



Curriculum Vitae

Name	Daniel Gygax, Ph.D.
Position	Professor of Bioanalytics and Biotechnology
Date of birth	21 / 4 / 52 (day/month/year)
Affiliation	University of Applied Sciences Northwestern Switzerland School of Life Sciences Institute of Chemistry & Bioanalytics
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Brief summary of carrier	Academic Training Undergraduate Diploma in Biology, Biocentre of the University of Basel. 1975-1979 Graduate Ph.D. in Biochemistry, Biocentre of the University of Basel. Thesis advisor: Prof. Dr. Jakob Nüesch 1980-1984 Postgraduate Postdoctoral Research in applied Enzymology, Department of Chemistry and Chemical Biology at Harvard University. Advisor: Prof. Dr. G.M. Whitesides 1984-1985 Professional Experience Research Scientist Applied Enzymology at Central Research Laboratories of Ciba-Geigy AG, Basel. 1986-1989

	<p>Head of Immunoanalytics Bioanalytics in preclinical Development of Novartis Pharma AG, Basel. 1989-1999</p> <p>Professor of Bioanalytics and Biotechnology School of Life Sciences FHNW, Muttenz/Basel. 1999- present Head of Bachelor curriculum “Molecular Life Sciences” 2006-present Head of Bioanalytics and Innovative Platform in-vitro diagnostics. 2006-present</p> <p>Extramural activities Lecturer at the Department of Chemistry of the University of Basel. 2008-present</p> <p>Lecturer at the Department of Biology at the University of Palermo. 2007-present</p> <p>President of Biotechnet Switzerland. CTI promoted R&D network. Initiator together with Prof. Letizia Vittorelli of the International Summer School on Advanced Biotechnology and the Erasmus exchange of students between the Università Degli Studi di Palermo and FHNW. 2001-present</p> <p>CHIMIA Member of the Scientific Advisory Board. 2009-present</p> <p>SATW (Swiss Academy of Engineering Sciences) Member of the scientific board. 2005-2012 President of the commission applied biosciences. 2006-present Full member since 2009</p> <p>TA-Swiss Member of the Steering Committee since 2011 Chairman of supervisory group of the study “Robotics and autonomous devices in the social sector”</p> <p>Allocyte Pharmaceuticals AG, Basel Co-founder of a start-up company in drug discovery (2011)</p> <p>Research Interests Translational R&D in Bioanalytics and diagnostics. Biosensor and calorimetry based biospecific interaction analysis.</p> <ul style="list-style-type: none"> - Co-development of 4 diagnostic test kits with Bühlmann Laboratories AG, Switzerland - >7 mio \$ funds over 6 years - >40 Scientific publication
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	<ul style="list-style-type: none"> - 12 Projects granted by CTI (Commission for Technology and Innovation, federal government of Switzerland) - 4 Patents
Awards	<p>Ciba-Geigy Mach Mit Award 1992 für ein Projekt zum Re-engineering von Abläufen von bioanalytischen Methoden basierend auf dem Sensitivitätsmodell von Frederic Vester.</p> <p>Novartis Project Team Award 1999 for excellent team work during the development of the drug Xolair.</p> <p>Award for applied research of Kanton Basel-Landschaft 2004 for successful development and establishment of biotechnology at the School of Life Sciences FHNW.</p>
