

Curriculum vitae

Ap. Prof., Priv.-Doz. Schwarz Christoph, MD, PhD

PERSONAL INFORMATIONS

Name: Schwarz Christoph
Contact: Mobile: 0043(0)676 / 938 44 66
Mail: christoph.a.schwarz@meduniwien.ac.at
Address: Dept. of General Surgery, Div. of Visceral- Vascular and Transplantsurgery
Medical University Vienna
Waehringer Guertel 18-20
1090 Vienna, Austria
P: 0043(0)1/40400/56210
Date of birth: 22/09/1985
Citizenship: Austria
Languages: German, English, French
ORCID nb: 0000-0002-7676-2779

EDUCATION

2004-2009 *Medical University Vienna, Austria*
2009-2010 *Graduate School of Medicine, Nagoya, Japan*
2010 Medical degree, *Medical University Vienna, Austria*
2017 PhD Degree (N094), *Medical University Vienna, Austria*
Doctoral thesis: “*The mechanisms of B7 targeting costimulation blockade in transplantation*”
(Supervisor: Prof. Dr. Thomas Wekerle)
2019 Habilitation / Venia legend (Privatdozent)
2021 Adjunct professor (Ap. Prof.)

MEDICAL TRAINING

2010-2015 Dept. of Surgery, Div. of General-, Vascular- and Transplantsurgery
Medical University Vienna, Austria
(Head: Prof. Dr. Michael Gnant)
2015 Dept. of Surgery
KH Horn
(Head: Prim. Dr. Reinhold Klug)
2015-ongoing Dept. of General Surgery, Div. of Visceral Surgery
Medical University Vienna, Austria
(Head: Prof. Dr. Oliver Strobel)
2018 Board approval as a General Surgeon
2020 Dept. of Digestive Oncologic and Metabolic Surgery
Institute Mutualiste Monstouris, Paris, France
(Head: Prof. Dr. David Fuks)

ADDITIONAL MEDICAL TRAINING

2014 Training and Certificate in Good Clinical Practice (GCP)
2015 AGC GI course, Davos, Switzerland
2017 DaVinci course, Gent, Belgium
2020 Training and Certificate in Good Clinical Practice (GCP)

TEACHING EXPERIENCE

2008-2010 Anatomy tutor at the Dept. of Anatomy, *Medical University Vienna*, Austria
(Head: Prof. Dr. Helmut Gruber)

Supervisor and Co-Supervisor of Diploma theses:

Sophie Mayerhoffer: *Long-term outcome of renal transplant recipients treated with the costimulation blocker belatacept in comparison to patients treated with cyclosporine – A retrospective, case-matched, single-center study*
Marin Purtic: *Advagraf vs Prograf in der de novo Nierentransplantation- eine retrospektive Datenanalyse*
Care Ay: *Oxidativer Stress bei Leberresektion*
Fabian Fitschek: *Management von Gallengangskomplikationen nach Leberresektion - eine retrospektive Datenanalyse*
Immanuel Plass: *Eine retrospektive Datenanalyse des Einflusses der präoperativen Indocyanin Clearance auf das Outcome nach Leberresektionen*
Antonia Punzengruber: *Geschlechtsspezifisches Outcome nach Leberresektion – eine retrospektive Datenanalyse*
Sara Helena Ksiazek: *The impact of preoperative iron storage on liver dysfunction after liver resection - a retrospective analysis*

CLINICAL RESEARCH

- Subinvestigator of a phase II and IV, multi-center trial in kidney transplant recipients
- Subinvestigator of a phase IIIb, multi-center trial in patients undergoing liver resection

HONORS AND AWARDS

- Students award, Medical University Vienna 2008 and 2009
- JASSO scholarship 2009/10
- Austrotransplant-Poster Award, Austrian Society of Transplantation, 2011
Belatacept treatment for 2 years after liver transplantation is not associated with overt immunomodulation
Schwarz Ch., Rasoul-Rockenschaub S., Soliman T., Berlakovich GA., Steininger R., Mühlbacher F., Wekerle T.
- Young Investigator Award, Austrian Society of Transplantation, 2011
Rapamycin and anti-LFA-1 overcome the barrier of T cell sensitization in a bone marrow transplantation-based tolerance model
Unger L., Pilat N., Ramsey H., **Schwarz Ch.**, Hock K., Farkas A., Baranyi U., Wekerle T.
- Young Investigator Award, Austrian Society of Transplantation, 2012
The role of donor and recipient CD40 in the induction of tolerance in a murine mixed chimerism model
Pilat N., Klaus C., **Schwarz C.**, Gattringer M., Schwaiger E., Baranyi U., Wekerle T.
- Young Investigator, Award Austrian Society of Transplantation, 2014
The role of NK cells in chimerism induced transplantation tolerance
Mahr B., Pilat N., Hock K., **Schwarz C.**, Wekerle T.
- Theodor-Billroth-Award of the Austrian Surgical Society, 2015
T regulatory cell treatment prevents chronic rejection of heart allografts in a murine mixed chimerism model
Pilat N., Farkas A., Mahr B., **Schwarz Ch.**, Unger L., Hock K., Oberhuber R., Aumayr K., Wrba F., Wekerle T.
- Travel Grant ÖH 2015

