.
 Rapid *In Vitro* Diagnostic Procedures for Point-of-Care Diagnostics.
MICROTAS 2014. [San Antonio, Texas, USA; Oct. 26-30, 2014] [Invited Talk]
2. Vashist, S.K.
 Graphene-based signal enhanced immunoassay for human Lipocalin-2 using a highly simplified antibody immobilization procedure.
BIOSENSORS 2014. [Melbourne, Australia; May 27-30, 2014] [Invited Talk]
3. Vashist, S.K.
 Surface Plasmon Resonance-based immunoassay for human fetuin A using a highly-simplified antibody immobilization procedure.
BIOSENSORS 2014. [Melbourne, Australia; May 27-30, 2014]
4. Venkatesh, A.G., Jin, J., von Stetten, F., Zengerle, R., Vashist, S.K.
 Smartphone-based immunoassay for the highly-sensitive point-of-care detection of human C-reactive protein in whole blood and serum.
BIOSENSORS 2014. [Melbourne, Australia; May 27-30, 2014] [Invited Talk]
5. Vashist, S.K., von Stetten, F., Zengerle, R.

One-step kinetics-based immunoassay for the detection of human fetuin A in 30 min.

BIOSENSORS 2014. [Melbourne, Australia; May 27-30, 2014]

6. Vashist, S.K., van Oordt, T., von Stetten, F., Zengerle, R.
Smartphone-based colorimetric reader for bioanalytical applications using tablet's/smartphone's screen-based bottom illumination.
- BIOSENSORS 2014.** [Melbourne, Australia; May 27-30, 2014]
7. Vashist, S.K., von Stetten, F., Zengerle, R.
A highly-sensitive rapid sandwich immunoassay for human fetuin A using the one-step antibody immobilization procedure.
- BIOSENSORS 2014.** [Melbourne, Australia; May 27-30, 2014]
8. Czilwik, G., Klein, V., Strohmeier, O., Roth, G., von Stetten, F., Zengerle, R., Vashist, S.K., Mark, D.
Automated detection of human C-reactive protein on centrifugal microfluidics-based LabDisk platform.
- BIOSENSORS 2014.** [Melbourne, Australia; May 27-30, 2014]
9. Stevens, G.B., Silver, G.A., van Oordt, T, Vashist, S.K., Wiesemann, J., Rummel, A., Urban, G.A.
Comparison of bioluminescence and fluorescence reporter molecules in the detection of botulinum neurotoxin A activity.
- BIOSENSORS 2014.** [Melbourne, Australia; May 27-30, 2014]
10. Jin, J., Czilwik, G., von Stetten, F., Zengerle, R., Vashist, S.K.
One-step kinetics-based rapid magnetic immunoassay for highly-sensitive detection of C-reactive protein.
- 3rd INT. CONF. ON BIO-SENSING TECHNOLOGY 2013** [Sitges, Spain; May 13-15, 2013].
11. Vashist, S.K., Czilwik, G., von Stetten, F., Zengerle, R.
Highly-sensitive immunodiagnostic kit for C-reactive protein based on the developed one-step antibody immobilization procedure.
- 3rd INT. CONF. ON BIO-SENSING TECHNOLOGY 2013** [Sitges, Spain; May 13-15, 2013].
12. Vashist, S.K., van Oordt, T., Kloke, A., von Stetten, F., Zengerle, R.
Smartphone-based colorimetric readers (SBCR) for bioanalytical applications and SBCR-based *in vitro* diagnostics for mobile healthcare.
- MICROTEC SÜDWEST CLUSTERKONFERENZ 2014.** [Freiburg, Germany; May 5-6, 2014]
13. Venkatesh, A.G., von Stetten, F., Zengerle, R., Vashist, S.K.
Smartphone-based low-cost colorimetric readers and *in vitro* diagnostic technologies for point-of-care applications.
- EUROPEAN TECHNOLOGY PLATFORM ON SMART SYSTEMS INTEGRATION (EPoSS) GENERAL ASSEMBLY AND ANNUAL FORUM 2013.** [Cork, Ireland; Sept. 24-26, 2013]
14. Van Oordt, T., Stevens, G.B., Vashist, S.K., Zengerle, R., von Stetten, F.
Automated detection of biological threats with a centrifugal lab-on-a-chip system.
- INT. CONF. ON BIOSENSORS AND BIOELECTRONICS 2013** [Chicago, USA; June 17-19, 2013]
15. Vashist, S.K., von Stetten, F., Zengerle, R.
Smartphone & tablet based point-of-care *in vitro* diagnostic immunoassays and devices for mobile healthcare.