Publications	<ol style="list-style-type: none"> 1. Gygax, D., Christ, M., Ghisalba, O. und Nüesch, J.; Regulation of 3-deoxy-D-arabinoheptulosonic acid 7-phosphate synthetase in <i>Nocardia mediterranei</i>; (1982) FEMS Microbiology Letters 15, 169-173. 2. Gygax, D., Stalder, R. and Nüesch, J.; Propionyl-CoA carboxylase from <i>Nocardia mediterranei</i>; (1984) FEMS Microbiology Letters 23, 211-216. 3. Gygax, D., Treichler, H.J. and Nüesch, J.; Study to the biosynthesis of rifamycin-chromophore in <i>Nocardia mediterranei</i>; (1990) J. Antibiotics 43, 324-326. 4. Waldmann, H., Gygax, D., Bednarski, M.D., Shangraw, W.R. and Whiteside, G.M.; The enzymic utilization of sucrose in the synthesis of amylose derivatives of amylose, using phosphorylases; (1986) Carbohydrate Research 157, c4-c7. 5. Berger, E.G. and Gygax, D.; Glycosyltransferases: Tools for in vivo glycosylation; (1987) 4th European Carbohydrate Symposium, B-27, Lichtenthaler, F.W., Neff, K.H. 6. Schär, H.P., Gygax, D., Ramos Tombo, G. and Ghisalba, O.; Purification and properties of an acetyl specific carboxylesterase from <i>Nocardia mediterranei</i>; (1988) Appl. Microbiol. Biotechnol. 27, 451-456. 7. Lattmann, R., Ghisalba, O., Gygax, D., Schär, H.P. and Schmidt, E.; Screening and application of microbial esterases for the enantioselective synthesis of chiral glycerol derivatives; (1990) Biocatalysis 3, 137-144. 8. Stierlin, H., Faigle, J.W. and Gygax, D.; Enzymatic synthesis of glucuronides; (1988) 11th Workshop on Drug Metabolism, Konstanz. 9. Gygax, D., Nachtgal, H., Lattmann, R., Schär, H.-P., Ghisalba, O., Wanderscheidt, C. and Streiff, M.; D-Ribulokinase from <i>Klebsiella pneumoniae</i> for the continuous production of D-(-)-ribulose-5-phosphate; (1990) Appl. Microbiol. Biotechnol. 32, 621-626. 10. Schneider, R., Hammel, M., Berger, E.G., Ghisalba, O., Nüesch, J., Gygax, D.; Immobilization of galactosyltransferase and continuous galactosylation of glycoproteins in a reactor; (1990) Glycoconjugate Journal 17, 589-600. 11. Gygax, D., Hammel, M., Schneider, R., Berger, E.G. and Stierlin, H.; Immobilization of glycosyltransferases for the modification of drugs; (1991) J. Biotechnol. 19, 1-10.

	<p>Symposium Series No. 466, Enzymes in Carbohydrate Synthesis, Eds. I Bednarski and E.S. Simon.</p> <p>12. Gay, B., Towbin, H., Schnell, C., Einsle, K., Graf, P. and Gygax, D.; Direct chemiluminescence immunoassay for muramyl tripeptide phosphatidylethanolamine in plasma; (1991) J. Bioluminescence Chemiluminescence 6, 73-80.</p> <p>13. Ghisalba, O., Lattmann, R. and Gygax, D.; Enzymatic preparation of acylglycerols of high optical purity; (1991) Recl. Trav. Chim. Pays-Bas 263-264.</p> <p>14. Gygax, D., Spies, P., Winkler, T. and Pfaar, U.; Enzymatic synthesis of b-D-glucuronides with in situ regeneration of uridine 5'-diphosphoglucuronic acid; (1991) Tetrahedron 47, 5119-5122.</p> <p>15. Kragl, U., Gygax, D., Ghisalba, O. and Wandrey, C.; Enzymatic zweistufige Synthese von N-Acetylneuraminsäure in einem Enzym-Membranreaktor; (1991) Angew. Chemie 103, 854-855.</p> <p>16. Hammel, M., Schneider, R., Berger, E.G. and Gygax, D.; Enzymatic Glycosylation of N-linked Glycoprotein Glycans; (1992) In Proceedings of Glycosylation: Cellular, Biotechnological and Analytical Aspects, Monographs Vol. 15, Ed. H.S. Conradt.</p> <p>17. Schmidt Elke, Ghisalba Oreste, Gygax Daniel and Sedelmeier Gottfried; Optimization of a process for the production of (R)-2-hydroxy-4-phenylbutyric acid - an intermediate for inhibitor of angiotensin converting enzyme; (1992) J. Biotechnol. 24, 315-327.</p> <p>18. Liou, R-S., Fung MSC., Zühlke U., Gudat F., McKinney S., Gordon W., W., Botta L., Gygax D., Chang T-W., Chang NT, Braun DG; Mouse/human chimeric anti-HIV-1 gp 120 antibody to the principal neutralization determinant: Tolerability and pharmacokinetics in cynomolgus monkey <i>Macaca fascicularis</i>; (1992) Biotherapy 5, 291-299.