- Basic science award, Austrian Society of Transplantation, 2015
Rapamycin and CTLA4Ig Synergize to Induce Stable Mixed Chimerism Without the Need for CD40 Blockade.
Pilat N., Klaus C., **Schwarz Ch.**, Hock K., Oberhuber R., Schwaiger E., Gattringer M., Ramsey H., Baranyi U., Zelger B., Brandacher G., Wrba F., Wekerle T.
- Austrotransplant-Poster Award, Austrian Society of Transplantation, 2015
Mechanisms of chronic CTLA4Ig therapy in murine cardiac transplantation
Schwarz Ch., Unger L., Mahr B., Aumayer K., Pilat N., Hock K., Farkas A., Wekerle T.
- Basic science award, Austrian Society of Transplantation, 2017
The immunosuppressive effect of CTLA4 immunoglobulin is dependent on regulatory T cells at low but not high doses
Schwarz Ch., Unger L., Mahr B., Aumayer K., Regele H., Farkas A., Hock K., Pilat N., Wekerle Th.
- Theodor-Billroth-Award of the Austrian Surgical Society, 2019
Allograft rejection is associated with the development of functional IgE specific for donor MHC antigens
Farkas A., Baranyi U., Böhmig GA., Unger L., Hopf S., Wahrmann M., Regele H., Mahr B., **Schwarz Ch.**, Pilat N., Kristo I., Lupinek C., Thalhammer J., Wlodek E., Clatworthy M., Pettingrew G., Valenta R., Wekerle T.
- Travel Grant of the Austrian Surgical Society, 2020
- Concelor, Austria-Hungarian Chapter of the American College of Surgeons, 2020

GRANTS

- **Grant from the major of Vienna:** 34 000 €: *Cell therapy with regulatory T cells to treat chronic transplant rejection*
- **Hochschuljubiläumsstiftung:** 10 000 €: *Optimizing immunosuppressive therapy with the costimulation blocker CTLA4Ig in organ transplantation*
- **Grant from the major of Vienna:** 16 500 €: *The role of B7 on T cells and its relevance for immunosuppression in organ transplantation*
- **Third-party funds:** 40 000 €: *The impact of iron homeostasis on liver regeneration – a pilot study*
- **Third-party funds:** 31 572 €: *Efficacy of NHS-PEG coated collagen patch for prevention of bile leaks after liver resection – a power analysis*

INVITED REVIEWER

- Transplantation
- Cancers
- Journal of Critical Care
- Clinical Colorectal Cancer
- Transplant International
- European Surgery
- Transplant Immunology
- Acta Anaesthesiologica. Scandinavia
- Heart, Lung and Circulation
- Drug Design, Development and Therapy
- Transplantation Direct

MEMBERSHIPS IN PROFESSIONAL SOCIETIES

- Austrian Society for Transplantation, Transfusion and Genetics
- Austrian Society for Surgery
- European Society of Transplantation, ESOT
- American College of Surgeons
- Austrian Society of Surgical Oncology, ACO ASSO
- European Society of Surgical Oncology, ESSO
- Austrian Society of Molecular Life Sciences and Biotechnology, ÖGMBT

