

# Curriculum vitae

Priv.-Doz. Schwarz Christoph, MD, PhD

## PERSONAL INFORMATIONS

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**Address:** Dept. of Surgery, Div. of General- Vascular and Transplantsurgery  
*Medical University Vienna*  
Währinger Gürtel 18-20  
1090 Vienna, Austria  
P: 0043(0)1/40400/56210  
**Date of birth:** 22/09/1985  
**Citizenship:** Austria  
**Languages:** German, English, French

## EDUCATION

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**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)

## MEDICAL TRAINING

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**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 Surgery, Div. of General-, Vascular- and Transplantsurgery  
*Medical University Vienna, Austria*  
(Head: Prof. Dr. Bela Teleky)  
**2018** Board approval as a General Surgeon

## ADDITIONAL MEDICAL TRAINING

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

## TEACHING EXPERIENCE

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**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:	<i>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</i>
Marin Purtic:	<i>Advagraf vs Prograf in der de novo Nierentransplantation- eine retrospektive Datenanalyse</i>
Care Ay:	<i>Oxidativer Stress bei Leberresektion</i>
Fabian Fitschek:	<i>Management von Gallengangskomplikationen nach Leberresektion - eine retrospektive Datenanalyse</i>
Immanuel Plass	<i>Eine retrospektive Datenanalyse des Einflusses der präoperativen Indocyanin Clearance auf das Outcome nach Leberresektionen</i>
Antonia Punzengruber:	<i>Geschlechtsspezifisches Outcome nach Leberresektion – eine retrospektive Datenanalyse</i>

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## CLINICAL RESEARCH

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- 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

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## AWARDS AND SCHOLARSHIPS

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- 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 chimerisms 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., Aumayr 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.

## GRANTS

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- **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

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- Transplantation
- 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

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- 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 chimerism 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 Arch Surg. 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 Immunol. 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 Transplant. 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.  
Eur 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 Heart Lung Transplant. 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. 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, 2018 Nov 12. doi: 10.5009/gnl17115.
29. Blocking the CD40 pathway – lost in translation? (EDITORIAL)  
**Schwarz Ch.**, Wekerle Th.  
Transplantation 2019 Jan;103(1):10-12.
30. 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
31. 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
32. 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. doi: 10.1038/s41598-019-44815-x.
33. Physical recovery after laparoscopic vs. open liver resection – a pilot trial  
Kampf S., Sponder S., Bergler-Kleibn J., Sandurkov C., Fitschek F., Stremitzer S., Bodingbauer M., Kaczirek K. **Schwarz Ch**  
[Int J Surg.](#) 2019 Nov 14. pii: S1743-9191(19)30308-5. doi: 10.1016
34. Regulatory cell therapy in kidney transplantation: Promise not yet fulfilled (EDITORIAL)  
**Schwarz Ch.**, Wekerle T.  
[Transplantation](#), accepted

1. Skriptum der Wundheilung  
Wild T., Abbas S., Payrich M., **Schwarz Ch.**, Bruckner M, Stättner S., Zöch G.