</p> <p>19. Gay Brigitte, Cardot Jean-Michel, Schnell Christian, van Hoogevest P and Gygax Daniel; Comparative Pharmacokinetics of Free Muramyl Tripeptide Phosphatidyl Ethanolamine (MTP-PE) and Liposomal MTP-PE; (1993) J. Pharmaceutical Sciences 82, 997-1001.</p> <p>20. Schüpbach, J., Günthard, H., Fung, M.S.C., Liou, R-S., Botta, L., Gowling P., Gordon, W., Gygax, D., Chang, N.T., Chang, T.W., Lüthy, R. and Braun DG; Pharmacokinetics of an HIV-1 gp120-specific chimeric antibody in patients with HIV-1 disease, (1993) Biotherapy 6, 205-215.</p> <p>21. Pfister, C.U., Duval, M., Godbillon, J., Gosset, G., Gygax, D., Marfi Sioufi, A. and Winkler, B., Development, application and comparison of a direct enzyme immunoassay and high-performance liquid chromatography method for the determination of the aromatase inhibitor CGS 20263 in biological fluids, (1994) J. Pharmaceutical Sciences 83, 529-524.</p> <p>22. Landmann, R., Obrist, R., Denz, H., Ludwig, Ch., Frost, H., Wesp, Rordorf, Ch., Towbin, H., Gygax, D., Tarcsay, L. and Obrecht, Ch.; Pharmacokinetics and immunomodulatory effects on monocytes during prolonged therapy with liposomal muramyltripeptide, (1994) Biotherapy 7, 1-12.</p> <p>23. Gygax, D., Botta, L., Ehrat, M., Graf, P., Lefèvre, G., Oroszlan, P. and Pfister Ch., Immunoassays in Monitoring Biotechnological Drugs, (1994) Symposium Series No. 466, Enzymes in Carbohydrate Synthesis, Eds. I Bednarski and E.S. Simon.</p>
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	<p>Therapeutic Drug Monitoring 18, 405-409.</p> <p>24. Gygax, D., Botta, L., Ehrat, M., Graf, P., Lefèvre, G., Oroszlan, P. and Pfi Ch., Immuno and other biological approaches in Pharmacokinetics Biofluid assay for peptide-related and other drugs. Methodological sur in bioanalysis of drugs Vol. 24. Eds.: E. Reid, H.M. Hill and I.D. Wil (1996) 11-19.</p> <p>25. Corne, J.M., Dukanovic, L., Botta, L., Grandordy, B., Gygax, D., Heusse Richardson, W., Staehelin, T., Davis, F., Gordon, W., Sun, L., Wang, Chang, TW and Holgate, S.T., Safety, tolerability and pharmacokinetics chimeric antibody against human IgE in atopic volunteers, (1997) J Invest 99, 879-887.</p> <p>26. Racine-Poone, A., Botta, L., Chang, T W., Davis F.M., Gygax, D., Liou, Rohane, P., Staehelin, Th., van Steijn, A.M.P. and Frank, W., Effic pharmacodynamics and pharmacokinetics of CGP 51901, an ant chimeric monoclonal antibody, in patients with seasonal allergic rhir (1997) Clin Pharmacol & Ther 62, 675-690.</p> <p>27. End, P., Schindler, R. and Gygax, D., Immuno-PCR: PCR-ampl immunoassay for ultra-sensitive detection of therapeutic drugs surrogate markers in biological fluids. Drug Development A Approaches, Including Molecular Imprinting and Biomark Methodological surveys in bioanalysis of drugs Vol. 25. Eds.: E. Reid, Hill and I.D. Wilson. (1998) 275-76.</p> <p>28. Pfaar, U., Gygax, D., Gertsch, W., Winkler, T. and Ghisalpa, O., Enzym Synthesis of β-D-Glucuronides in an Enzyme Membrane Reactor. (1999) 590-593.</p> <p>29. D. Gygax, M. Weber, P. Spies and I. Weis, Proteinanalytics with Sur Plasmon Resonance Technique and Capillary Electrophoresis, (2001) Ch 55, 570-572</p> <p>30. K. Fent, P. Kunz, M. Wolf, H. Schmutz, D. Gygax, C. Schanné, Chem Analysis and Ecotoxicological Effects of UV Absorbing Organic Chemical Aquatic Environments, (2004) Chimia 58, 325-327.