1. Reduction mammoplasty as a secondary therapy option for chronic breast pain after lumpectomy in the breast: a case report
Kömürçü F., **Schwarz Ch.**, Bartsch R, Deutinger M.
European Journal of Plastic Surgery, Vol. 37, Issue 5, 2011: 399-401
2. Eradication of MRSA in pressure ulcers comparing a polihexanide containing cellulose dressing with polihexanide swabs in a prospective randomized study
Wild T., Bruckner M., Payrich M., **Schwarz Ch.**, Eberlein T., Andriessen A.
Advances in Skin and Wound Care, 2012 Jan; 25(1): 17-22
3. Anti-LFA-1 and rapamycin overcome costimulation blockade-resistant rejection in sensitized bone marrow recipients
Haley R., Pilat N., Hock K., Klaus C., Unger L., **Schwarz Ch.**, Baranyi U., Gattringer M., Schwaiger E., Wrba F., Wekerle T.
Transpl Int, 2013 Feb;26(2):206-18
4. Modulating T cell costimulation as a new concept in organ transplantation (REVIEW)
Pilat N., **Schwarz Ch.**, Wekerle T.
Curr Opinion in Organ Transplantation, 2012 Aug; 17 (4): 268-75
5. Rapamycin and CTLA4Ig Synergize to Induce Stable Mixed Chimerism Without the Need for CD40 Blockade.
Pilat N., Klaus C., **Schwarz Ch.**, Hock K., Oberhuber R., Schwaiger E., Gattringer M., Ramsey H., Baranyi U., Zelger B., Brandacher G., Wrba F., Wekerle T.
Am J Transplant. 2015 Jun;15(6):1568-79
6. T regulatory cell treatment prevents chronic rejection of heart allografts in a murine mixed chimersims model
Pilat N., Farkas A., Mahr B., **Schwarz Ch.**, Unger L., Hock K., Oberhuber R., Aumayr K., Wrba F., Wekerle T.
J Heart Lung Transplant. 2014 Apr;33(4):429-37.
7. Belatacept treatment for 2 years after liver transplantation is not associated with operational tolerance
Schwarz Ch., Rasoul-Rockenschaub S., Soliman T., Steininger R., Mühlbacher F., Berlakovich GA., Wekerle T.
Clin Transplant. 2015 Jan;29(1):85-9
8. Long-term outcome of belatacept therapy in de novo kidney transplant recipients – a case match analysis
Schwarz Ch., Mayerhoffer S., Berlakovich GA., Steininger R., Soliman T., Watschinger B., Böhmig G., König F., Mühlbacher F., Wekerle T.
Transpl Int. 2015 Jul;28(7):820-7
9. TAC, MMF and low dose steroids with or without IL2-R antibody induction therapy – a retrospective cohort analysis
Schwarz Ch., Böhmig G., Steininger R., Unger L., Kristo I., Kozakowski N., Berlakovich GA., Soliman Th., Mühlbacher F.
Transplant Proc. 2015 Oct;47(8):2446-9.
10. Reduced inflammatory response after stapler hepatectomy compared to CUSA resection – a randomized controlled trial
Schwarz Ch., Roth G., Tudor B., Klaus D., Fleischmann E., Wekerle Th., Bodingbauer M., Kaczirek K.
PLoS One. 2015 Oct 9;10(10):e0140314.
11. Abdominal drainage after liver transplantation
Schwarz Ch., Schoppmann S., Györi G., Silberhumer G., Soliman T., Steininger S., Mühlbacher F., Berlakovich GA.
Langenbecks archives of surgery2015 2015 Oct;400(7):813-9