12th PSYCHOIMMUNOLOGY EXPERT MEETING 2014. [Scientific Institute of Ulm University, Schloss Reisensburg–Günzburg, Germany; Mar. 6-9, 2014]

16. Van Oordt, T., Stevens, G., Vashist, S.K., Urban, G.A., Zengerle, R., von Stetten, F.
Fully automated enzymatic detection of botulinum neurotoxin on the centrifugal labdisk platform.
TRANSDUCERS 2013 [Oral talk]
17. Vashist, S.K.
Prospective Lab-on-a-chip diagnostic formats for mobile Healthcare: Prospects and Challenges.
MINASENS 2013. [Athens, Greece; Mar 7-8, 2013]
18. Vashist, S.K.
Graphene nano platelets-based signal-enhanced immunoassay for human lipocalin-2.
3rd INT. CONF. ON BIO-SENSING TECHNOLOGY 2013 [Sitges, Spain; May 13-15, 2013].
19. Vashist, S.K.
Polymers and Nanocomposites based bioanalytical platforms for healthcare and industrial applications.
INT. CONF. ON ADVANCED POLYMERIC MATERIALS 2013. [Invited Talk]
[Kerala, India; Oct 11-13, 2013]
20. Vashist, S.K.
Rapidly growing potential of nanotechnology in healthcare, environmental monitoring and industrial settings.
3rd INT. CONF. ON NANOTEK & EXPO. [Las Vegas; Dec 2-4, 2013] [Plenary Talk]
21. Al-Rubeaan, K., Vashist, S.K., Sheu, F.S.
Advances in carbon nanotubes based electrochemical sensors for bioanalytical applications.
MEDICAL TECHNOLOGY CONF. 2013. [Saudi Arabia]
22. Vashist, S.K.
Polymer and Nanocomposites based bioanalytical platforms for Healthcare and Industrial applications.
2nd INT. CONF. ON ADVANCED POLYMERIC MATERIALS 2013. [India; Oct. 11-13, 2013]. [Invited Talk]
23. Vashist, S.K., Czilwik, G., van Oordt, T., Strohmeier, O., Paust, N., Kosse, D., Roth, G., Mark, D., Zengerle, R., von Stetten, F.
Technologies for developing next-generation of diagnostics.
PHOTONIC GLOBAL CONF. (PGC) 2012 [Singapore; Dec. 13-16, 2012]. [Invited Talk]
24. Stevens, G.B., Silver, D., van Oordt, T., Vashist, S.K., Urban, G.A., Krueger, M.
Optimizing the developed luciferase release assay for the automated detection of botulinum neurotoxin type A.
48TH ANNUAL INTERAGENCY BOTULISM RESEARCH COORDINATING COMMITTEE (IBRCC) MEETING [Santa Fe, New Mexico, Oct. 5-7, 2012].
25. Vashist, S.K.
A label-free and real-time surface plasmon resonance-based immunoassay for the highly sensitive detection of human fetuin A in 15 minutes.
LABEL-FREE TECHNOLOGIES [Amsterdam, The Netherlands, Nov. 1-3, 2012].
26. Vashist, S.K.
Effect of 3-aminopropyltriethoxysilane-based antibody immobilization chemistries on the performance of surface plasmon resonance-based human fetuin A immunoassay.