</p> <p>31. U. Pfaar, E. Kübler, D. Gygax, Molekulare Regulation der Bildung Inaktivierung reaktiver Sauerstoffspezies. In Prinzipien und Mechanis der para- und autokrinen Regulation (Hrsg. K. Ruckpaul), Springer Ve Berlin, (2005)</p> <p>32. D. Vonwil, D. Wendt, S. Ströbel, H.J. Wallny, D. Gygax, M. Heberer, I. Ma Assessment of the stability of TGFβ3 bioactivity for potential biore applications, (2008) Biochemical Engineering Journal 39' 586-589.</p> <p>33. Peter Spies, Guo Jun Chen and Daniel Gygax, Establishment of miniaturized enzyme-linked immunosorbent assay for human transfer quantification using an intelligent multifunctional analytical plate, (2 Analytical Biochemistry 382, 35-39.</p> <p>34. Gerspacher Christian, Scheuber Urs, Schiera Gabriella, Proia Patrizia, G Daniel and Di Liegro Italia, The effect of cadmium on brain cells in cult (2009) International Journal of Molecular Medicine 24, 311-318.</p> <p>35. Spies Peter, Chen Guo Jun and Daniel Gygax, Establishment of miniaturized enzyme-linked immunosorbent assay for human transfer quantification using an intelligent multifunctional analytical plate, (2</p>
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	<p>Analytical Biochemistry 382, 35-39.</p> <p>36. Spies Peter, Mueller Regina, Chen Guo Jun and Daniel Gygax, A simple approach to improve the sensitivity of enzyme-linked immunosorbent assay: Using the IMAPlate 5RC96 for result readout, (2010) Analytical Biochemistry, 397, 48-52.</p> <p>37. Fasler Elizaveta, Suenderhauf Claudia, Barteneva Natasha, Poller Daniel Gygax Daniel and Huwyler Jörg, Cytokine signalling in the human brain capillary endothelial cell line hCMEC/D3, (2010) Brain Research 1767, 15-22.</p> <p>38. Fasler Elizaveta, Barteneva Natasha, Ketterer Sylvie, Wunderlich Kerstin Huwyler Jörg, Gygax Daniel, Flammer Josef and Meyer Peter, Activation of the JACKSTAT intracellular pathway in human retinal pigment epithelial cell line ARPE-19, (2010) International Journal of Interferon, Cytokine and Cell Mediator Research, 2, 127-136.</p> <p>39. Escher Claudia, Lochmüller Hans, Fischer Dirk, Frank Stephan, Reinhardt Jens, Walter Maggie, Ehrat Markus, Ruegg Markus and Gygax Daniel, Reverse protein arrays as novel approach for protein quantification in muscular dystrophies, (2010) Neuromuscular Disorders 20, 302-309.</p> <p>40. Sciotti Michel A, Chen Guo Jun and Gygax Daniel, IMAPlate based on a miniature, high sensitive, rapid screening method for detection of bioengineered, secreted lipase activities in yeast expression systems, (2010) Chimia 64, 789-792.</p> <p>41. Sciotti Michel A, Hasan Lara, Scholer André, Jermann Thomas M, Weber M Jakob M and Gygax Daniel, Development and Characterization of a novel enzymatic method for the rapid determination of gamma hydroxybutyrate, (2010) Chimia 64, 793-798.</p> <p>42. Hasan Lara, Jermann M. Thomas, Weber M. Jakob, Abrahamsson M, Sciotti Micehl-Angelo, Böttcher Michael, Jöchle Wolfgang, Gygax Daniel and Scholer André, An enzymatic method to determine g-hydroxybutyrate in serum and urine, (2011) Ther Drug Monit 33, 757-765.</p> <p>43. Palazzolo Gemma, Albanese Nadia Ninfa, Di Cara Gianluca, Gygax Daniel, Vittorelli Maria Letizia and Pucci-Minafra, Proteomic analysis of exosome-like vesicles derived from breast cancer cells, (2012) Anticancer Research 32, 847-860.</p> <p>44. Rullaud Vanessa, Siragusa Michael, Cumbo Alessandro, Gygax Daniel, Shagaldian Patrick. DNA surface coating of calixarene-based nanoparticles: a sequence-dependent binding mechanism. (2012) Accepted ChemComm.</p>
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