12. Deletional and regulatory mechanisms coalesce to drive transplantation tolerance through mixed chimerism forward (REVIEW)
Hock K., Mahr B., **Schwarz Ch.**, Wekerle Th.
Eur J of Immun. 2015 Sep;45(9):2470-9
13. IL-2/aIL-2 Complex Treatment Cannot Be Substituted for the Adoptive Transfer of Regulatory T Cells to Promote Bone Marrow Engraftment
Mahr B., Unger L., Hock K. Pilat N., Baranayi U., **Schwarz Ch.**, Farkas A., Wekerle Th.
PLoS One. 2016 Jan 5;11(1):e0146245.
14. Incomplete clonal deletion as prerequisite for tissue-specific minor antigen tolerization
Pilat N., Mahr B., Unger L., Hock K., **Schwarz Ch.**, Farkas A., Baranyi U., Wrba F., Wekerle Th.
JCI Insight. 2016 May 19;1(7):e85911.
15. Kidney transplantation with corticosteroids alone after haploidentical HSCT from the same donor
Schwarz Ch., Lawitschka A., Böhmig G., Dauber E., Greinix H., Kozakowski N., Mühlbacher F., Berlakovich GA, Wekerle Th.
Transplantation. 2016 Oct;100(10):2219-21
16. The immunosuppressive effect of CTLA4 immunoglobulin is dependent on regulatory T cells at low but not high doses
Schwarz Ch., Unger L, Mahr B., Aumayer K., Regele H., Farkas A., Hock K., Pilat N., Wekerle Th.
Am J Transpl. 2016 Dec;16(12):3404-3415
17. Impact of neoadjuvant chemotherapy on clinical risk scores and survival in patients with colorectal liver metastasis
Wimmer K., **Schwarz Ch.**, Szabo C., Bodingbauer M., Tamandl D., Mittlböck M., Kaczirek K.
Ann Surg Oncol. 2017 Jan;24(1):236-243
18. Impact of ultrasound examination early after kidney transplantation
Schwarz Ch., Mühlbacher J., Böhmig G.A., Purtic M., Pablik E., Unger L., Kristo I., Soliman Th., Berlakovich GA.
European Surgery 2017;49(3):140-144
19. Inflammatory response and oxidative stress during liver resection
Schwarz Ch., Fitschek F., Bar-Or D., Klaus DA., Tudor B., Fleischmann E., Roth G., Wekerle Th., Gnant M., Bodingbauer M., Kaczirek K.
PLoS One. 2017 Oct 18;12(10):e0185685.
20. Regulatory T cells promote natural killer cell education in mixed chimeras
Mahr B., Pilat N., Maschke S., Granzkykofyzky N., **Schwarz Ch.**, Unger L., Hock K., Farkas A., Klaus C., Regele H., Wekerle Th.
Am J Transplant. 2017 Dec;17(12):3049-3059
21. High BMI and male sex as risk factor for increased short-term renal impairment in living kidney donors – Retrospective analysis of 289 consecutive cases
Unger LW., Feka J., Sabler P., Rasoul-Rockenschaub S., Györi G., Hofmann M., **Schwarz Ch.**, Soliman T., Böhmig G., Kainz A., Salat A., Berlakovich GA.
Int J Surg. 2017 Oct;46:172-177.
22. Microscopic biliary and perineural invasion and clinical outcome after neoadjuvant bevacizumab-based chemotherapy and liver resection in patients with colorectal liver metastases
Stift J., Graf A., **Schwarz Ch.**, Tamandl D., Starlinger P., Herac M., Beer A., Wrba F., Bodingbauer M., Kaczirek K., Stremitzer S.
J Surg Oncol, 2018 Jan;44(1):139-147.
23. Post-hepatectomy liver failure after major hepatic surgery: not only size matters.
Asenbaum U., Kaczirek K., Ba-Ssalamah A., Ringl H., **Schwarz Ch.**, Waneck F., Fitschek F., Loewe C., Nolz R.
Eur Radiol. 2018 Nov;28(11):4748-4756