- LABEL-FREE TECHNOLOGIES** [Amsterdam, The Netherlands, Nov. 1-3, **2012**].
27. Vashist, S.K.
A sub-picogram sensitive rapid chemiluminescent immunoassay for the detection of human fetuin A.
BIOSENSORS 2012 [Cancun, Mexico; May 15-18, **2012**].
28. Zheng, D., Vashist, S.K., Al-Rubeaan, K., Luong, J.H.T., Sheu, F.-S.
Mediatorless amperometric glucose biosensor based on the covalent binding of glucose oxidase to poly-L-lysine-functionalized glassy carbon electrode.
BIOSENSORS 2012 [Cancun, Mexico; May 15-18, **2012**].
29. Zheng, D., Vashist, S.K., Al-Rubeaan, K., Luong, J.H.T., Sheu, F.-S.
Development of electrochemical glucose biosensor based on glucose oxidase bound covalently to 3-aminopropyltriethoxysilane-functionalized glassy carbon electrode.
BIOSENSORS 2012 [Cancun, Mexico; May 15-18, **2012**].
30. Vashist, S.K., Saraswat, M., Holthofer, H.
Comparative study of the developed chemiluminescence, ELISA and SPR immunoassay formats for the highly sensitive detection of human albumin.
2nd INT. CONF. ON BIO-SENSING TECHNOLOGY 2011 [Amsterdam, Netherlands; Oct 10-12, **2011**].
31. Vashist, S.K., Saraswat, M., Holthofer, H.
Development of a rapid sandwich Enzyme Linked Immunoassay procedure for the highly sensitive detection of human Lipocalin-2/NGAL.
2nd INT. CONF. ON BIO-SENSING TECHNOLOGY 2011 [Amsterdam, Netherlands; Oct 10-12, **2011**].
32. Dixit, C.K., Vashist, S.K., MacCraith, B.D., O'Kennedy, R.
Novel SPR-based assay formats for human fetuin A: Effect of orientation of immobilised antibody.
EUROP(T)RODE X [Prague, Czech Republic; Mar. 28-31, **2010**]. [Invited Talk]
33. Vashist, S.K.
Development of highly-sensitive rapid immunoassays & diagnostics for diabetic biomarkers.
THE 1ST DIABETES NANOCORE INT. SYMPOSIUM [Saudi Arabia; Sept. 28-29, **2010**]. [Invited Talk]
34. Vashist, S.K.
Recent Advances in Biosensors and Diagnostics for Point-of-care, Medical and Industrial Applications.
INT. CONF. ON SENSORS AND RELATED NETWORKS (SENNET 09) [Vellore, India; Dec. 10, **2009**]. [Inv Talk]
35. Vashist, S.K.
Trends in Bioanalytical Sciences and Biosensors for Immunodiagnostics & Point-of-care Devices.
INT. CONF. ON MICROBIAL BIOTECH. (MICROCON 09) [Chandigarh, India; Mar. 03, **2009**]. [Invited Talk]
36. Vashist, S.K.
Novel Approaches for Advanced Bioanalytical Platforms in Biosensing and Immunodiagnostic applications.
INT. CONF. ON TRENDS IN BIOANALYTICAL SCIENCES AND BIOSENSORS (ICTBSB-2009) [Dublin, Ireland; Jan. 27, **2009**]. [Invited Talk]
37. Vashist, S.K.
Development of advanced optical platforms, new bioanalytical tools and procedures for highly sensitive and rapid immunoassays.

BRISTOL-MYERS SQUIBB 33RD INTERDIVISIONAL ANALYTICAL RESEARCH CONF. [Syracuse NY, USA; Jun. 18-19, 2008].

38. Byrne, B., Donohoe, G., O'Neill, F.T., Vashist, S.K., O'Sullivan, S.A., O'Kennedy, R., MacCraith, B.D.

Antibody-based assay formats for the rapid detection of glycoconjugates.

GLYCOSCIENCE IRELAND [Trinity College, Dublin, Ireland; Apr. 08, 2008].

39. O'Neill, F.T., O'Sullivan, S.A., Vashist, S.K., MacCraith, B.D.

Optimisation of optical immuno-sensors.

EUROPTRODE IX [Biomedical Diagnostics Institute, Dublin City University, Ireland; Mar. 30-Apr. 02, 2008].

40. Vashist, S.K.

Biomolecular studies at the nanoscale level for biosensors and immunodiagnostics.

INT. CONF. ON SENSORS AND RELATED NETWORKS (SENNET 07) [Vellore, India; Dec. 12, 2007]. [Invited Talk]