24. Blockade of adhesion molecule lymphocyte function-associated antigen-1 improves long term heart allograft survival in mixed chimeras
Pilat N., Sabler P., Klaus C., Mahr B., Unger L., Hock K., Wiletel M., **Schwarz Ch.**, Kristo I., Regele H., Wekerle T.
J of Heart and Lung Transpl.2018 Sep;37(9):1119-1130
25. Liver Resection for Non-colorectal Metastases (REVIEW)
Schwarz Ch., Kaczirek K., Bodingbauer M.
Eur Surg, 2018;50(3):113-116.
26. Association of BRAF mutations with survival and recurrence in surgically treated patients with metastatic colorectal liver cancer
Margonis GA., Buettner S., Andreatos N., Kim Y., Wagner D., Sasaki K., Beer A., **Schwarz Ch.**, Loes IM., Smolle M., Kamphues C., He J., Pawlik TM., Kaczirek K., Poultsides G., Lonning PE., Cameron JL., Burhart RA., Gerger A., Aucejo FN., Kreis ME., Wolfgang CL., Weiss MJ.
JAMA Surg. 2018 May 16:e180996. doi: 10.1001/jamasurg.2018.0996
27. Belatacept/CTLA4Ig: an update and critical appraisal of pre-clinical and clinical results (REVIEW)
Schwarz Ch., Mahr B., Muckenhuber M., Wekerle Th.
Expert Rev Clin Immunol. 2018 Jul;14(7):583-592.
28. Blocking the CD40 pathway – lost in translation? (EDITORIAL)
Schwarz Ch., Wekerle Th.
Transplantation 2019 Jan;103(1):10-12.
29. Allograft rejection is associated with the development of functional IgE specific for donor MHC antigens
Farkas A., Baranyi U., Böhmig GA., Unger L., Hopf S., Wahrmann M., Regele H., Mahr B., **Schwarz Ch.**, Pilat N., Kristo I., Lupinek C., Thalhammer J., Wlodek E., Clatworthy M., Pettingrew G., Valenta R., Wekerle T.
J Allergy Clin Immun . 2019 Jan;143(1):335-345.e12
30. Allograft and patient survival after sequential HSCT and kidney transplantation from the same donor - a multicenter analysis
Eder M.*, **Schwarz Ch.***, Krammer M., Jacobson N., Stavroula ML, Covan M., Chongokkairatanakul T., Gastron R., Ravanan R., Ishida H., Bachmann A., Alvarez S., Koch M., Garrouste C., Duffner UA., Cullis B., Schaap N., Medinger M., Wekerle T., Oberbauer R.
Am J Transpl, 2019 Feb;19(2):475-487
* Contributed equally
31. The value of indocyanine green clearance assessment to predict postoperative liver dysfunction in patients undergoing liver resection
Schwarz Ch., Plass I., Fitschek F., Punzengruber A., Mittlböck M., Kampf S., Asenbaum U., Starlinger P., Stremitzer S., Bodingbauer M., Kaczirek K.
Sci Rep 2019 Jun 10;9(1):8421
32. Physical recovery after laparoscopic vs. open liver resection – a prospective cohort study
Kampf S., Sponder S., Bergler-Kleibn J., Sandurkov C., Fitschek F., Stremitzer S., Bodingbauer M., Kaczirek K. **Schwarz Ch**
Int J Surg. 2019 Dec;72:224-229
33. Regulatory cell therapy in kidney transplantation: Promise not yet fulfilled (EDITORIAL)
Schwarz Ch., Wekerle T.
Transplantation. 2020 Nov;104(11):2262-2263
34. Von Willebrand Factor Antigen predicts outcome in patients after liver resection of hepatocellular carcinoma
Schwarz Ch., Fitschek F., Saukel V., Bota S., Ferlitsch M., Ferlitsch A., Bodingbauer M., Kaczirek K
Gut Liver, 2020 Mar 15;14(2):218-224
35. No alteration of Cyp3a4 activity after major hepatectomy in the early postoperative period – a prospective before-after study
Jedamzik J., Mühlbacher J., Fitschek F., **Schwarz Ch.**, Burhenne J., Asenbaum U., Kaczirek K., Mikus G.
Int J Surg. 2020 Jul;79:131-135
36. Metachronous hepatic resection for liver only pancreatic metastasis

Schwarz Ch., Fitschek F., Primavesi F., Stättner S., Margonis GA., Stavrou G., Kornprat P., Wundsam H., Fischer I., Längle F., Függer R., Hauer A., Klug R., Kieler M., Prager G., Gnant M., Schindl M., Stremnitzer S., Bodingbauer M., Sahora K. Kaczirek K.
Surg Oncol 2020 Aug 21;35:169-173

37. Prognosis and circumferential margin in patients with resected hilar cholangiocarcinoma
Stremnitzer S., Stift J., Laengle J., **Schwarz Ch.**, Kaczirek K., Jones RP., Quinn L., Fenwick S., Diaz-Nieto R., Graeme P., Malik H.
Ann Surg Oncol 2020 Sep 10. doi: 10.1245/s10434-020-09105-1
38. Immune checkpoints in liver resection after neoadjuvant chemotherapy including bevacizumab in patients with colorectal liver metastasis
Stift J., Graf A., Neudert B. Herac M., Woeran K., Tamandl D., Laengle J., **Schwarz Ch.**, Wrba F., Kaczirek K.,
HPB 2021 Jun 7:S1365-182X(21)00166
39. In vivo Treg expansion under costimulation blockade targets early rejection and improves long-term outcome
Schwarz Ch., Mahr B., Muckenhuber M., Weijler A., Unger L., Pilat N., Regele H., Wekerle Th.
Am J Transpl. 2021 Jun 21. doi: 10.1111/ajt.16724

BOOK CHAPTERS AND LECTURE NOTES

1. Skriptum der Wundheilung
Wild T., Abbas S., Payrich M., **Schwarz Ch.**, Bruckner M., Stättner S., Zöch G.
2. ACO/ASSO manual surgical oncology 2019
Kolorektale Lebermetastasen
Schwarz Ch., Längle F., Zitt M., Grünberger Th., Kaczirek K., Bodingbauer M.



Wien, 7th of July 2021